City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Meeting Agenda - Final-revised

Planning Commission

Monday, August 14, 2017 | **7:00 PM** | **Oregon City Public Library**

1. Call to Order

2. Public Comments

3. Public Hearing

3a. Abernethy Place Hotel and Mixed Use Development - Planning Files CP-17-0002, DP-17-0003, and NR-17-0004.

Sponsors: Community Development Director Laura Terway

Attachments:
- Commission Report
- Staff Report and Recommendation
- General Development Plan Application (Includes plans)
- Phase I DDP Application and Supporting Documents
- Phase I Hotel Detailed Development Plan Plans
- Traffic Impact Study
- Traffic Impact Study Update 2017-04-26
- Replinger and Associates Review of TIS
- Abernethy Place Geotechical Study
- Confederated Tribes of the Grand Ronde Comments
- State Historic Preservation Office (SHPO) Comments
- Washington Street Elevation Architectural Analysis
- Building Height Calculation Schematic 07.07.14
- Facade Articulation Measurements Schematic
- Two Rivers Neighborhood Association Meeting Letter 01.25.2017
- Oregon Dept. of Transportation Comments 7.14.2017
- Clackamas Heritage Partner Support Letter
- FEMA Flood Plain Map 41005C0276D
- HR 17-02 Packet
- HR 17-02 Letter of Voting Decision

4. Planning Division Update: Long-Range Projects, and Application Statistics

5. Adjournment

Public Comments: The following guidelines are given for citizens presenting information or raising issues relevant to the City but not listed on the agenda.

- *Complete a Comment Card prior to the meeting and submit it to the staff member.*
- *When the Chair calls your name, proceed to the speaker table and state your name and city of residence into the microphone.*
- *Each speaker is given 3 minutes to speak. To assist in tracking your speaking time, refer to the timer at the dais.*
- *As a general practice, Oregon City Officers do not engage in discussion with those making comments.*

Agenda Posted at City Hall, Pioneer Community Center, Library, and City Web site(oregon-city.legistar.com).
Video Streaming & Broadcasts: The meeting is streamed live on Oregon City's Web site at www.orcity.org and is available on demand following the meeting.
ADA: City Hall is wheelchair accessible with entry ramps and handicapped parking located on the east side of the building. Hearing devices may be requested from the City staff member prior to the meeting. Disabled individuals requiring other assistance must make their request known 48 hours preceding the meeting by contacting the City Recorder's Office at 503-657-0891.

City of Oregon City

625 Center Street
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Staff Report

File Number: PC 17-091

Agenda Date: 8/14/2017

Status: Agenda Ready

To: Planning Commission

Agenda #: 3a.

From: Community Development Director Laura Terway

File Type: Land Use Item

SUBJECT:
Abernethy Place Hotel and Mixed Use Development - Planning Files CP-17-0002, DP-17-0003, and NR-17-0004.

RECOMMENDED ACTION (Motion):
Approval with Conditions.

BACKGROUND:
This is a public hearing.

The proposed Abernethy Place Mixed-Use Development will include a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop located at 1737 Washington Street, LLC requests approval of a General Development Plan and Detailed Development Plan in two phases located close to the intersection of 17th Street and Washington Street directly across from the End of the Oregon Trail Interpretive Center.

Phase 1 which is the subject of the Detailed Development Plan consists of a 5-story hotel with approximately 99 rooms with associated parking lot, site improvements and street frontage improvements.

Phase 2 consists of 181 apartment units, 9,500 square-feet of retail space, a 2,500 coffee shop and associated parking and site improvements.

The project proposal includes preservation and retention of the Hackett House, a designated historic landmark which is currently used for offices.

The applicant seeks approval for four (4) adjustments from development standards through the General Development Plan adjustment process in OCMC 17.65.070 which are described in the Staff Report and Recommendation.

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221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

TYPE III –Master Plan and Detailed Development Plan
STAFF REPORT AND RECOMMENDATION
August 7, 2017

FILE NUMBER: CP-17-0002: General Development (Concept) Plan
DP-17-0003: Detailed Development Plan for Phase 1
NR-17-0004: Natural Resource Overlay District Verification

APPLICANT: 1750 Blankenship Rd, Ste. 400
West Linn, OR 97068

OWNER: Hackett Hospitality Group, LLC
1419 W. Main Street
Battleground, WA 98604

REQUEST: Approval for General Development Plan for Abernethy Place, a mixed-use project including Hotel, Multi-Family, Retail/Commercial and Office Use to be constructed in two phases over 10-years as well as a Detailed Development Plan for Phase 1 which includes construction of a Hotel and parking lots.

LOCATION: 415 17th Street + no address on Washington Street
Map number 2-2E-29CA, Tax Lots 601, 900, 1000, 1100, 1200, 1300, 1301

REVIEWERS: Pete Walter, AICP, Planner

RECOMMENDATION: Approval with Conditions.

PROCESS: Type III Quasi-Judicial Public Hearing. Pursuant to OCMC 17.50. C. Type III decisions involve the greatest amount of discretion and evaluation of subjective approval standards, yet are not required to be heard by the city commission, except upon appeal. In the event that any decision is not classified, it shall be treated as a Type III decision. The process for these land use decisions is controlled by ORS 197.763. Notice of the application and the planning commission or the historic review board hearing is published and mailed to the applicant, recognized neighborhood association(s) and property owners within three hundred feet. Notice must be issued at least twenty days pre-hearing, and the staff report must be available at least seven days pre-hearing. At the evidentiary hearing held before the planning commission or the historic review board, all issues are addressed. The decision of the planning commission or historic review board is appealable to the city commission, on the record. The city commission decision on appeal from the historic review board or the planning commission is the city's final decision and is appealable to LUBA within twenty-one days of when it becomes final.

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IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE AT (503) 722-3789.

RECOMMENDED CONDITIONS OF APPROVAL

Planning Files: CP-17-0002**,** DP-17-0003, NR-17-0004

(P) = Verify that condition of approval has been met with the Planning Division.
(DS) = Verify that condition of approval has been met with the Development Services Division.
(B) = Verify that condition of approval has been met with the Building Division.
(F) = Verify that condition of approval has been met with Clackamas Fire Department.

The applicant shall include the following information with submittal of a public improvement and/or grading permit associated with the proposed development. The information shall be approved prior to issuance.

1. Existing service connection to the 48-inch sewer pipe on site shall be usable and meet the minimum inside diameter requirement of 6" for serving commercial buildings. Any new connection to the Tri-City Service District (TCSD) main will require permission from TCSD with all approved permits provided to the City. (DS)
2. Extension of the 8-inch sanitary sewer main within Washington Street, to and through the site frontage will be required. (DS)
3. The applicant shall confirm that no buildings have sewer service running within the subject site. If other buildings have a sewer service running through the subject site, the applicant shall provide a new service line from the required 8-inch sanitary sewer main extension within its frontage. (DS)
4. The existing 6-inch water main in 17TH Street shall be upsized to the City's standard 8-inch diameter ductile iron water main. A fee-in-lieu of construction of the new 8-inch water main will be considered if upsizing of 6-inch pipe is shown to not be feasible. An adequate easement shall be provided for the water main along the frontage of 17th Street. (DS)
5. Overhead utilities along the site frontage shall be relocated underground. (DS)
6. The applicant will need to submit a photometric plan with the construction plan submittal to facilitate design of the streetlights by PGE. Streetlights shall be decorative and match the style of existing decorative streetlights found along Washington Street. (DS)
7. The applicant shall perform all cuts and restoration to pavement within the right-of-way in accordance with the City's Pavement Cut Standards. (DS)
8. All development shall be in conformance with the policies and design standards established by the Oregon City Municipal Code and with applicable standards in the city's public facility master plans and city design standards and specifications. (DS)
9. The applicant shall dedicate sufficient right-of-way (ROW) to provide, at minimum, a ROW width 43 feet north of the centerline for Washington Street. Improvements required north of the centerline along the frontage of Washington Street are: a 6-foot-wide half center lane, a 12-foot-wide travel lane, a 6-foot-wide bike lane, 8-foot-wide on-street parking, 0.5-wide curb, 4-foot-wide furnishing zone/planter strip, 6-foot-wide sidewalk and 0.5-foot public access. (DS)
10. 17th Street shall have a 24-foot wide street section, as can be accommodated without extending street pavement towards Abernethy Creek. The improvements required along 17th Street are 0.5-wide curb with gutter, 5-foot-wide curb-tight sidewalk and 0.5-foot public access. Portions of the sidewalk will be allowed to meander around the existing tree but shall be provided a public sidewalk easement. (DS)
11. The project shall meet water quality standards of Oregon City Stormwater and Grading Design Standards but is not required to meet flow control standards. (DS)

12. Applicant shall submit engineering calculation of cut and fill for the development for review and approval based on criteria outlined in Section 17.42.160.D of Oregon City Municipal Code. (DS)
13. Regarding construction standards within flood management areas, applicant shall adhere to Section 17.42.160.E of Oregon City Municipal Code. (DS)
14. Applicant shall obtain Erosion Control permit from the City and a 1200-C permit from Oregon Department of Environmental Services prior to commencing construction activities. (DS)
15. The applicant shall submit an engineered grading plan and geotechnical report for review and approval prior to approval of public improvement plans.
16. To demonstrate exemption from OCMC chapter 17.44, applicant shall provide an exhibit showing that excavation within the Geologic Hazard overlay zone is limited to excavation or fill which is less than two feet in depth, or involves less than twenty-five cubic yards of volume. However, should the applicant propose any work requiring excavation or fill which is more than two feet in depth, or which involves more than twenty-five cubic yards of volume within the Geologic Hazard overlay Zone the project will be subject to Geologic Hazard review as outlined in OCMC Chapter 17.44. (DS)
17. The applicant shall construct Washington Street along the site frontage including a center turn lane to provide for left turns into the site. Applicant shall provide additional traffic engineering analysis relating to the location of the site access that shows the location of proposed access will not interfere with queuing or traffic operations at adjacent traffic signals through the TSP planning horizon. (DS)
18. The applicant shall participate in the funding of improvements for the I-205/OR-99E ramp terminal projects (TSP Projects D75 and D76) in proportion to the development's traffic volumes as a percentage of total year 2035 intersection volumes from the TSP. Based on this methodology, the developer is responsible for 0.42% of the $3 million cost for Project D75 and for 0.49% of the project cost for Project D76, resulting in a contribution from the applicant of $12,600 + $14,700. (DS)
19. The applicant shall participate in the funding of improvements for the Main Street/14th Street improvements (TSP Projects D7 and D8) in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume at the intersection calculated in the TSP. Based on the applicant's predicted site traffic, the applicant's responsibility is 1.66% of the project's cost. The higher cost option in the TSP is listed at $670,000, resulting in a contribution from the applicant of $11,122. (DS).
20. The applicant shall comply with the Oregon Department of Transportation's comments and recommendations in the memorandum provided on July 14, 2017. (P)
21. The applicant shall submit documentation demonstrating compliance with one or more of the options for Tree Removal and Mitigation in Chapter 17.41. Compliance with these standards shall be demonstrated in a tree mitigation plan report prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arboriculture. The project arborist preparing the tree mitigation plan shall coordinate with the project landscape architect to ensure that any trees to be preserved are indicated on the revised landscaping plans for the site and that all protective measures are property installed pursuant to OCMC 17.41.130 - Regulated tree protection procedures during construction. The applicant shall provide a revised arborist report indicating recommendations for tree protection procedures during construction or as a minimum show compliance with protective measures in OCMC 17.41.130 B(1-9). (P)

22. The applicant shall coordinate with the Confederated Tribes of the Grande Ronde as needed to complete any necessary archeological investigations required for prior to any ground disturbance.
23. The applicant shall provide a clear schedule for timing of all public improvements related to mitigation thresholds, including transportation, sewer, water, stormwater facilities for approval by the Public Works Department prior to issuance of a grading or construction permit for public improvements.(DS)

The applicant shall include the following information with submittal of a Building Permit associated with the proposed development. The information shall be approved prior to issuance.

24. The applicant shall provide additional mitigation for adjustment #4 (window design) such as increased minimum transparency, trim details, higher quality materials, greater articulation or modulation, or landscaping. (P)
25. The applicant shall provide revised plans that include signs at the north main entrance that indicate the location of the covered bicycle parking at the south entrance. (P)
26. The Applicant shall provide a public cross-access easement between the parcels to ensure pedestrian and vehicle access is maintained. The easement shall provide mutual access between all of the properties onsite as well as with the adjacent train station.(P)
27. The applicant shall obtain all necessary permits and approvals and comply with the Historic Review Board approval for file HR-17-002. (P)
28. The applicant shall provide revised plans that extend the Washington Street canopy further toward the street to highlight the entranceway, and propose art works, sculpture, fountain, lighting or a similarly prominent amenity feature placed on the side of the stone stairs facing Washington. The applicant shall also prepare a quantitative table that clearly demonstrates the enhanced transparency in square feet, size of the patio, articulation, and use of materials as compared to other facades, and improve the connection from the doorway to the main lobby. (P)
29. The applicant shall add additional transparency on the ground floor façade facing 17th Street to meet 60% of the visible portion of the façade.
30. The applicant shall demonstrate compliance with the minimum of 10% landscaping for phase 1 on all revised landscaping plans. The applicant shall provide landscaping percentage calculations for the parking lot interior and all other landscaped areas on the site prior to issuance of a building permit. (P)
31. The applicant shall provide a revised landscaping plan indicating that within three years the landscaping will cover one hundred percent of the Landscaped areas including landscaping within the parking lot, and that no mulch, bark chips, or similar materials shall be allowed at the time of landscape installation except under the canopy of shrubs and within two feet of the base of trees. (P)
32. The applicant shall provide a revised landscaping plan that clearly indicates an evergreen hedge at the parking lot entryway on 17th Street. Prior to issuance of a building permit, the applicant's landscape architect shall provide a revised landscaping plan conforming to OCMC 17.52.060.A.8. (P)
33. The applicant shall provide a revised landscaping plan that clearly indicates where pedestrian pathways within parking lots are constructed if proposed. Pedestrian walkways shall have shade trees spaced a maximum of every thirty-five feet in minimum three-foot by five-foot tree wells; or trees spaced every thirty-five feet, shrubs spaced no more than four feet apart on average,

and ground cover covering one hundred percent of the exposed ground. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees. (P)

34. The applicant shall provide revised plans that indicate the use of a change in textural material or height of the pedestrian accessway within the parking lot drive aisle adjacent to the hotel to alert the driver of the pedestrian crossing area. (P)
35. The applicant's photometric engineer shall provide revised lighting plans in compliance with OCMC 17.62.065.D.2., which indicate the use of full-cut-off style lighting fixtures or approved alternatives. The revised lighting plans shall include the min./max. Foot-candle ratio required to be shown in Table 1-17.62.065. (P)
36. No lighting pole taller than 20 feet shall be permitted for Phase 2 without an adjustment through the Type III Master Plan or a Variance.
37. The applicant shall provide revised landscaping plans indicating an evergreen hedge of thirty to forty-two inches or shrubs placed no more than four feet apart on average for the parking area/building buffer or revise the plans to show seven-foot sidewalks with shade trees spaced a maximum of thirty-five feet apart in three-foot by five-foot tree wells. (P)
38. The applicant shall provide revised landscaping plans that the indicate the required parking area / building buffer landscaping at the rear of the hotel and abutting the Hackett House on either side of the pedestrian walkway abutting the head-in parking. (P)
39. Street trees will be selected from the Oregon City Street Tree List or otherwise approved as appropriate for use along the street frontages. Street trees along Washington Street will be in tree wells, trees along 17th Street will be planted behind the curb tight sidewalk. (P)
40. If street trees are planted within an easement along 17th Street the applicant shall provide a protective covenant that allows the city to enforce the public street tree requirements in this area. (P)
41. The applicant is responsible for contacting and applying for any Corps of Engineers or Department of State Land approvals necessary to undertake the project and shall provide evidence of such permits or exemptions obtained prior to issuance of a building permit. (P)
42. The applicant shall submit adequate documentation to the Building Official to demonstrate compliance with the Flood Management Overlay District in OCMC 17.42.110, 17.42.160, and 17.42.190. (P)
43. The applicant shall submit a revised Traffic Impact Study when the Detailed Development Plan for Phase II of the development is proposed. (P)
44. The applicant shall have completed any Lot Line Abandonments or Adjustments necessary to comply with applicable building code requirements pursuant to OCMC 16.20 – Property Line Adjustments and Abandonment Process and Standards. (P)
45. The applicant shall revise the plans to comply with the parking area / building buffer landscaping requirement of Section 17.52.050(C)(1(a)-(c)), or (2) for the head-in parking abutting the rear of the hotel and the Hackett House parking lot. (P)
46. Any fence proposal for the property shall comply with the applicable provisions of OCMC 17.54.100 – Fences and OCMC 17.62.050.A.21 Building Materials and shall be reviewed through a Type I or Type II Site Plan Review process, as applicable. The applicant is permitted a combined fence/retailing wall height of 15 feet. (P)
47. The proposed adjustment to building height for Phase 1 is approved. The adjustment does not apply to Phase 2. (P)

The applicant shall include the following information prior to issuance of an occupancy permit associated with the proposed development. The information shall be approved prior to issuance.

48. The duration of approval of this General Development Plan is five years unless amended prior to expiration. (P)
49. Per OCMC 17.41, if tree mitigation option #1 is chosen, the applicant shall recorded a protective covenant for all trees to be preserved and planted on-site prior to issuance of a certificate of occupancy for phase 1 or 2. (P)

I. BACKGROUND:

1. Existing Conditions

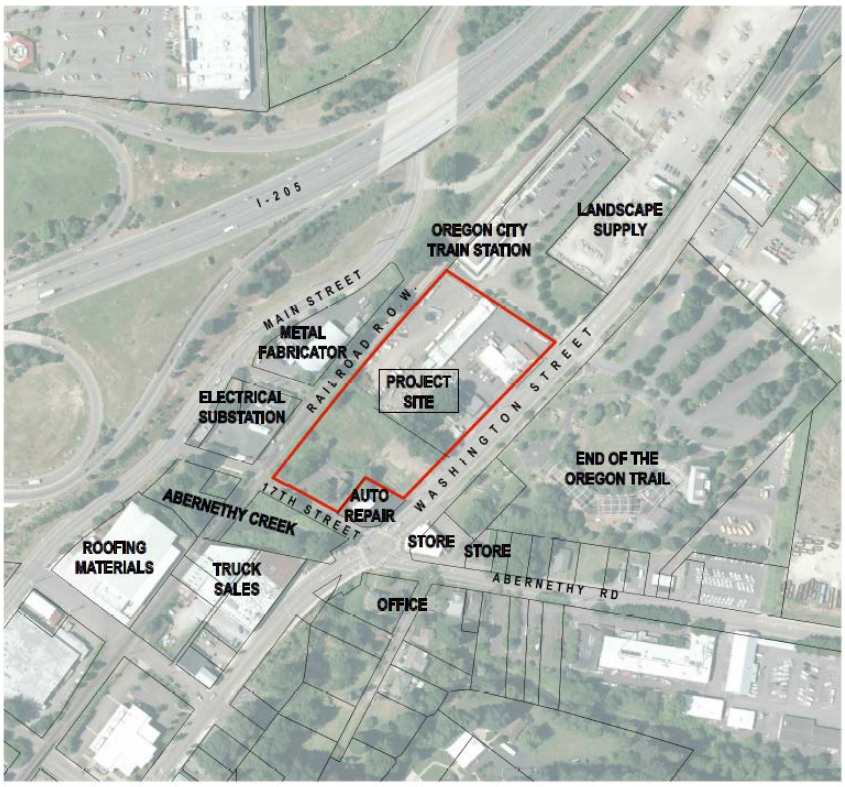
Note: Excerpts of the submitted plans are provided below as information. Please refer to the applicant's full submitted plan set for the following detailed drawings: Topographic Survey, Preliminary Grading Plan, Preliminary Utility Plan, etc.

The proposed General Development Plan (GDP) area consists of approximately 4 acres of privately owned land bounded on the south by 17th Street, Washington Street on the east, the Oregon City Train Station and Depot on the north, and the railroad right-of-way on the west. All parcels within the GDP are zoned Mixed Use Downtown MUD and are within the Downtown Parking Overlay District.

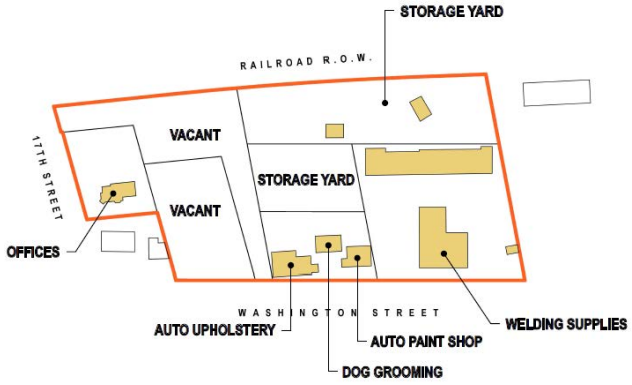
Tax lots 1200 & 1301 abutting 17th Street are within the Geologic Hazard and Natural Resources Overlay Districts.

Abernethy Creek is located across 17th Street and the End of the Oregon Trail Interpretive Center is located across Washington Street from the GDP area (See Applicant's "Surrounding Uses" drawing 1.4).

The historic Hackett House is located within the site and fronts 17th Street. Currently the Hackett House functions as an office building. The remainder of the development site contains a mix of uses including commercial, retail, storage, and vacant land. (See "Existing Uses", drawing 1.5).



DRAWING 1.5 EXISTING USES



Vehicular access is available from Washington Street, 17th Street, and the Train Station. No curbs, sidewalks, or on-street parking currently exist along the site frontage. Existing uses have multiple driveways fronting Washington Street.

Existing Uses



Vicinity Map



Existing Conditions – Aerial Image

2. <u>Project Description</u>

The applicant has proposed a General Development Plan (GDP), along with a Detailed Development Plan for Phase 1.

General Development Plan (GDP):

The General Development Plan is for a mixed-use development on approximately 4 acres including a variety of complementary uses including hotel, retail, office, and multi-family. The proposed duration of the general development plan is 5 years, with up to 5 years extension to the plan provided an updated traffic impact study is provided, and identified additional impacts addressed through amendment of the original approval.



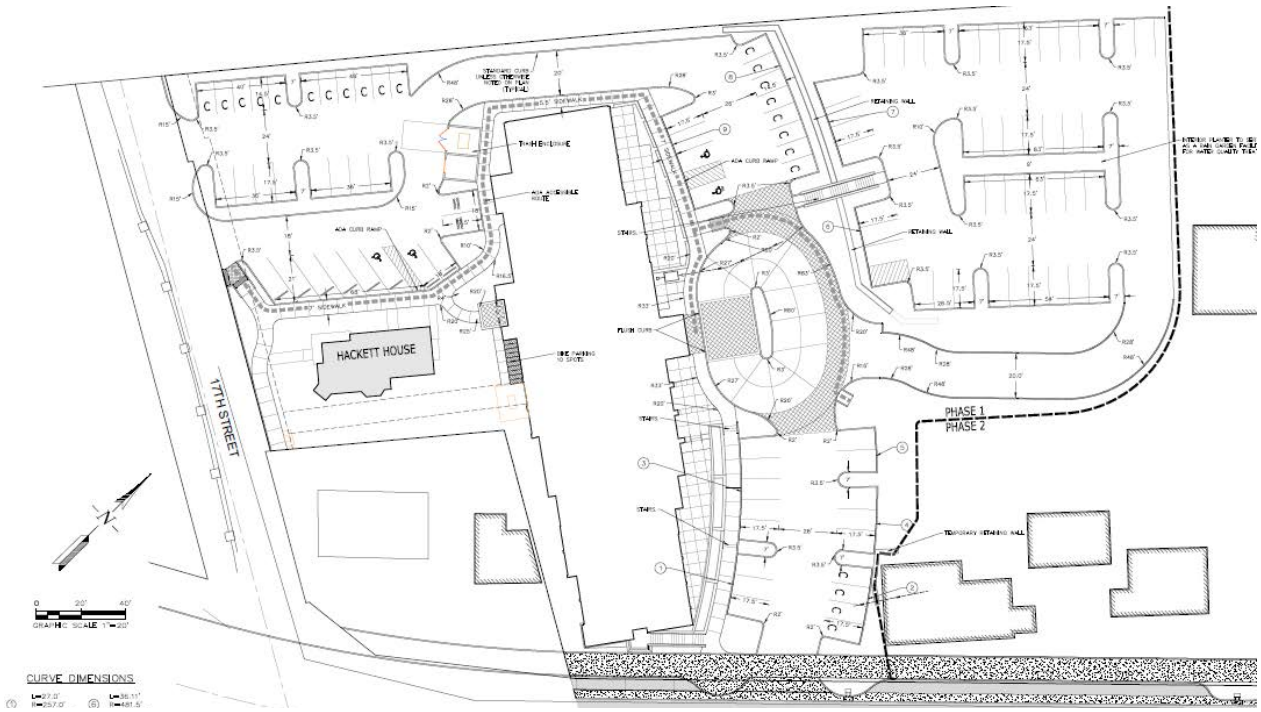
Phase 1: A 99 room hotel and associated parking lot.

Phase 2: 131 multi-family units and 9,500 square feet of retail space

Detailed Development Plan (DDP):

Phase 1, which is intended to be constructed within the next five years, consists of a 5-story, 99-room hotel located adjacent to the Hackett House. The approximate area of Phase I is 2.15 acres. The building location is constrained to the north by the existing Tri-Cities sewer easement. These on-site conditions

as well as the owner's desire to protect and retain the Hackett House restrict the hotel building orientation and footprint size. As a result, an adjustment is requested to exceed the allowable height and maintain a viable hotel project with a franchise minimum acceptable number of rooms.



Phase 1 will include the construction of all street frontage improvements and all the necessary parking to serve the hotel site.

The historic Hackett House fronts 17th street and will remain in its current office use anchoring the south end of project. Phase 1 DDP includes development of a hotel located adjacent to the north side of the Hackett House, parking as required for the Hackett House and hotel, and public improvements along 17th Street and Washington Street at the Phase 1 frontage.

Primary entrance to the hotel will be located on Washington Street. The Hackett House primary entrance is on 17th Street. Street sidewalk improvements will provide connectivity to neighborhoods, while on-site pedestrian walkways will provide connectivity between on-site uses.

Primary vehicular access to the hotel will be from Washington Street. Secondary vehicular access to the hotel and primary vehicular access to the Hackett House will be provided from 17th Street adjacent to the Hackett House.

The Washington Street frontage will be improved with right-of-way dedication, relocation of utilities underground, on-street parking, curbs, gutters, sidewalks, and street trees.

Vehicle parking is primarily located behind existing buildings (to be redeveloped in Phase 2), with additional parking to the west of the Hackett House and adjacent to the hotel. Parking spaces provided are designed to meet the demands of hotel franchise and office use and significantly exceed Oregon City code requirements for number of spaces.



The lobby floor of the hotel will be elevated above Washington Street at elevation 51.7 feet in order to keep the floor above the base flood elevation of 50.7 feet.

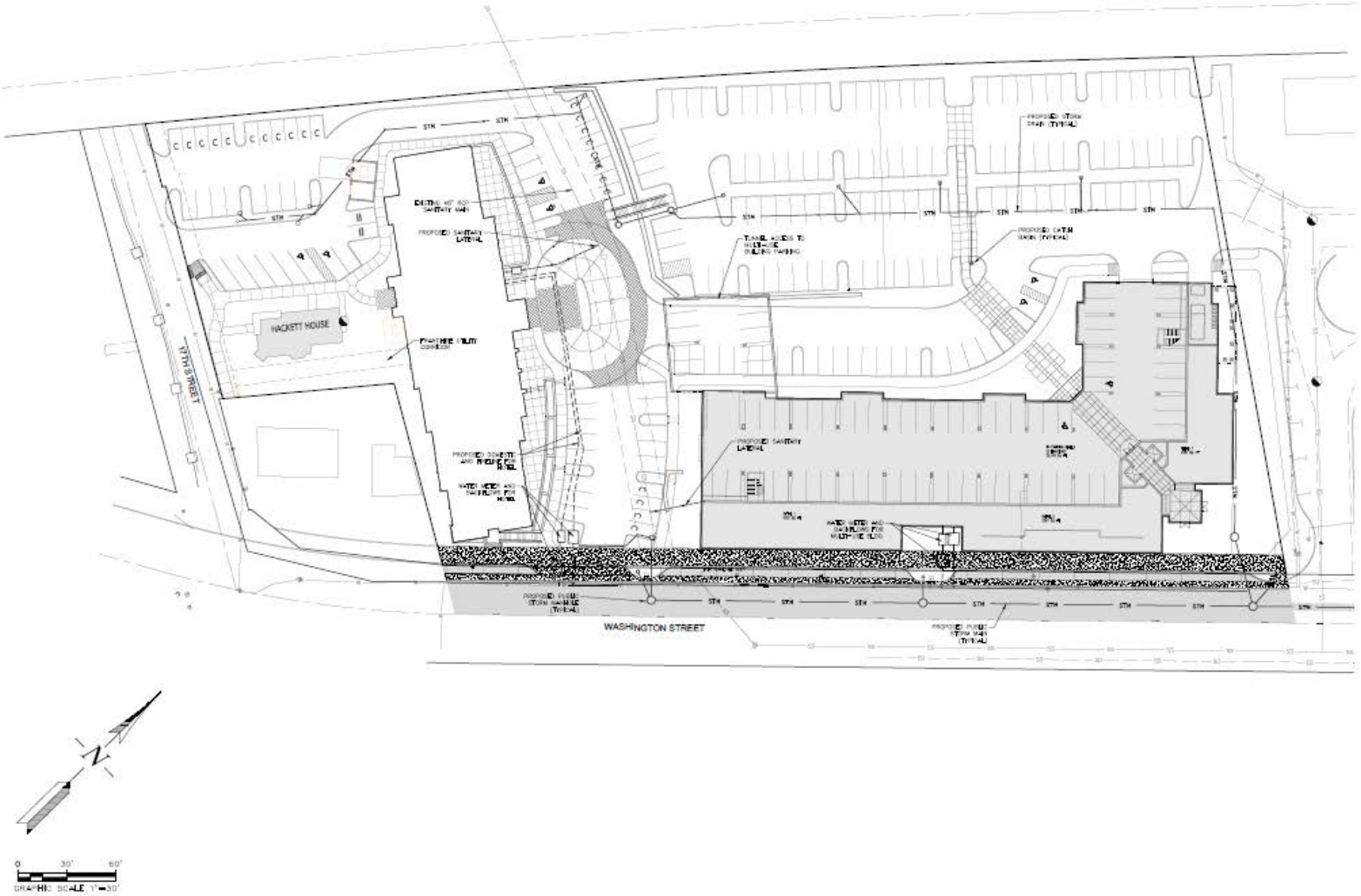
Along the Washington Street frontage, a stepped landscape feature will provide a visual and acoustic buffer between the access drive and an elevated pedestrian plaza adjacent to meeting rooms at the Washington Street end of the Hotel. Stone faced stairs connect the public sidewalk with the Hotel entry at Washington Street.

DEVELOPMENT CODE ADJUSTMENT REQUESTS

The following adjustments are requested for the Detailed Development Plan. Please see section 17.65.070 on Page 50 for findings.

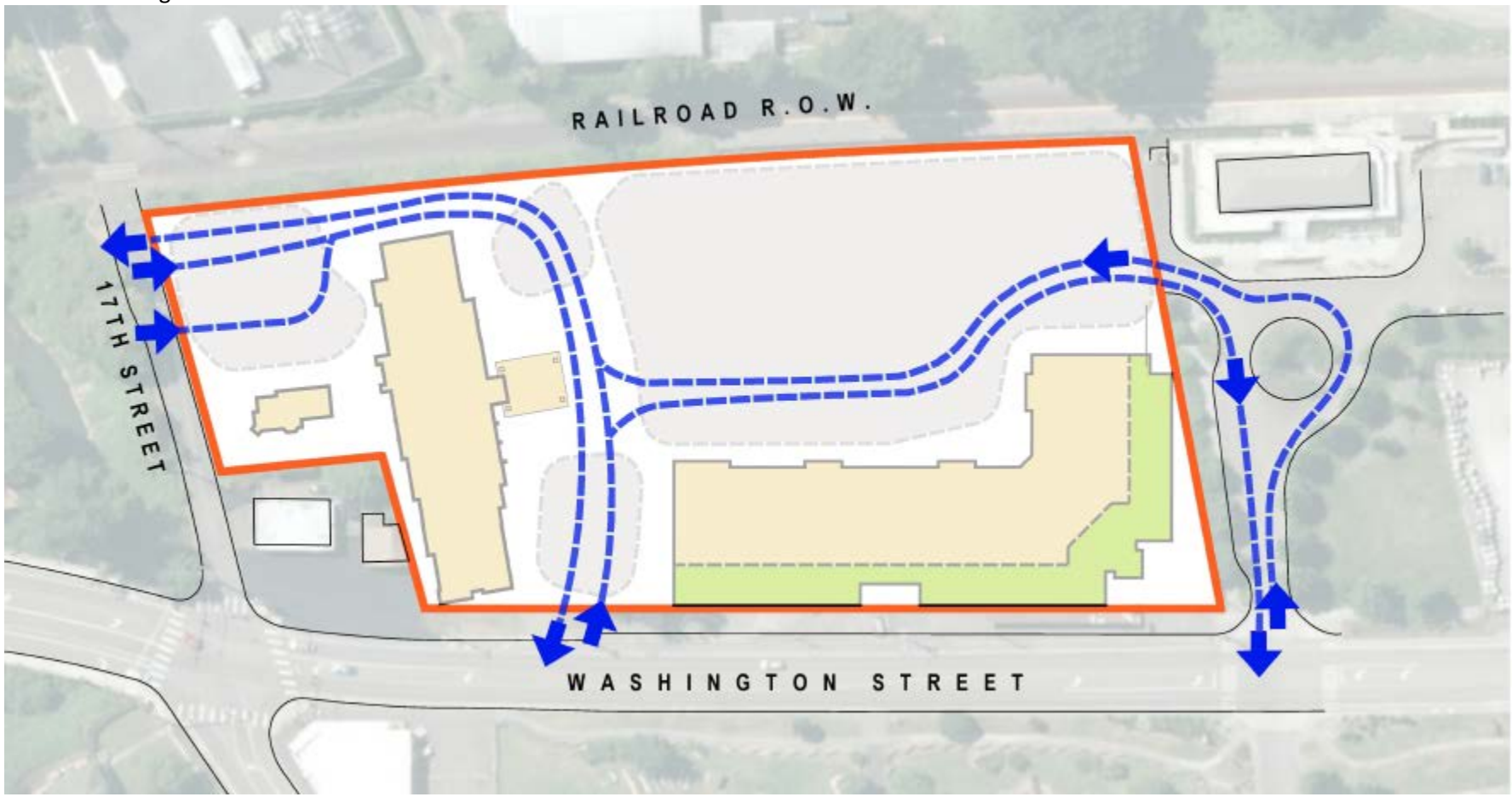
Adjustment	Code	Description	Requested Adjustment
#1	17.34.060.D.2	Maximum building height of 45' within 500 feet of the End of the Oregon Trail Interpretive Center	Hotel maximum building height 57 feet as measured from the flood plain elevation; Mechanical penthouse 59 feet as measured from the flood plain elevation.
#2	17.62.055.F	First floor to second floor height 14 feet minimum.	First floor to second floor height 12 feet minimum.
#3	17.54.100.B.4	Fence & retaining wall combined height 8.5 feet	Guardrail + retaining wall combined height of 15 feet maximum.
#4	17.62.057.L.2	Window design - *All windows on all elevations shall recess or project individual windows at least two inches from the facade and incorporate window trim at least four inches in width that features color that contrasts with the base building color.*	Exception: wood framed walls with exterior wall finishes projecting less than 3-1/2" from face of wall sheathing shall not be required to recess or project windows from façade

General Development Plan Drawings
Preliminary Utility Plan



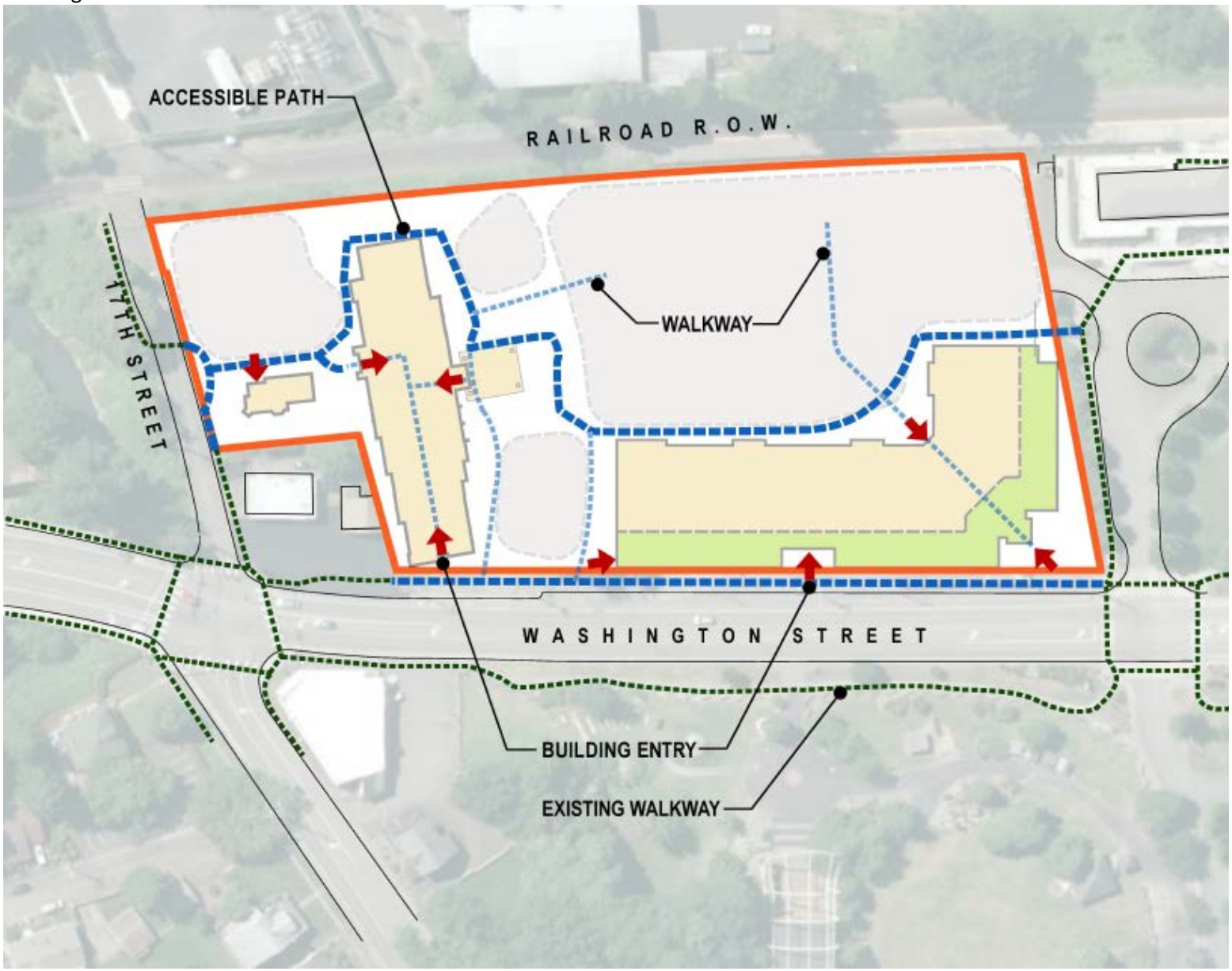
General Development Plan

Drawing 2.2 - Vehicle Circulation



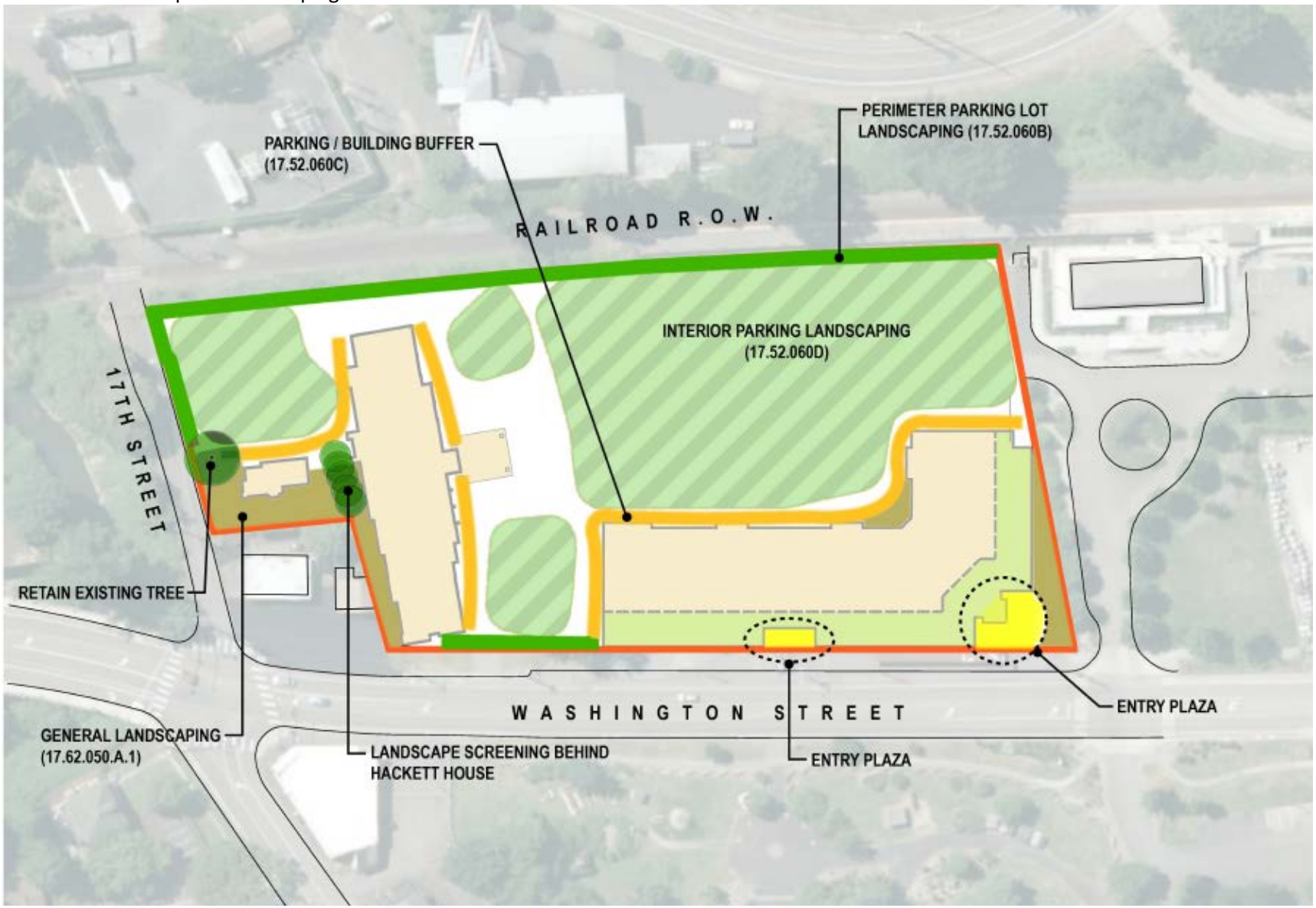
General Development Plan

Drawing 2.3 – Pedestrian Circulation

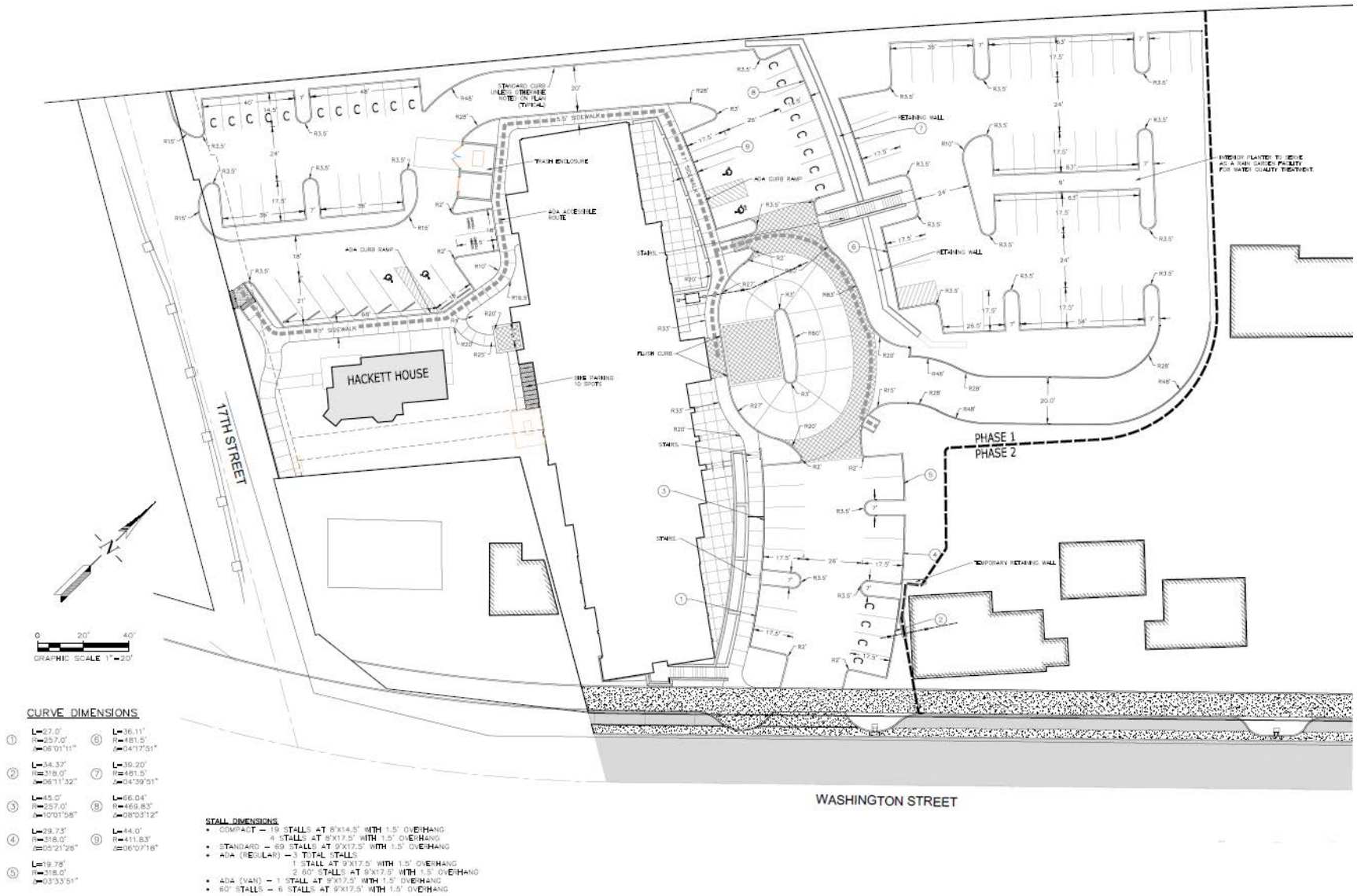


General Development Plan

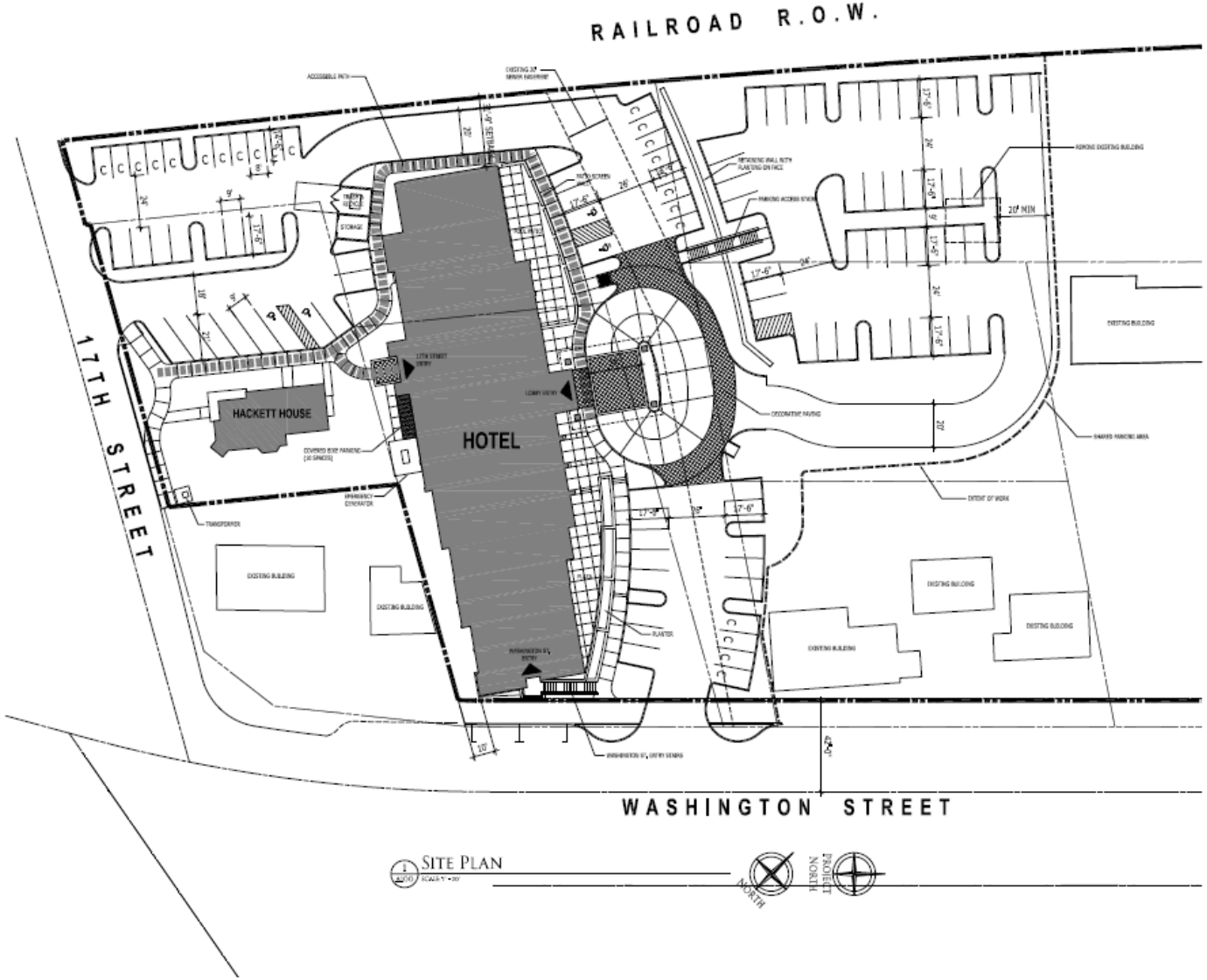
2.4 – Conceptual Landscaping Plan



Detailed Development Plan
C3 – Phase 1 Site Plan

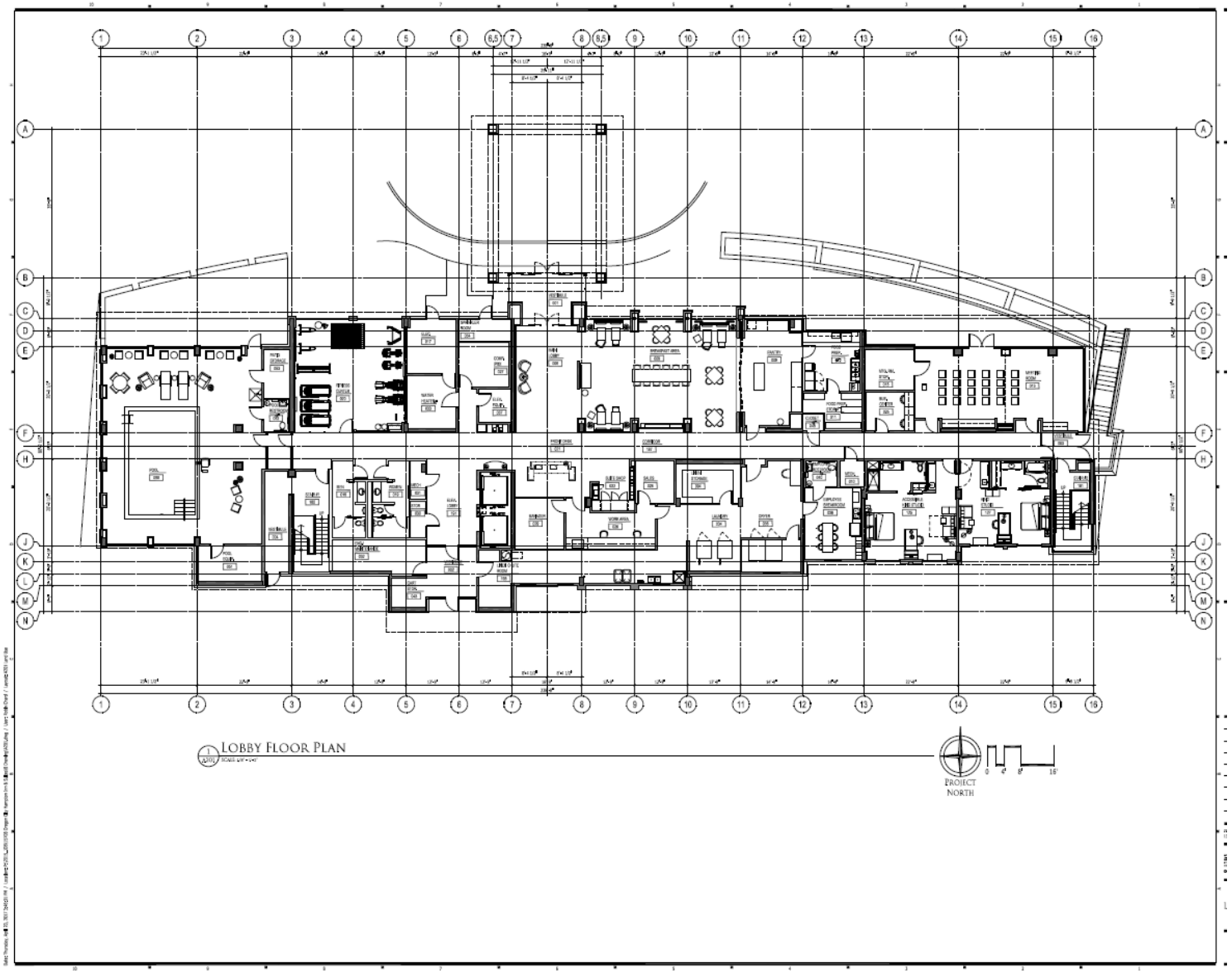


Detailed Development Plan
A100 – Site Plan



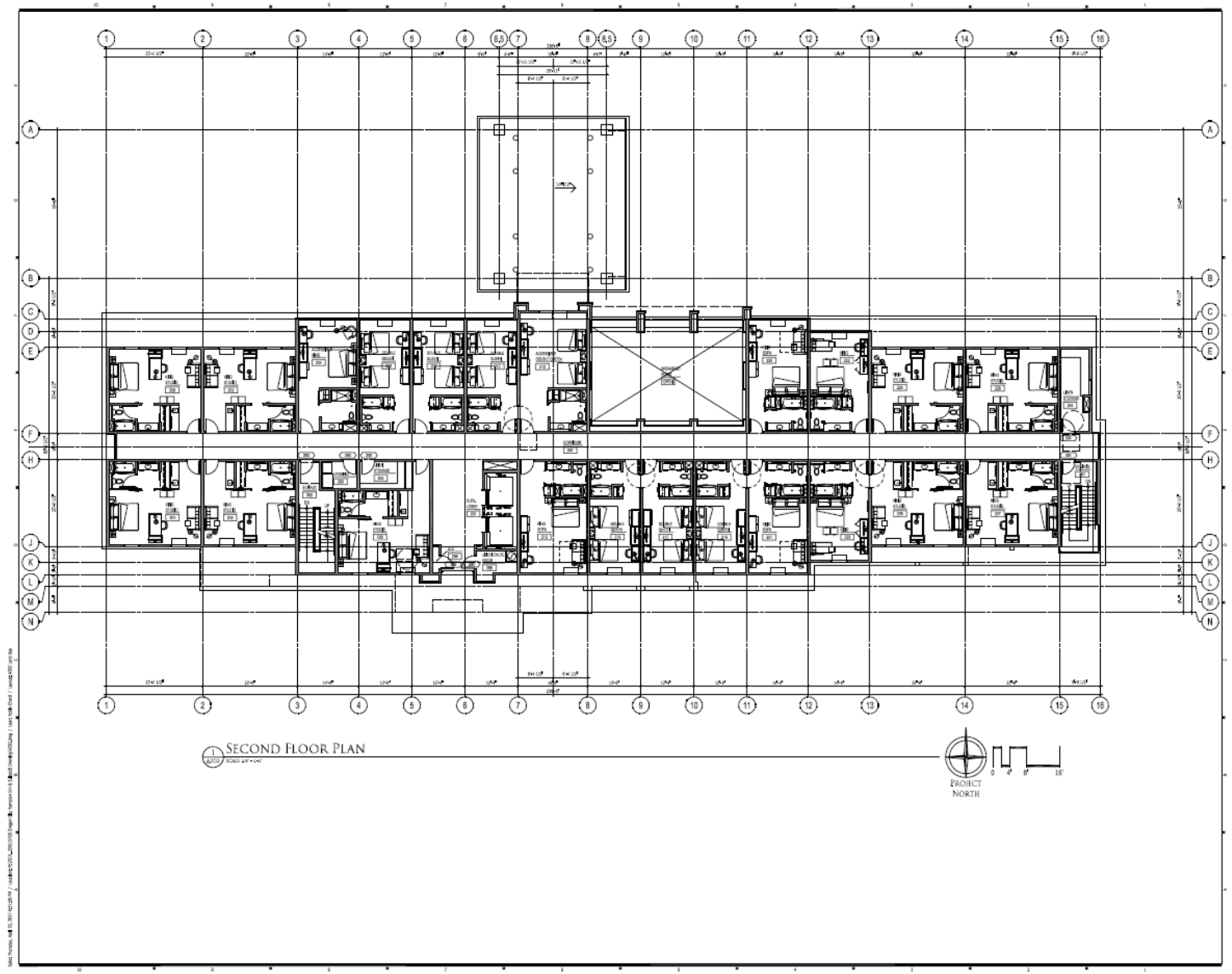
Detailed Development Plan

Drawing A201 – Lobby Floor Plan



Detailed Development Plan

Drawing A202 – Second Floor Plan



Detailed Development Plan

Drawing A300 – South Elevation (Facing 17th Street indicating Hacket House and Corner Development)



17TH STREET ELEVATION

Detailed Development Plan

Drawing A304 – South Elevation (Facing 17th Street, not indicating Hacket House and Corner Development)



Detailed Development Plan

Drawing A301 – East Elevation – Main Façade Facing Washington Street



Detailed Development Plan

Drawing A302 – North Elevation – Facing Main Parking Lot



NORTH ELEVATION

Detailed Development Plan

Drawing A303 –West Elevation – Facing I-205 / Main Street Extension / Rail Road

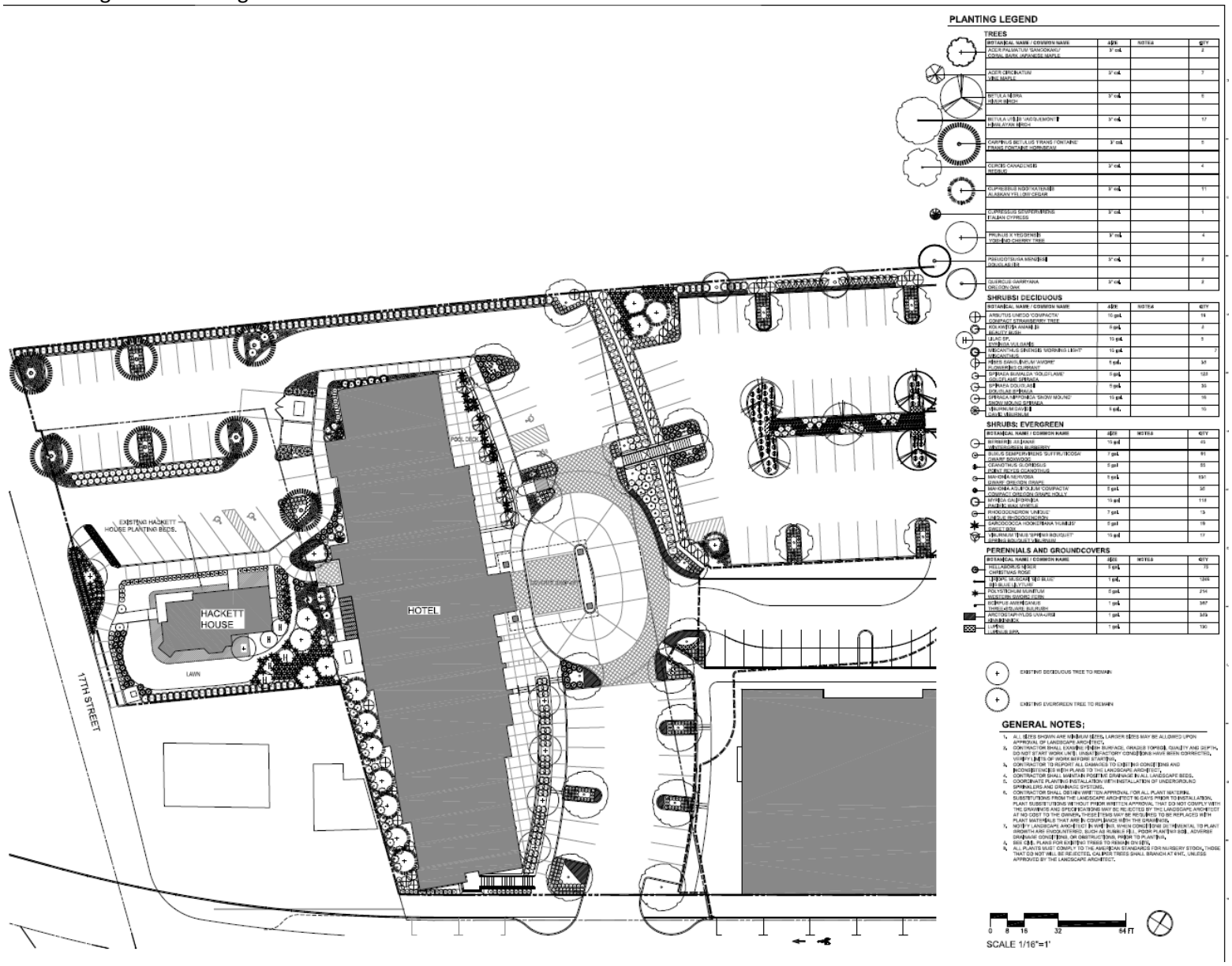


1 NATURAL STONE VENEER
2 WOOD TEXTURE FIBER CEMENT PANEL SYSTEM
3 METAL LOUVERS INTEGRATED WITH WINDOW SYSTEM
4 INSULATED GLAZING WITH PAINTED ALUMINUM MULLION
5 SYNTHETIC PLASTER
6 PAINTED METAL
7 METAL FLASHING & SMOOTH FINISH SYNTHETIC PLASTER
8 NATURAL STONE VENNER SITE WALL
9 HACKETT HOUSE
10 EXISTING AUTO REPAIR

WEST ELEVATION

Detailed Development Plan

Drawing L1.0 –Planting Plan



3. **Permits and Approvals:** The applicant is responsible for obtaining approval and permits from each applicable governmental agency and department at Oregon City including but not limited to the Engineering and Building Divisions. The applicant requests approval of the following land use applications with this proposal:

   CP-17-0002: General Development Plan for Phase I and Phase II
   DP-17-0002: Detailed Development Plan for Phase I Hotel and Parking Lot
   NR-17-0004: Natural Resources Overlay District Review (Verification)

   Historic Review Board
   The Historic Review Board (HRB) reviewed a request to reduce the area of the Hackett House as an individually designated historic landmark. The resulting reduction would allow the proposed development to occur without any additional HRB review. HRB's public hearing on Planning File HR-17-0002 was held on April 24, 2017, and after reviewing all of the evidence in the record and considering all of the arguments made by the applicant, opposing and interested parties, the Historic Review Board voted 3-0-0 to approve with conditions Exhibit 6.

4. **Notice and Public Comment**
   Public Notice for a Type III Quasi-Judicial Public Hearing was provided in accordance with OCMC 17.50.

   The planning commission public hearing of July 24th was continued to August 14th, 2017.

   Notice of the proposal was sent to various City departments, affected agencies, property owners within 300 feet, and the Neighborhood Association. Public Notice was also published in the Clackamas Review / Oregon City News on June 14, 2017 for one week. Additionally, the subject property was posted with signs identifying that a land use action was occurring on the property.

   A letter in support of the application from the Board of Directors of Clackamas Heritage Partners was received by staff from the applicant's attorney on August 3, 2017. The letter includes a statement of the following findings adopted by the Board:

   1. Features of the hotel development consisting of wood and native stone, classical architectural style, and historical references to EOT and the Oregon Trail will be fully compatible with the EOT site.

   2. The hotel will provide attractive and comfortable lodging for EOT visitors as well as for visitors of the River Walk Project at Willamette Falls. The hotel will encourage visitation by patrons to both sites.

   3. Visibility of the Hoops from I-205 will be retained. The siting of the hotel perpendicular to EOT will create a pleasing view corridor.

   4. Approval will enhance the overall development pattern of the surrounding area and encourage similar developments in the future. It is also consistent with the on-going revitalization of downtown Oregon City.

No further public comments have been received as of August 4th, 2017.

Comments of the Public Works Department and Development Services Division are incorporated into this report and Conditions of Approval.

The Oregon Department of Transportation provided comments for the pre-application conference which are attached to the application. ODOT made the following comments:

ODOT RAIL COMMENTS

In 2003, per Order No. 50165, the 17th Street public crossing (No. C-756.30) was permanently closed prior to commencing passenger rail service at a stop in the City of Oregon City. The concrete crossing surface has been removed and is no longer a private crossing at 17th Street for the railroad. Access is not allowed for public use, including pedestrian connections, trails, and/or city use. There is an alternative, public route on 15th Street to cross under the tracks to access Main St as well as 14th Street and 12th Street. ODOT Rail and Public Transit Division cannot agree to making 17th Street crossing a public crossing due to Order No. 50165. 17th Street needs to be curbed to emphasize that it is not a thru street to prevent vehicles from accidently driving straight onto the tracks and potentially getting high centered (see attached image). Please change the plans and resubmit for review.

Property Location Adjacent to Rail Tracks

- The applicant shall install fencing along the property line fronting the rail tracks to ensure the safe operation of trains by preventing illegal trespassing of pedestrians across the tracks.
- The submitted Traffic Impact Analysis indicates that the intersections operating under ODOT jurisdiction are also projected to meet ODOT's respective performance standards, with the exception of OR 99-E at the I-205 ramp terminals. However, these intersections are specifically exempted from operational standards pursuant to OCMC 12.04.205(D).

While ODOT agrees with this statement, with the added site traffic the I-205/99E Southbound ramp intersection degrades from a 0.98 to 0.99 v/c ratio in the PM peak and the Northbound ramp intersection degrades from a 0.90 – 0.91 v/c ratio in the AM peak. The standard for ODOT ramp terminals is a 0.85 v/c ratio and anything above this causes safety concern due to the possibility of vehicles queuing back into the mainline. Additionally, the Oregon City TSP identifies two widening projects for these ramps (Projects D75, D76). Therefore, ODOT recommends that the City require the applicant to contribute a proportionate share to these TSP projects. While they are identified as long term projects, it is in the best interest of the City and the applicant to begin collecting funds towards these projects to ensure safe and efficient operations at the interchange so people can access their goods and services in the future.

Also, the TIA presents two alternatives for mitigation at 14th Street and Main. ODOT supports the alternative that converts 14th and 15th to one-way (Project D7, Option 1 and Project D8). Therefore, ODOT recommends that the City also collect a proportionate share towards those projects as well.

ODOT advises the applicant that development on the proposed site may be exposed to noise from heavy rail freight trains, passenger trains or transit vehicles. It is generally not the State's responsibility to provide mitigation for receptors that are built after the noise source is in place. Builders should take appropriate measures to mitigate the noise impacts.

Conditions of Approval have been recommended and attached this report to address ODOT's comments.

None of the comments provided indicate that an approval criterion has not been met or cannot be met through the Conditions of Approval attached to this Staff Report.

II. ANALYSIS AND FINDINGS:

CHAPTER 17.34 "MUD" MIXED USE DOWNTOWN DISTRICT

17.34.020 - Permitted uses.
Permitted uses in the MUD district are defined as:
A. Any use permitted in the mixed-use corridor without a size limitation, unless otherwise restricted in Sections 17.34.020, 17.34.030 or 17.34.040;
B. Hotel and motel, commercial lodging;
C. Marinas;
D. Religious institutions;
E. Retail trade, including grocery, hardware and gift shops, bakeries, delicatessens, florists, pharmacies, specialty stores provided the maximum footprint of a freestanding building with a single store does not exceed sixty thousand square feet (a freestanding building over sixty thousand square feet is allowed as long as the building contains multiple stores);
F. Live/work units.
Finding: Complies as proposed. The proposal includes offices, hotel, retail, commercial, and multi-family residential. All are permitted uses in the MUD zone.

17.34.030 - Conditional uses.
The following uses are permitted in this district when authorized and in accordance with the process and standards contained in Chapter 17.56.
A. Ancillary drive-in or drive-through facilities;
B. Emergency services;
C. Hospitals;
D. Outdoor markets that do not meet the criteria of Section 17.34.020;
E. Parks, playgrounds, play fields and community or neighborhood centers;
F. Parking structures and lots not in conjunction with a primary use;
G. Retail trade, including grocery, hardware and gift shops, bakeries, delicatessens, florists, pharmacies and specialty stores in a freestanding building with a single store exceeding a foot print of sixty thousand square feet;
H. Public facilities such as sewage and water treatment plants, water towers and recycling and resource recovery centers;
I. Public utilities and services such as pump stations and sub-stations;
J. Distributing, wholesaling and warehousing;
K. Gas stations;
L. Public and or private educational or training facilities;
M. Stadiums and arenas;
N. Passenger terminals (water, auto, bus, train);
O. Recycling center and/or solid waste facility.
Finding: Not applicable. The applicant has not proposed any uses that require conditional use approval.

17.34.040 - Prohibited uses.
The following uses are prohibited in the MUD district:
A. Kennels;
B. Outdoor storage and sales, not including outdoor markets allowed in Section 17.34.030;
C. Self-service storage;
D. Single-Family and two-family residential units;

E. Motor vehicle and recreational vehicle repair/service;
F. Motor vehicle and recreational vehicle sales and incidental service;
G. Heavy equipment service, repair, sales, storage or rental[2] (including but not limited to construction equipment and machinery and farming equipment)
Finding: Not applicable. The applicant has not proposed any prohibited uses.

17.34.050 - Pre-existing industrial uses.
Tax lot 5400 located at Clackamas County Tax Assessors Map #22E20DD, Tax Lots 100 and two hundred located on Clackamas County Tax Assessors Map #22E30DD and Tax Lot 700 located on Clackamas County Tax Assessors Map #22E29CB have special provisions for industrial uses. These properties may maintain and expand their industrial uses on existing tax lots. A change in use is allowed as long as there is no greater impact on the area than the existing use.
Finding: Not applicable. The tax lot listed is not part of this proposal.

17.34.060 - Mixed-use downtown dimensional standards—For properties located outside of the downtown design district.
A. Minimum lot area: None.
Finding: Not applicable. The site does not have a minimum lot size.

B. Minimum floor area ratio: 0.30.
Finding: Complies as proposed. Staff calculates the Floor Area Ratio (FAR) for the Phase I hotel to be approximately 0.8. This is based on the hotel having five floors of 15,000 square feet each. 5 x 15,000 = 75,000 square feet, and 75,000 ÷ the site square footage of 93,654 = 0.8. This means that even without Phase 2 the minimum FAR of 0.3 for the site will be easily met. FAR's for Phase 2 mixed use building have not been calculated at this time since detailed plans are not yet available.

C. Minimum building height: Twenty-five feet or two stories except for accessory structures or buildings under one thousand square feet.
Finding: Not applicable. The applicant's proposal will exceed the minimum building height requirement.

D. Maximum building height: Seventy-five feet, except for the following locations where the maximum building height shall be forty-five feet:
1. Properties between Main Street and McLoughlin Boulevard and 11th and 16th streets;
2. Property within five hundred feet of the End of the Oregon Trail Center property; and
3. Property within one hundred feet of single-family detached or detached units.
Finding: Please see Master Plan adjustment criteria in section 17.65.050. The applicant has applied for a master plan adjustment to the height limit for Phase I, the hotel and Phase II, the mixed use buildings.

E. Minimum required setbacks, if not abutting a residential zone: None.
Finding: Not applicable. The site does not abut a residential zone. Therefore, there is no minimum setback requirement. Oregon Department of Transportation has recommended a 15' minimum setback from the railroad right-of-way adjoining the property to the West. Proposed project will comply with the suggested 15' minimum setback along the railroad right-of-way.

F. Minimum required interior side yard and rear yard setback if abutting a residential zone: Fifteen feet, plus one additional foot in yard setback for every two feet in height over thirty-five feet.
Finding: Not applicable. See finding above.

G. Maximum Allowed Setbacks.
1. Front yard: Twenty feet provided the site plan and design review requirements of Section 17.62.055 are met.
Finding: Complies as proposed. For phase 1, the hotel varies from 2 – 12' at the front setback and will feature a prominent pedestrian entry way directly onto Washington Street. For phase 2, the proposed mixed use building will be located directly on the front lot line.

2. Interior side yard: No maximum.
Finding: Complies as proposed. This standard allow buildings to be placed on the side lot line. The applicant has not proposed a maximum setback. For phase 1, the hotel will have a side setback of 7' on the southern side, and will have a setback from 0-15' on the north side for phase 2.

3. Corner side yard abutting street: Twenty feet provided the site plan and design review requirements of Section 17.62.055 are met.
Finding: Not applicable. The side is not a corner lot.

4. Rear yard: No maximum.
Finding: Complies as proposed. The phase 1 hotel will have a rear setback of 32' from the west property line.

5. Rear yard abutting street: Twenty feet provided the site plan and design review requirements of Section 17.62.055 are met.
Finding: Not applicable. The rear yard does not abut a street. The hotel will be setback 32 feet from the railroad right-of-way.

H. Maximum site coverage including the building and parking lot: Ninety percent.
Finding: Complies as proposed. The submitted stormwater site assessment indicates that the site is 2.15 acres (93,654 square feet) and that the amount of new and replaced impervious area (buildings and paved areas) will equal 62,137 square feet. (62,137 ÷ 93,654 = 0.66 or 66%).

I. Minimum landscape requirement (including parking lot): Ten percent.
Finding: Complies as proposed. All non-impervious areas shall be landscaped pursuant to OCMC 17.62.050.A.(1). The amount of landscaping will be approximately 34% of the site.

17.34.070 - Mixed-use downtown dimensional standards—For properties located within the downtown design district.
Finding: Not applicable. The site is not within the downtown design district.

17.34.080 - Explanation of certain standards.
A Floor Area Ratio (FAR).
1. Purpose. Floor area ratios are a tool for regulating the intensity of development. Minimum FARs help to achieve more intensive forms of building development in areas appropriate for larger-scale buildings and higher residential densities.
2. Standards.
a. The minimum floor area ratios contained in sections 17.34.060 and 17.34.070apply to all non-residential and mixed-use building developments.
b. Required minimum FARs shall be calculated on a project-by-project basis and may include multiple contiguous blocks. In mixed-use developments, residential floor space will be included in the calculations of floor area ratio to determine conformance with minimum FARs.

c. An individual phase of a project shall be permitted to develop below the required minimum floor area ratio provided the applicant demonstrates, through covenants applied to the remainder of the site or project or through other binding legal mechanism, that the required density for the project will be achieved at project build out.

B. Building height.
1. Purpose.
a. The Masonic Hall is currently the tallest building in downtown Oregon City, with a height of fifty-eight feet measured from Main Street. The maximum building height limit of fifty-eight feet will ensure that no new building will be taller than the Masonic Hall.
b. A minimum two-story (twenty-five feet) building height is established for the Downtown Design District Overlay sub-district to ensure that the traditional building scale for the downtown area is maintained.
Finding: Not applicable. The above is an explanation of standards and not an approval criterion. Section B(1)(a) which mentions the Masonic Hall (at 707 Main Street) in particular is directed toward the central downtown area along Main Street. While this provides a frame of reference for buildings in that area, it is not relevant or applicable to the applicant's location which is ¾ of mile from the Masonic Hall. In any event, the 45' foot height limit within 500' of the End of the Oregon Trail Interpretive Center provides the more restrictive provision.

CHAPTER 17.65 MASTER PLANS

17.65.050.A.1. *Narrative statement. An applicant must submit a narrative statement that describes the following:*
a. Current uses of and development on the site, including programs or services.
b. History or background information about the mission and operational characteristics of the institution that may be helpful in the evaluation of the general development plan.
Finding: Complies as proposed. The applicant provided a narrative statement describing items (a) and (b).

17.65.050.A.1.c*. A vicinity map showing the location of the General Development Plan boundary relative to the larger community, along with affected major transportation routes, transit, and parking facilities. At least one copy of the vicinity map must be eight and one-half inches × eleven inches in size, and black and white reproducible.*
d. Non-institutional uses that surround the development site. May also reference submitted maps, diagrams or photographs.
Finding: Complies as proposed. See "Vicinity Map", drawing 1.0 included with this application.

17.65.050.A.1.e*. Previous land use approvals within the General Development Plan boundary and related conditions of approval.*
Finding: Complies as Proposed. The applicant indicated that there are no known previous land use approvals. This is incorrect, since there have been land use approvals for the Hackett House including the recent Historic Review Board approval for reducing the size of the landmark. Also, there have been staff level reviews for business licensing and use determinations made administratively for various businesses currently located on the site, including the pallet storage facility and dog grooming shop.

17.65.050.A.1.f*. Existing utilization of the site. May also reference submitted maps, diagrams or photographs.*

Finding: Complies as Proposed. See "Existing Uses", drawing 1.5 and "Project Site Aerial Photo", drawing 1.3 included with this application. Existing site utilization includes offices in the historic Hackett House fronting 17th Street, and vacant parcels, storage yards, and a mix of retail sales and services along Washington Street.

17.65.050.A.1.g. *Site description, including the following items. May also reference submitted maps, diagrams or photographs.*
1. Physical characteristics;
2. Ownership patterns;
3. Building inventory;
4. Vehicle/bicycle parking;
5. Landscaping/usable open space;
6. FAR/lot coverage;
7. Natural resources that appear on the city's adopted Goal 5 inventory;
8. Cultural/historic resources that appear on the city's adopted Goal 5 inventory; and
9. Location of existing trees six inches in diameter or greater when measured four feet above the ground. The location of single trees shall be shown. Trees within groves may be clustered together rather than shown individually.
Finding: Complies as proposed. The applicant provided all of the required details in this section. See "Project Description" in section II of the application.

17.65.050.A.1.h. *Existing transportation analysis, including the following items. May also reference submitted maps, diagrams or photographs.*
1. Existing transportation facilities, including highways, local streets and street classifications, and pedestrian and bicycle access points and ways;
2. Transit routes, facilities and availability;
3. Alternative modes utilization, including shuttle buses and carpool programs; and
4. Baseline parking demand and supply study (may be appended to application or waived if not applicable).
Finding: Complies as proposed. The applicant submitted a "Transportation Impact Study", Exhibit G, included with the application. Parking analysis is provided in response to OCMC 17.52 in this report.

17.65.050.A.1.i. *Infrastructure facilities and capacity, including the following items.*
1.Water;
2.Sanitary sewer;
3.Stormwater management; and
4.Easements.
Finding: Complies with Condition. The applicant indicates a 10 inch waterline currently exists in Washington Street and a 6 inch line in 17th Street, both of which are looped systems (do not dead end), thus there is adequate water capacity. The owners of the site have previously been granted permission make direct connection to the 48 inch Clackamas County sewer trunk line that crosses the parcel, and therefore there is adequate service for sanitary. Stormwater will be routed to the road side ditch system along Washington Street, north of the Amtrak Station entry, which will require the extension of some public storm drain piping system to the site, but the existing ditch system does have capacity to handle runoff from the site. No additional utility easements are needed beyond those that currently exists to serve the parcel.

The 48-inch sanitary sewer trunk line is owned by Tri-City Service District (TCSD). City records do not indicate an existing easement over the pipe. The applicant will be required to provide documentation of the easement and TCSD approval of the connection. The 6-inch water main in 17th Street appears to be partially located on the subject property. The applicant will be required to provide the appropriate public easement, or documentation

of existing easement. The 6-inch main does not meet the minimum standard and will need to be upsized to 8-inch diameter along the 17th Street frontage, or pay fee in lieu of the upsizing.
It is reasonable, practicable and likely that this standard can be met through the conditions of approval.

17.65.050.B. Proposed Development Submittal Requirements.
1. Narrative statement. An applicant shall submit a narrative statement that describes the following:
a. The proposed duration of the general development plan.
Finding: Complies as proposed. The applicant indicated that the proposed duration of the general development plan is five years, with up to five years extension to the plan provided an updated traffic impact study is provided, and identified additional impacts addressed.

17.65.050.B.1.b*. The proposed development boundary. May also reference submitted maps or diagrams.*
Finding: Complies as proposed. The application includes the proposed development boundary for phases 1 and 2. The extent of proposed boundary of this development is shown on "Taxlots", drawing 1.2, included with this submittal. The area is bounded on the south by 17th Street, Washington Street on the east, the Oregon City Trail Station on the north, and the railroad right-of-way on the west.

17.65.050.B.1.c*. A description, approximate location, and timing of each proposed phase of development, and a statement specifying the phase or phases for which approval is sought under the current application. May also reference submitted maps or diagrams.*
Finding: Complies as proposed. The proposed development consists of two phases. Phase 1 includes a new hotel and retention of the existing historic Hackett House on the southern part of the site. Phase 2 includes a mixed-use development on the north portion of the site, including multifamily residential uses over street level retail/commercial and parking. A Detailed Development Plan for Phase 1 is being submitted concurrently with the General Development Plan submittal with development of this phase to occur as soon as government approvals allow. Timing for Phase 2 is variable, with hoped for construction beginning prior to completion of Phase 1. See "Phasing" drawing 2.1 for additional information.

17.65.050.B.1.d*. An explanation of how the proposed development is consistent with the purposes of Section 17.65, the institutional zone, and any applicable overlay district.*
Finding: Complies as proposed. The applicant stated that the proposed development is consistent with the purpose and intent of 17.65 to "foster the growth of major institutions and other large-scale development, while identifying and mitigating the impacts of such growth on surrounding properties and public infrastructure." The proposed project is a large scale, multi-phased project, with impacts identified, and mitigation proposed in this application.

17.65.050.B.1.e*. A statement describing the impacts of the proposed development on inventoried Goal 5 natural, historic or cultural resources within the development boundary or within two hundred fifty feet of the proposed development boundary.*
Finding: Complies as proposed. The application includes an overview of the proposed development on the Hackett House, which is an inventoried locally designated structure. The historic Hackett House will remain in its original site location without modification.

The Historic Review Board (HRB) reduced the size of the individually designated Hackett House which is included in this development. The Hackett House is a two-story Queen Anne style house, currently in use as an office building. The Hackett House is located on the project site, south of the proposed hotel. The End of the Oregon Trail Interpretive Center is located east of the project site directly across Washington Street from the project site, although the End of the Oregon Trail Interpretive Center is not a historically designated site.

On April 24, 2017, the Oregon City Historic Review Board approved by a vote of 3-0-0 to approve the reduction to the size of the listing to the Hackett House property. Instead of recognizing the entire site as a Historical Landmark, the Hackett house and the green space directly surrounding the house are now only recognized as a Historical Landmark, and not the parking area on the site. This change primarily enables the property owner to make alterations to the western portion of the property without seeking Historic Review Board approval.

Please refer to the Historic Review Board decision (Planning File HR-17-0002) for additional information.

Redevelopment of underutilized property within the MUD zone relieves development pressure on existing open space, while protecting natural resources, conserving scenic and historic areas.

The applicant applied for a verification that the proposed development will not impact the stream corridor of Abernethy Creek or any wetlands near the site. See section 17.49 Natural Resources Overlay District for findings.

The applicant applied for and attended a design advice meeting with the HRB on February 28, 2017 to discuss preliminary designs of this proposed development prior to reducing the size of the Hackett House landmark, but it was not within their purview to consider. Vertically oriented windows and wood look siding treatments on the hotel are complementary to the Hackett House design.

17.65.050.B.1.f. *An analysis of the impacts of the proposed development on the surrounding community and neighborhood, including:*
1. Transportation impacts as prescribed in subsection g. below;
2. Internal parking and circulation impacts and connectivity to sites adjacent to the development boundary and public right-of-ways within two hundred fifty feet of the development boundary;
3. Public facilities impacts (sanitary sewer, water and stormwater management) both within the development boundary and on city-wide systems;
4. Neighborhood livability impacts;
5. Natural, cultural and historical resource impacts within the development boundary and within two hundred fifty feet of the development boundary.
Finding: Complies as proposed. The applicant's narrative adequately described the impacts to the surrounding community and neighborhood, including the following:
1. Transportation impacts – See finding under 17.65.050.B.1.g above.
2. Internal parking and circulation impacts – See "Vehicular Circulation", drawing 2.2 and "Pedestrian Circulation", drawing 2.3 illustrating proposed circulation and connectivity. The proposed development reduces the number of driveways fronting Washington Street, improves on-site vehicular circulation, and provides new on-street parking opportunities, and accommodates parking opportunities onsite. Improvement of Washington Street and construction of on-site pedestrian walkways will enhance pedestrian access to the project site and neighborhood connectivity to the End of the Oregon Trail and the Oregon City Train Station.
3. Public facilities impacts - Adequate public sanitary sewer and domestic water is available in Washington Street to serve the hotel development. Stormwater facilities for water quality will be created both on- site and in the public right-of-way improvement areas to serve street runoff. There is adequate downstream storm facilities to serve the site. Specifics about the stormwater is address in the stormwater report, included with the application materials.
4. Neighborhood livability impacts – The proposed project will increase neighborhood livability by creating new employment and housing opportunities, adding street level retail/commercial space, and improving pedestrian and vehicular connectivity. The proposal also implements the regional center by constructing a development pursuant to the purpose of the MUD zone.

5. Natural, cultural and historical resource impacts – The proposed project protects and enhances existing natural, cultural, and historical resources within the development boundary and within two hundred fifty feet of the development boundary. The historic Hackett House will remain onsite without modification. Development of a hotel serving the needs of visitors to the End of the Oregon Trail Interpretive Center across the street supports an important Oregon City tourism resource. Redevelopment of underutilized property within the Mixed Use Downtown zone relieves development pressure on existing open space, while protecting natural resources, conserving scenic and historic areas and implements the Regional Center designation by constructing development that is designed to be walkable and well served by public transportation. The proposed development will not impact the existing stream corridor of Abernethy Creek or its associated buffer and habitat area, as shown in the findings under 17.49.

17.65.050.B.1.g*. A summary statement describing the anticipated transportation impacts of the proposed development. This summary shall include a general description of the impact of the entire development on the local street and road network, and shall specify the maximum projected average daily trips, projected AM and PM peak hour traffic and the maximum parking demand associated with build-out each phase of the master plan.*
17.65.050.B.1.h. In addition to the summary statement of anticipated transportation impacts, an applicant shall provide a traffic impact study as specified by city requirements. The transportation impact study shall either:
1. Address the impacts of the development of the site consistent with all phases of the general development plan; or
2. Address the impacts of specific phases if the city engineer determines that the traffic impacts of the full development can be adequately evaluated without specifically addressing subsequent phases.
17.65.050.B.1.i. If an applicant chooses to pursue option h.1., the applicant may choose among three options for implementing required transportation capacity and safety improvements:
1. The General Development Plan may include a phasing plan for the proposed interior circulation system and for all on-site and off-site transportation capacity and safety improvements required on the existing street system as a result of fully implementing the plan. If this option is selected, the transportation phasing plan shall be binding on the applicant.
2. The applicant may choose to immediately implement all required transportation safety and capacity improvements associated with the fully executed general development plan. If this option is selected, no further transportation improvements will be required from the applicant. However, if a general development plan is later amended in a manner so as to cause the projected average daily trips, the projected AM or PM peak hour trips, or the peak parking demand of the development to increase over original projections, an additional transportation impact report shall be required to be submitted during the detailed development plan review process for all future phases of the development project and additional improvements may be required.
3. The applicant may defer implementation of any and all capacity and safety improvements required for any phase until that phase of the development reaches the detailed development plan stage. If this option is selected, the applicant shall submit a table linking required transportation improvements to vehicle trip thresholds for each development phase.
Finding: Complies with Conditions. The applicant submitted a 335-page Traffic Impact Study, prepared by Daniel Stumpf, EI and Michael Ard, PE of Lancaster Engineering, dated April 18, 2017. The study contains information regarding the study area, traffic counts, trip generation and distribution, traffic growth, traffic volume analysis (level-of-service as well as volume-to-capacity ratios), crash information, turn lanes at site entrances, pedestrian and bicycle facilities, site plan and access, intersection spacing, sight distance, consistency with the Transportation System Plan (TSP), and conclusions and recommendations of the applicant's traffic engineer. The City's transportation consultant, Replinger and Associates, reviewed the study and determined that it provided a basis upon which the development can be evaluated for the specific purposes of determining the transportation impacts of the proposed development.

Replinger and Associates concluded that the TIS provides an adequate basis upon which to assess the impacts of the proposed development. The engineer uses appropriate data and methods to analyze the operations and developed appropriate mitigation measures to address safety and operation issues.

With regard to the proposed development, Replinger and Associates recommended the following conditions of approval relative to the off-site transportation impacts:

- The developer shall construct Washington Street along the site frontage including a center turn lane to provide for left turns into the site. Applicant shall provide additional traffic engineering analysis relating to the location of the site access that shows the location of proposed access will not interfere with queuing or traffic operations at adjacent traffic signals through the TSP planning horizon.
- The developer shall participate in the funding of improvements for the I-205/OR-99E ramp terminal projects (TSP Projects D75 and D76) in proportion to his development's traffic volumes as a percentage of total year 2035 intersection volumes from the TSP. Based on this methodology, the developer would be responsible for 0.42% of the $3 million cost for Project D75 and for 0.49% of the project cost for Project D76. This would result in a contribution from the applicant of $12,600 + $14,700.
- The developer shall participate in the funding of improvements for the Main Street/14th Street improvements (TSP Projects D7 and D8) in proportion to his development's traffic volume as a percentage of the predicted 2035 traffic volume at the intersection calculated in the TSP. Based on the applicant's predicted site traffic, the applicant's responsibility would be 1.66% of the project's cost. The higher cost option in the TSP is listed at $670,000. That would result in a contribution from the applicant of $11,122.

The applicant did not provide a clear schedule for the timing of transportation improvements. According to the applicant's civil engineer Sisul Engineering, the intent is to only complete construction of public street improvements along the frontage of the hotel site on both Washington St. and 17th St for Phase 1, while deferring completion of the remainder of the street frontage improvements on Washington and installation of the left turn lane on Washington Street until Phase II, according to the applicants submitted Traffic Impact Study. However, the submitted DDP plans show full Washington Street frontage improvements to be completed with Phase 1.

Prior to issuance of a building permit, the applicant shall provide a phasing plan clarifying the timing of the proposed transportation improvements and a table linking the required transportation improvements to vehicle trip thresholds for each development phase. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**

17.65.050.B.1.j. *The applicant or city staff may propose objective development standards to address identified impacts that will apply within the proposed development on land that is controlled by the institution. Upon approval of the general development plan, these standards will supersede corresponding development standards found in this code. Development standards shall address at least the following:*
1. Pedestrian, bicycle and vehicle circulation and connectivity;
2. Internal vehicle and bicycle parking;
3. Building setbacks, landscaping and buffering;
4. Building design, including pedestrian orientation, height, bulk, materials, ground floor windows and other standards of Chapter 17.62; and
5. Other standards that address identified development impacts.
Finding: The applicant requested adjustments to existing standards under 17.65.070 for several requirements rather than proposing alternative objective standards.

17.65.050.B.2 *Maps and diagrams. The applicant must submit, in the form of scaled maps or diagrams, as appropriate, the following information:*
a. A preliminary site circulation plan showing the approximate location of proposed vehicular, bicycle, and pedestrian access points and circulation patterns, parking and loading areas or, in the alternative, proposed criteria for the location of such facilities to be determined during detailed development plan review.
b. The approximate location of all proposed streets, alleys, other public ways, sidewalks, bicycle and pedestrian access ways and other bicycle and pedestrian ways, transit streets and facilities, neighborhood activity centers and easements on and within two hundred fifty feet of the site. The map shall identify existing subdivisions and development and un-subdivided or unpartitioned land ownerships adjacent to the proposed development site and show how existing streets, alleys, sidewalks, bike routes, pedestrian/bicycle access ways and utilities within two hundred fifty feet may be extended to and/or through the proposed development.
c. The approximate location of all public facilities to serve the proposed development, including water, sanitary sewer, stormwater management facilities.
d. The approximate projected location, footprint and building square footage of each phase of proposed development.
e. The approximate locations of proposed parks, playgrounds or other outdoor play areas; outdoor common areas and usable open spaces; and natural, historic and cultural resource areas or features proposed for preservation. This information shall include identification of areas proposed to be dedicated or otherwise preserved for public use and those open areas to be maintained and controlled by the owners of the property and their successors in interest for private use.
Finding: Complies as proposed. The applicant includes all the necessary maps and diagrams with the approximate locations of items required by this section.

17.65.050.C. Approval Criteria for a General Development Plan.
The planning commission shall approve an application for general development plan approval only upon finding that the following approval criteria are met.

17.65.050.C.1.
The proposed General Development Plan is consistent with the purposes of Section 17.65.
Finding: Complies as proposed. The proposed development is consistent with the purpose and intent of 17.65 to "foster the growth of major institutions and other large-scale development, while identifying and mitigating the impacts of such growth on surrounding properties and public infrastructure." The proposed project is a large scale, multi-phased project, with impacts identified, and mitigation proposed in this application. The proposed hotel and the mixed use development will bring new tourism, retail and residential growth to the Mixed Use Downtown zone along with various impacts associated with both phases. Also, the applicant has proposed adjustments to various development standards, therefore the Type III review required for a general development plan and detailed development plan is the appropriate application type for a project of this complexity and thus is consistent with the purpose of 17.65.

17.65.050.C.2.
Development shall demonstrate compliance with Chapter 12.04, Streets, Sidewalks and Public Places.
Finding: Please see findings under Chapter 12.04.

17.65.050.C.3.
Public services for water supply, police, fire, sanitary waste disposal, and storm-water disposal are capable of serving the proposed development, or will be made capable by the time each phase of the development is completed.

Finding: Complies as proposed. The applicant indicates that public services for water supply, police, fire, sanitary waste disposal, and storm-water disposal are capable of serving the proposed development, or will be made capable by the time each phase of the development is completed.
See findings under OCMC subsection 17.62.050.A.(14) for adequacy of sewer and water facilities.
See findings under section OCMC 13.12 for adequacy of stormwater facilities.
Oregon City Police Department and Clackamas Fire District #1 were provided notice of this application and have not indicated any problems with providing police and emergency services to the development site.

17.65.050.C.4.
The proposed General Development Plan protects any inventoried Goal 5 natural, historic or cultural resources within the proposed development boundary consistent with the provisions of applicable overlay districts.
Finding: Complies as proposed. The proposed project will adequately protects Goal 5 resources. The proposed project protects and enhances existing natural, cultural, and historical resources within the development boundary and within two hundred fifty feet of the development boundary. The historic Hackett House will remain in its site location without modification. Development of a hotel serving the needs of visitors to the End of the Oregon Trail Interpretive Center across the street supports an important Oregon City tourism resource. Redevelopment of underutilized property within the Mixed Use Downtown zone relieves development pressure on existing open space, while protecting natural resources, conserving scenic and historic areas and implements the Regional Center designation by constructing development that is designed to be walkable and well served by public transportation. The proposed development will not impact the existing stream corridor of Abernethy Creek or its associated buffer and habitat area, as shown in the findings under 17.49.

17.65.050.C.5.
The proposed General Development Plan, including development standards and impact mitigation thresholds and improvements adequately mitigates identified impacts from each phase of development. For needed housing, as defined in ORS 197.303(1), the development standards and mitigation thresholds shall contain clear and objective standards.
Finding: Complies with conditions. The applicant did not provide a clear schedule for the timing of public improvements. According to the applicant's civil engineer Sisul Engineering, the intent is to only complete construction of public street improvements along the frontage of the hotel site on both Washington St. and 17th St for Phase 1, while deferring completion of the remainder of the street frontage improvements on Washington and installation of the left turn lane on Washington Street until Phase II, according to the applicants submitted Traffic Impact Study. The applicant shall provide a clear schedule for timing of all public improvements related to mitigation thresholds, including transportation, sewer, water, stormwater facilities for approval by the Public Works Department prior to issuance of a grading or construction permit for public improvements. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**

17.65.050.C.6.
The proposed general development plan is consistent with the Oregon City Comprehensive Plan and its ancillary documents.
Finding: See findings below for consistency with the Comprehensive Plan.

> ***Section 1: Citizen Involvement***
> *Goal 1.1 Citizen Involvement Program Implement a Citizen Involvement Program that will provide an active and systematic process for citizen participation in all phases of the land-use decision making process to enable citizens to consider and act upon a broad range of issues affecting the livability, community sustainability, and quality of neighborhoods and the community as a whole.*

Policy 1.1.1 - Utilize neighborhood associations as the vehicle for neighborhood-based input to meet the requirements of the Land Conservation and Development Commission (LCDC) Statewide Planning Goal 1, PWF Medical Center Master Plan Modification and Comprehensive Plan/Zone Change Application 20 *Citizen Involvement. The Citizen Involvement Committee (CIC) shall serve as the officially recognized citizen committee needed to meet LCDC Statewide Planning Goal 1.*
Goal 1.2 Community and Comprehensive Planning - Ensure that citizens, neighborhood groups, and affected property owners are involved in all phases of the comprehensive planning program.
Policy 1.2.1 - Encourage citizens to participate in appropriate government functions and land-use planning.
Goal 1.3 Community Education - Provide education for individuals, groups, and communities to ensure effective participation in decision-making processes that affect the livability of neighborhoods.
Goal 1.4 Community Involvement - Provide complete information for individuals, groups, and communities to participate in public policy planning and implementation of policies.
Policy 1.4.1 - Notify citizens about community involvement opportunities when they occur.

Finding: Complies as proposed. Citizen involvement has been encouraged through voluntary actions of the applicant as well as required neighborhood meetings. Pursuant to OCMC 17.50.055, the applicant attended a neighborhood meeting with the Two Rivers Neighborhood Association on January 25th, 2017. Additionally, as a courtesy, another meeting was held with the McLoughlin neighborhood association, on February 2, 2017. Public Notice of the application and public hearing for a Type III application was provided in accordance with OCMC 17.50 as documented within this report. Approval of the General Development Plan requires a public hearing before the Planning Commission at which any member of the public may testify or submit written comment.
The subject property was posted with land use notices at least 20 days prior the public hearing. Copies of the application were posted on-line on the city's website at https://www.orcity.org/planning/project/cp-17-0002-dp-17-0003nr-17-0004. Notice was posted in the Clackamas Review / Oregon City News, and email notice and transmittals were provided to all affected agencies and neighborhood associations on May 31, 2017. A copy of the Planning Commission Agenda was posted at all city offices and emailed to a variety of stakeholders including neighborhood associations, CIC members, one week prior to the first planning commission hearing.

Section 2: Land Use
Goal 2.1: *Ensure that property planned for residential, commercial, office and industrial uses is used efficiently and that land is developed following principles of sustainable development.*

Policy 2.1.2
Encourage the vertical and horizontal mixing of different land-use types in selected areas of the city where compatible uses can be designed to reduce the overall need for parking, create vibrant urban areas, reduce reliance on private automobiles, create more business opportunities and achieve better places to live.

Finding: Complies as proposed. The proposed development includes horizontal and vertical mixed-use, additional parking, more business opportunities, improved neighborhood livability. Infill and redevelopment of underutilized property within the City's Regional Center implemented by the Mixed Use Downtown zone district provides for efficient use of the land.

Goal 2.2 Downtown Oregon City
Develop the Downtown area, which includes the Historic Downtown Area, the "north end" of the Downtown, Clackamette Cove, and the End of the Oregon Trail area, as a quality place for shopping, living, working, cultural and recreational activities, and social interaction. Provide walkways for

pedestrian and bicycle traffic, preserve views of Willamette Falls and the Willamette River, and preserve the natural amenities of the area.

Policy 2.2.8
Implement the Oregon City Downtown Community Plan and Oregon City Waterfront Master Plan with regulations and programs that support compatible and complementary mixed uses, including housing, hospitality services, restaurants, civic and institutional, offices, some types of industrial and retail uses in the Regional Center, all at a relatively concentrated density.

Policy 2.2.10
Develop the Clackamette Cove area through the implementation of the Oregon City Waterfront Master Plan to achieve a balance between the natural and built environments, including wildlife habitat, multi-family residential development, office and retail, and family recreation.
Policy 2.2.11
Investigate an interpretive scheme that incorporates the End of the Oregon Trail Interpretive Center, the waterfront, and Downtown. Describe environmental, social, and historic aspects including the concept of a greenway along Abernethy Creek and nearby structures of historic significance.

Finding: Complies as proposed. The proposed development provides a quality place for hospitality services, shopping, living, working, and social interaction in the North End area of downtown with provisions for improved pedestrian and bicycle circulation through improvements to the street system and destinations for bicyclists and pedestrians. Providing additional tourism accommodation, services and residential uses in the downtown area promotes the Oregon City Waterfront Master Plan while improving an underutilized site. The retention of a designated historic structure on the site, the Hackett House, and the close proximity of the hotel to Abernethy Creek and the End of the Trail Interpretive Center will help to promote visitor's interpretation of the environmental, social and historical significance of the area.

Goal 2.4: Neighborhood Livability -
Provide a sense of place and identity for residents and visitors by protecting and maintaining neighborhoods as the basic unit of community life in Oregon City while implementing the goals and policies of the other sections of the Comprehensive Plan.

Policy 2.4.2
Strive to establish facilities and land uses in every neighborhood that help give vibrancy, a sense of place, and a feeling of uniqueness; such as activity centers and points of interest.

Finding: Complies as proposed. Development of a new hotel and mixed use development with apartments located between Oregon City's Main Street downtown area, the Train Station, the End of the Oregon Trail Interpretative Center and the landfill redevelopment area will promote vibrancy and a sense of place in this underutilized portion of Washington Street.

Goal 2.5: Retail and Neighborhood Commercial
Encourage the provision of appropriately scaled services to neighborhoods.
Policy 2.5.2
Allow and encourage the development of small retail centers in residential neighborhoods that provide goods and services for local residents and workers.
Generally, these centers should be located at the intersections of two or more streets that are classified as neighborhood collectors or higher.

Policy 2.5.4

Encourage the development of successful commercial areas organized as centers surrounded by higher density housing and office uses, rather than as commercial strips adjacent to low-density housing.

Finding: Complies as proposed. The proposed general development plan includes appropriately scaled commercial uses under multi-family residential which forms a small commercial center with higher density housing.

Section 5: *Open Spaces, Scenic and Historic Areas, and Natural Resources*

Goal 5.1
Establish an open space system that conserves fish and wildlife habitat and provides recreational opportunities, scenic vistas, access to nature and other community benefits.

Goal 5.2 Scenic Views and Scenic Sites
Protect the scenic qualities of Oregon City and scenic views of the surrounding landscape.

Policy 5.2.1
Identify and protect significant views of local and distant features such as Mt. Hood, the Cascade Mountains, the Clackamas River Valley, the Willamette River, Willamette Falls, the Tualatin Mountains, Newell Creek Canyon, and the skyline of the city of Portland, as viewed from within the city.

Policy 5.2.2
Maximize the visual compatibility and minimize the visual distraction of new structures or development within important viewsheds by establishing standards for landscaping, placement, height, mass, color, and window reflectivity.

Finding: Although the End of the Oregon Trail Interpretive Center (EOT) has not been designated as historic, containing a scenic view or otherwise providing an important viewshed, by imposing a reduced height in proximity to the EOT, the height restriction mentioned of 45' within 500' feet of the EOT for the Mixed Use Downtown Zone District in OCMC 17.34.060.D.2 suggest a general intent to provide a step-down in building height in close proximity to the EOT. Comprehensive Plan policy 5.2.2 relates to the preservation of scenic views and although not controlling over this decision, staff finds that it provides some relevant context for the additional height restriction imposed with respect to the End of the Oregon Trail Interpretive Center.

Goal 5.3 Historic Resources
Encourage the preservation and rehabilitation of homes and other buildings of historic or architectural significance in Oregon City.

Policy 5.3.1
Encourage architectural design of new structures in local Historic Districts, and the central Downtown area to be compatible with the historic character of the surrounding area.

Policy 5.3.2
Evaluate the establishment of Historic and Conservation Districts to preserve neighborhoods with significant examples of historic architecture in residential and business structures.

Policy 5.3.3
Promote the designation of qualifying properties outside Historic and Conservation Districts as historic.

Policy 5.3.4

Support the preservation of Oregon City's historic resources through public information, advocacy and leadership within the community, and the use of regulatory tools and incentive programs.

Policy 5.3.6
Maintain Oregon City's status as a Certified Local Government in the National Historic Preservation Program.

Policy 5.3.7
Encourage property owners to preserve historic structures in a state as close to their original construction as possible while allowing the structure to be used in an economically viable manner.

Policy 5.3.8
Preserve and accentuate historic resources as part of an urban environment that is being reshaped by new development projects.

Goal 5.4 Natural Resources
Identify and seek strategies to conserve and restore Oregon City's natural resources, including air, surface and subsurface water, geologic features, soils, vegetation, and fish and wildlife, in order to sustain quality of life for current and future citizens and visitors, and the long-term viability of the ecological systems.

Policy 5.4.8
Conserve natural resources that have significant functions and values related to flood protection, sediment and erosion control, water quality, groundwater recharge and discharge, education, vegetation and fish, and wildlife habitat.

Excerpt From Oregon City Comprehensive Plan Section 5 (Page 28):

Scenic Views and Sites
Oregon City is blessed with topography that provides outstanding scenic views and sites that create a sense of place and civic identity for both residents and visitors. Distant views of Mount Hood and the Cascade Mountains, as well as nearer views of the Willamette and Clackamas Rivers, Willamette Falls, scenic cliffs, and wooded areas such as Newell Creek Canyon, provide Oregon City with an abundance of scenic amenities, many dramatic and unique. The views and sites are economic and aesthetic resources that contribute to the overall distinctiveness and identity of Oregon City, and they should be protected. While views of distant landscapes from promontories and high elevations are often protected, views from lower elevations of the higher topographic points of Oregon City have not been as appreciated or protected. ***These lower elevation views should be considered when development is proposed.***
Views can be preserved in a variety of ways, from prohibiting development in particularly significant view corridors to designing structures that are appropriate to a site, using, for example, color and landscaping to hide or minimize visual incongruity. The City should develop guidelines for integrating the built environment with natural resources and continue to adopt and use guidelines to address scenic views, both looking down from higher points and up from lower points.

Finding: Complies as proposed. The proposed project protects and enhances existing natural, cultural, and historical resources within the development boundary and within two hundred fifty feet of the development boundary. The historic Hackett House will remain in its site location without modification. Development of a hotel serving the needs of visitors to the End of the Oregon Trail Interpretive Center across the street supports an important Oregon City tourism resource. Redevelopment of underutilized property within the Mixed Use

Downtown zone relieves development pressure on existing open space, while protecting natural resources, conserving scenic and historic areas and implements the Regional Center designation by constructing development that is designed to be walkable and well served by public transportation. The proposed development will not impact the existing stream corridor of Abernethy Creek or its associated buffer and habitat area, as shown in the findings under 17.49. The proposed project will adequately protects Goal 5 resources. The historic Hackett House will remain in its site location without modification, as approved by the Historic Review Board. The project will not impact the existing vegetated corridor of Abernethy Creek which is regulated by the Natural Resources Overlay District Development as shown in the findings pursuant to OCMC 17.49.

Development of a hotel and mixed use apartments serves the needs of new residential demands, and visitors to the End of the Oregon Trail Interpretive Center across the street supports an important Oregon City resource. Redevelopment of underutilized property within the MUD zone relieves development pressure on existing open space, while protecting natural resources, conserving scenic and historic areas.

Section 6: Quality of Air, Water and Land Resources
Policy 6.1.1
Promote land-use patterns that reduce the need for distance travel by single-occupancy vehicles and increase opportunities for walking, biking and/or transit to destinations such as places of employment, shopping and education.
Policy 6.1.4
Encourage the maintenance and improvement of the city's tree canopy to improve air quality.

Finding: Complies as proposed. The proposed development is located within walking and biking distance of transit streets and provides direct pedestrian connection to the adjacent Oregon City Train Station. Improvements along Washington Street will include sidewalks and street trees where none currently exist. Retention of an existing large tree along 17th Street by routing public walk around the tree will help to maintain the existing tree canopy.

Section 7: *Natural Hazards*
Protect life and reduce property loss from the destruction associated with natural hazards.
Policy 7.1.1
Limit loss of life and damage to property from natural hazards by regulating or prohibiting development in areas of known or potential hazards.
Policy 7.1.5
Minimize the risk of loss of life and damage to property from flooding by limiting development in the 100-year floodplain and by ensuring that accepted methods of flood proofing are used.
Policy 7.1.6
Encourage the use of land and design of structures that are relatively unaffected by the periodic effects of flooding, such as parking and other uses not normally occupied by humans.
Policy 7.1.7
Prohibit uses in areas subject to flooding that would exacerbate or contribute to hazards posed by flooding by introducing hazardous materials, filling or obstructing floodways, modifying drainage channels, and other detrimental actions.
Policy 7.1.8
Provide standards in City Codes for planning, reviewing, and approving development in areas of potential landslides that will prevent or minimize potential landslides while allowing appropriate development.

Finding: Complies with Conditions. The proposed development is within the floodplain and staff has recommended Conditions of Approval to ensure that new buildings and structures will be constructed with

appropriate measures in compliance with the City's Flood Management Overlay District and applicable codes and standards to limit loss of life and damage to property. Building floors and site areas below the flood elevation are restricted to parking and commercial uses. Residential, hotel, and office uses are to be located above the flood elevation. Balanced cut and fill within the floodplain will mitigate the risk of modifying land within the floodplain. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**

Section 9: Economic Development
Goal 9.1 Improve Oregon City's Economic Health - Provide a vital, diversified, innovative economy including an adequate supply of goods and services and employment opportunities to work toward an economically reasonable, ecologically sound and socially equitable economy.

Finding: Complies as proposed. The proposed project seeks to provide diversification of uses, which should result in economically healthy growth within Oregon City.

Goal 9.6 Tourism
Promote Oregon City as a destination for tourism.

Policy 9.6.2
Ensure land uses and transportation connections that support tourism as an important aspect of the City's economic development strategy. This could include connections to the End of the Oregon Trail Interpretive Center and the train depot.

Policy 9.6.3
Provide land uses in the Downtown Historic Area, 7th Street corridor, and the End of the Oregon Trail Interpretive Center that support tourism and visitor services.

Policy 9.6.6
Encourage private development of hotel, bed and breakfast, restaurant facilities and other visitor services.

Finding: Complies as proposed. The proposed detailed development plan for Phase 1 includes a hotel, and the phased 2 mixed-use with multi-family residential over commercial / retail development will support tourism while creating improved frontage improvements along Washington Street to enhance pedestrian and bicycle connection to the Downtown area and the End of the Oregon Trail Interpretive Center. Development of a taller hotel serving the needs of visitors to the End of the Oregon Trail Interpretive Center across the street supports an important Oregon City tourism resource.

Section 10: Housing
Goal 10.1*: Provide for the planning, development and preservation of a variety of housing types and lot sizes.*
Policy 10.1.3
Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.
Goal 10.2 *Provide and maintain an adequate supply of affordable housing.*

Finding: Complies as proposed. The proposed general development plan for Phase 2 includes mixed-use with multi-family residential over commercial / retail spaces, creating a balanced development.

Section 11: Public Facilities

Goal 11.1: Serve the health, safety, education, welfare and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.
Policy 11.1.2: Provide public facilities and services consistent with the goals, policies and implementing measures of the Comprehensive Plan, if feasible.
Policy 11.1.3: Confine urban public facilities and services to the city limits except where allowed for safety and health reasons in accordance with state land-use planning goals and regulations. Facilities that serve the public will be centrally located and accessible, preferably by multiple modes of transportation.
Policy 11.1.4: Support development on underdeveloped or vacant buildable land within the city where public facilities and services are available or can be provided and where land-use compatibility can be found relative to the environment, zoning, and Comprehensive Plan goals.
Policy 11.1.5: Design the extension or improvement of any major public facility and service to an area to complement other public facilities and services at uniform levels.
Policy 11.1.6: Enhance efficient use of existing public facilities and services by encouraging development at maximum levels permitted in the Comprehensive Plan, implementing minimum residential densities, and adopting an Accessory Dwelling Unit Ordinance to infill vacant land.

Finding: Complies as proposed. Adequate public facilities are present to serve the proposed site redevelopment. Washington Street frontage will be improved to bring it up to City arterial standards abutting the site. The location of the proposed development next to the Amtrak train station, near bus stops at 17th and Washington and close to two freeway interchanges will help connect the proposed development to various transportation and transit facilities. Infill and redevelopment of the property located between the train station and the End of the Oregon Trail is consistent with the policies of this section.

Section 12: Transportation
Goal 12.1 Land Use-Transportation Connection
Ensure that the mutually supportive nature of land use and transportation is recognized in planning for the future of Oregon City.
Policy 12.1.1 Maintain and enhance citywide transportation functionality by emphasizing multi-modal travel options for all types of land uses.
Policy 12.1.2 Continue to develop corridor plans for the major arterials in Oregon City, and provide for appropriate land uses in and adjacent to those corridors to optimize the land use-transportation connection.
Policy 12.1.3 Support mixed uses with higher residential densities in transportation corridors and include a consideration of financial and regulatory incentives to upgrade existing buildings and transportation systems.
Policy 12.1.4 Provide walkable neighborhoods. They are desirable places to live, work, learn and play, and therefore a key component of smart growth.

Goal 12.5 Safety Develop and maintain a transportation system that is safe.
Policy 12.5.1 Identify improvements that are needed to increase the safety of the transportation system for all users.
Policy 12.5.2 Identify and implement ways to minimize conflict points between different modes of travel.
Policy 12.5.3 Improve the safety of vehicular, rail, bicycle, and pedestrian crossings.
Goal 12.6 Capacity Develop and maintain a transportation system that has enough capacity to meet users' needs.
Policy 12.6.1 Provide a transportation system that serves existing and projected travel demand.
Policy 12.6.2 Identify transportation system improvements that mitigate existing and projected areas of congestion.

Policy 12.6.3 Ensure the adequacy of travel mode options and travel routes (parallel systems) in areas of congestion.

Policy 12.6.4 Identify and prioritize improved connectivity throughout the city street system.

Finding: Complies with conditions. Transportation Goals are addressed by providing features that meet or exceed the standards of this code; items such as bicycle parking, walking paths, improved sidewalks, safety, multi-modal transportation, and more, have design features or amenities proposed that are provided to enhance transportation to, from, and through the site, while also providing a connective fabric to the surrounding community.

The applicant submitted a 335-page Traffic Impact Study, prepared by Daniel Stumpf, EI and Michael Ard, PE of Lancaster Engineering, dated April 18, 2017. The study contains information regarding the study area, traffic counts, trip generation and distribution, traffic growth, traffic volume analysis (level-of-service as well as volume-to-capacity ratios), crash information, turn lanes at site entrances, pedestrian and bicycle facilities, site plan and access, intersection spacing, sight distance, consistency with the Transportation System Plan (TSP), and conclusions and recommendations of the applicant's traffic engineer.
The City's transportation consultant, Replinger and Associates, reviewed the study and determined that it provided a basis upon which the development can be evaluated for the specific purposes of determining the transportation impacts of the proposed development.

Replinger and Associates concluded that the TIS provides an adequate basis upon which to assess the impacts of the proposed development. The engineer uses appropriate data and methods to analyze the operations and developed appropriate mitigation measures to address safety and operation issues.

With regard to the proposed development, Replinger and Associates recommend the following conditions of approval relative to the off-site transportation impacts:

- The applicant construct Washington Street along the site frontage including a center turn lane to provide for left turns into the site.
- The applicant participate in the funding of improvements for the I-205/OR-99E ramp terminal projects (TSP Projects D75 and D76) in proportion to traffic volumes as a percentage of total year 2035 intersection volumes from the TSP. Based on this methodology, the applicant would be responsible for 0.42% of the $3 million cost for Project D75 and for 0.49% of the project cost for Project D76. This would result in a contribution from the applicant of $12,600 + $14,700.
- The applicant participate in the funding of improvements for the Main Street/14th Street improvements (TSP Projects D7 and D8) in proportion to traffic volumes as a percentage of the predicted 2035 traffic volume at the intersection calculated in the TSP. Based on the applicant's predicted site traffic, the applicant's responsibility would be 1.66% of the project's cost. The higher cost option in the TSP is listed at $670,000. That would result in a contribution from the applicant of $11,122.
- Based on the existing high crash rate at the intersection of Main Street and 14th Street and continuing development in the city that will result in increased traffic volumes, the selection of a preferred option for TSP project D7 and a review of the implementation schedule for this project may be appropriate.

The applicant did not provide a clear schedule for the timing of transportation improvements. Based on the submitted civil engineering plans for the detailed development plan it appears that the improvements to the abutting site frontage will be made along the entire frontage of the project area for both phases of the General Development Plan, pursuant to (2), while deferring installation of the left turn lane on Washington Street until Phase II, according to the applicants submitted Traffic Impact Study.
Prior to issuance of a building permit, the applicant shall provide a phasing plan clarifying the timing of the proposed transportation improvements and a table linking the required transportation improvements to vehicle

trip thresholds for each development phase. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**

> ***Section 13:*** *Energy Conservation*
> *Goal 13.1 Conserve energy in all forms through efficient land-use patterns, public transportation, building siting and construction standards, and city programs, facilities, and activities.*
> *Policy 13.2.1- Promote mixed-use development, increased densities near activity centers, and home-based occupations (where appropriate).*

Finding: Complies as proposed. The proposed development is multi-story, mixed-use, adding efficient increased density in close proximity to the End of the Oregon Trail and public transportation at the train station.

> ***Section 14: Urbanization***
> ***Goal 14.2:*** *Orderly Redevelopment of Existing City Areas- Reduce the need to develop land within the Urban Growth Boundary by encouraging redevelopment of underdeveloped or blighted areas within the existing city limits.*
> *Policy 14.2.1 - Maximize public investment in existing public facilities and services by encouraging redevelopment as appropriate.*
> *Policy 14.2.2 - Encourage redevelopment of city areas currently served by public facilities through regulatory and financial incentives.*
> *Policy 14.3.1 - Maximize new public facilities and services by encouraging new development within the Urban Growth Boundary at maximum densities allowed by the Comprehensive Plan.*

Finding: Complies as proposed. The proposed development includes infill and redevelopment of multiple underutilized properties. The development will increase density of the area in a zone that allows greater density, while also redeveloping an underutilized area within the city limits.

D. Duration of General Development Plan.
A general development plan shall involve a planning period of at least five years and up to twenty years. An approved general development plan shall remain in effect until development allowed by the plan has been completed through the detailed development plan process, the plan is amended or superseded, or the plan expires under its stated expiration date.
Finding: Complies with condition. The applicant indicated that the proposed duration of the general development plan is 5 years, with up to 5 years extension to the plan provided an updated traffic impact study is provided, and identified additional impacts addressed.

17.65.60 Detailed Development Plan
A. Submittal Requirements.
1. A transportation impact study documenting the on- and off-site transportation impacts, as specified in 17.65.050.B.1.h(1). If such an analysis was submitted as part of the General Development Plan process, the scope of the report may be limited to any changes which have occurred during the interim and any information listed below which was not a part of the initial study.
The on-site portion of the analysis shall include the location, dimensions and names of all proposed streets, alleys, other public ways, sidewalks, bike routes and bikeways, pedestrian/bicycle access ways and other pedestrian and bicycle ways, transit streets and facilities, neighborhood activity centers, and easements on and within 250 feet of the boundaries of the site. The map shall identify existing subdivisions and development and un-subdivided or unpartitioned land ownerships adjacent to the proposed development site and show how existing streets, alleys, sidewalks, bike routes, pedestrian/bicycle access ways and utilities within 250 feet may be extended to and/or through the proposed development.

2. The location within the development and in the adjoining streets of existing and proposed sewers, water mains, culverts, drain pipes, underground electric, cable television and telephone distribution lines, gas lines, and the location of existing aerial electric, telephone and television cable lines, if any, to be relocated within the development.
3. A site plan or plans, to scale, containing the required information identified in:
a. Chapter 17.62.040.A.(8), (10), (11), (12), (13), (14), and (15);
b. Chapter 17.62.040.B;
c. Chapter 17.62.040.C;
d. Chapter 17.62.040.D;
e. Chapter 17.62.040.E;
f. Chapter 17.62.040.G;
g. Chapter 17.62.040.H; and
h. Chapter 17.62.040.J
4. Any other information the Community Development Director deems necessary to show that the proposed development will comply with all of the applicable Chapter 17 requirements.
Finding: Submitted. The submitted detailed development plan included a Traffic Impact Study for Phase 1 and 2 prepared pursuant to the city's adopted guidelines for traffic impact analyses. This TIS along with the proposed public utility improvements, circulation system improvements and connections to existing streets, pedestrian and bicycle paths within 250 feet of the site was part of the complete application. Civil and Utility plans were submitted in accordance with this section. The site plans submitted contained all of the items specified under section (3) above. See Existing Topo Survey drawing for existing utilities. See Civil drawings for proposed utilities.
16.62.040.A(8) : See "Site Plan", drawing A100 for building information. See Civil drawings for site improvements & utilities.
16.62.040.A(10) : See "Site Plan", drawing A100 for proposed work.
16.62.040.A(11) : See "Site Plan", drawing A100 for locations of required parking.
16.62.040.A(12) : See "Site Plan", drawing A100 for site access points for automobiles, pedestrians, bicycles and transit.
16.62.040.A(13) : See "Site Plan", drawing A100 for on-site pedestrian & bicycle circulation.
16.62.040.A(14) : See "Site Plan", drawing A100.
16.62.040.A(15) : See "Site Plan", drawing A100.
17.62.040.B : See 'Demolition Plan", drawing C102 for trees to be removed. See "Planting Plan", drawing L1.0 for proposed planting.

B. Approval Criteria.
The Community Development Director shall approve an application for detailed development plan approval only upon findings that:
1. All development standards and impact mitigation meet the requirements of the approved General Development Plan, including conditions of approval.
2. Any other applicable zoning regulations that are not addressed in the General Development Plan are met, unless an adjustment to those regulations has been applied for and is approved. The approval standards applicable to adjustments required as part of a master plan are contained in 17.65.070.
3. The detailed development plan conforms with the standards contained in Chapter 17.62, unless adjusted as provided in 17.65.070.
Finding: Please refer to the analysis in this report and recommended conditions of approval. The applicant has requested various adjustments to the code which are detailed in the findings below.

C. Duration of Detailed Development Plan. Unless substantial expenditures have been made to implement the approved detailed development plan, defined as the submittal to the city of engineered plans for approval, a

detailed development plan shall expire twenty-four months from the notice of decision date. The date of final approval includes the resolution of all appeals. Upon the receipt from the applicant of a written request and payment of the required fee prior to the expiration date of the Detailed Development Plan, the Community Development Director may, on a one-time basis, grant a 12-month extension.
Finding: Complies as proposed. The applicant is proposing to construct the Detailed Development Plan within the timeframe identified.

17.65.070 Adjustments to Development Standards.
A. Purpose. In order to implement the purpose of the City's master plan process, which is to foster the growth of major institutions and other large-scale development, while identifying and mitigating their impacts on surrounding properties and public infrastructure, an applicant may request one or more adjustments to the applicable development regulations as part of the master planning process. These include, but are not limited to, items such as: dimensional standards of the of the underlying zone, Site Plan and Design Review criteria, residential design standards, and standards for land division approval.
B. Procedure. Requests for adjustments shall be processed concurrently with a General Development Plan. An adjustment request at the detailed development plan review shall cause the detailed development plan to be reviewed as a Type III application.

Finding: The following adjustments are requested for the General Development Plan:

Adjustment	Code	Description	Requested Adjustment
#1	17.34.060.D.2	Maximum building height of 45' within 500 feet of the End of the Oregon Trail Interpretive Center	Hotel maximum building height 57 feet as measured from the flood plain elevation; Mechanical penthouse 59 feet as measured from the flood plain elevation.
#2	17.62.055.F	First floor to second floor height 14 feet minimum.	First floor to second floor height 12 feet minimum.
#3	17.54.100.B.4	Fence & retaining wall combined height 8.5 feet	Guardrail + retaining wall combined height of 15 feet maximum.
#4	17.62.057.L.2	Window design - *All windows on all elevations shall recess or project individual windows at least two inches from the facade and incorporate window trim at least four inches in width that features color that contrasts with the base building color.*	Exception: wood framed walls with exterior wall finishes projecting less than 3-1/2" from face of wall sheathing shall not be required to recess or project windows from façade

Regulations That May Not be Adjusted. Adjustments are prohibited for the following items:
1. To allow a primary or accessory use that is not allowed by the regulations;
2. To any regulation that contains the word "prohibited";
3. As an exception to a threshold review, such as a Type III review process; and
4. Any exception to allow a use not identified as a permitted or conditional use in the underlying zone.
Not applicable. The applicant has not requested adjustment from any of the items listed.

B. Approval Criteria. A request for an adjustment to one or more applicable development regulations under this section shall be approved if the review body finds that the applicant has shown the following criteria to be met.

1. Granting the adjustment will equally or better meet the purpose of the regulation to be modified;

Adjustment #1

Code: 17.34.060.D.2 – Maximum building height 45' within 500 feet of the End of the Oregon Trail Interpretive Center.

Adjustment: The proposed building will exceed the 45' height limit by 21' from the average finished grade along Washington Street, or by 14.6' as measured from the Base Flood Elevation.

Finding: Complies as proposed. The applicant has applied for a master plan adjustment to the height limit for Phase I from section 17.34.060.D.2 – Maximum building height 45' within 500 feet of the End of the Oregon Trail Interpretive Center. The proposed building for Phase I will exceed the 45' height limit by 21' from the average finished grade along Washington Street, or by 14.6' as measured from the Base Flood Elevation.

The definition of Building Height is provided under 17.04.550 – Height: as follows:

> *"Height of building" means a vertical distance measured from the average elevation of the finished grade along the street-facing elevation to one-half the vertical distance between the eaves and the highest ridge for a gable, hip or gambrel roof…*

The applicant provided two separate calculations for measuring the building height – one based on the code definition, and the other based on the Design Flood Elevation (See Exhibits). Staff interprets "the average elevation of the finished grade along the street-facing elevation" to mean at the front elevation of the structural improvements, i.e. the rock wall and stairs rather than the front door. The average grade at the base of the rock wall is 44.4' and elevation of the highest point of the parapet is 110.47 feet. The building height of the hotel therefore equals 110.47 – 44.4 = 66.07'. This is the most conservative measurement.

All new habitable buildings to be constructed in the area affected by the FEMA flood plain must be designed with a finished floor one foot above the base s one foot above the Base Flood Elevation of 50.8 feet, as identified in OCMC 17.42 Flood Management Overlay District. The applicant has proposed that the first floor and lobby level of the hotel be at 51.8 feet. Based on this measurement, the height of the highest parapet of the hotel (the mechanical penthouse) is 59' 8".

The requirement to new design buildings above the based flood elevation will always deviate to some extent from the finished grade along the street facing façade, due a variety of independent site variables, such as, for example, the existing street grade, the amount of cut/and fill required to meet balanced floodplain cut/fill requirements, and the uses proposed for the new building. This should be kept in mind when considering the height adjustment request. In some cases the difference will be negligible, and in others, such as for the subject proposal, it represents a difference of approximately 6.4'.

The applicant's height adjustment request, therefore, is to exceed the 45' height limit by 21' from the average finished grade along Washington Street, or by 14.6' as measured from the Base Flood Elevation.

The site is located within the Mixed Use Downtown District (MUD) which was adopted in 2004 to implement several goals of the updated Comprehensive Plan, which included the 1999 Downtown Community Plan and the City's designation by Metro as a Regional Center in the Metro 2040 Growth Concept. Staff was not able to identify written documentation explaining the reasoning behind the 45' height limit in the legislative files and minutes of the Planning Commission and City Commission during the adoption of the new Comprehensive Plan and Zoning Code (Planning File L 03-01). There is no mention of the need to preserve specific views of or from the EOT, or height as it relates to compatibility in the current adopted Comprehensive Plan or its ancillary documents. The prior zoning designations on the property included the old M-1 light industrial zone, which had a forty-foot height limit and included a provision for the pre-existing use of the property, and prior to that there was the old Tourism Commercial zone which had a 35-foot height limit.

The End of the Oregon Trail Interpretive Center (EOT) has not been designated as historic and no scenic view or otherwise has been adopted to protect the facility. Staff was not able to find any specific statements in the Comprehensive Plan or Zoning code regarding what view the reduced height was intended to protect by imposing a reduced height in proximity to the EOT, the height restriction suggests a general intent to provide a step-down in building height in close proximity to the EOT. As discussed in this report under the Master Plan adjustment criteria, Comprehensive Plan policy 5.2.2 relates to the preservation of scenic views, and although not controlling over this decision, staff finds that it provides some relevant context for the additional height restriction imposed with respect to the End of the Oregon Trail Interpretive Center.

According to the applicant, the hotel franchise requires a minimum of approximately 100 rooms for the Hilton brand. Within the property included in the General Development Plan, the southerly portion of the site is the only part that will allow the ground floor to be located above the flood elevation and allow for vehicular access to the hotel entry. The site is additionally constrained by an existing 20' Tri-Cities sewer easement that bisects the property. Numerous development schemes were considered, with three viable plans ultimately presented to neighborhood associations and the Historic Review Board. One scheme was a T-shaped plan that would be within the height limit, but require the relocation of the Hackett House. A second scheme was an L-shaped plan that would be within the height limit and wrap around the west side of the Hackett House. The preferred scheme is more compact in plan, but requires an additional story and subsequent building height adjustment.

As discussed below, development of this site with a hotel meets the intent of several Comprehensive Plan goals and policies for redevelopment within the north end of Downtown, the Regional Center, and tourism and economic development in and around the End of the Oregon Trail Interpretive Center. Based on the above, staff finds that the adjustment will equally or better meet the purpose of the MUD Zone.

Adjustment #2
Code: 17.62.055.F – first floor to second floor height 14 feet minimum.
Requested adjustment: first floor to second floor height 12 feet minimum.
Finding: Complies with condition. The stated purpose of this section is to have adequate height to function efficiently for retail uses. Proposed uses include two new buildings, a hotel and a mixed-use building with ground floor retail/commercial uses and multi-family uses above. The hotel building is not likely to be repurposed to a different use, and a 12 foot floor-to-floor height is consistent with the franchise and industry standard for this type of hotel. The applicant indicated that the mixed-use building in Phase 2 ground floor consists of smaller scale spaces that can be adequately served and function efficiently with a reduced floor to floor height and that additional floor to floor height would add additional unnecessary cost to the project and increase the building height. Though the cost of the Phase 2 development is not applicable, the applicant failed to provide documentation into the record demonstrating how Phase 2 ground floor consists of smaller scale spaces that can be adequately served and function efficiently with a reduced floor to floor height and thus compliance with this criteria for phase 2 could not be determined. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**

Adjustment #3
Code: 17.54.100.B.4 – Fence & retaining wall combined height 8.5':
Requested adjustment: Guardrail + retaining wall combined height 15 feet maximum.
Finding: Complies as proposed. The natural grade of the site drops significantly from south to north over the westerly half of the site. In order to balance cut and fill within the flood zone, the applicant proposes to maintain the hotel floor level above the flood elevation and allow for vehicle access to the hotel, so that a break in grade of approximately 11.5 feet will be required. With the addition of a 3.5 foot safety guardrail at the top of the wall,

the combined height required is 15 feet. The purpose of the height limitation is to reduce the visual impact of large vertical expanses of retaining walls. The purpose of the retaining wall is to support the fill that is required to raise the hotel out of the floodplain. The proposed wall will not be visible from either 17th Street or Washington Street.

Adjustment #4
Code: 17.62.057.L.2 Window design - All windows on all elevations shall recess or project individual windows at least two inches from the facade and incorporate window trim at least four inches in width that features color that contrasts with the base building color.
Requested adjustment: Exception: wood framed walls with exterior wall finishes projecting less than 3-1/2" from face of wall sheathing shall not be required to recess or project windows from façade.
Finding: Complies with Condition. The intent of this regulation is to assure that multi-family buildings are constructed with quality and visually interesting designs with include shadowing and contrasting trim to provide visual relief.

The applicant indicated that typical windows intended for wood framed construction are installed by attaching a flange or fin that is an integral part of the window frame to the face of the wall sheathing. This configuration establishes the relationship between the wall façade and the window. Installing the window in a different manner is not a window manufacturer approved installation and creates building envelope integrity challenges and liabilities.

The amount of recess in a typical installation varies considerably depending on both the window manufacturer's frame cross-section and the type of window operation. Traditional double-hung windows often have one of the window panels in front of the attachment flange by more than an inch. Other window types may have glazing in line with or slightly behind or in front of the attachment flange. Use of typical siding materials will not result in the required projection or recess without artificially contrived detailing that is contrary to code purpose of quality construction and integration existing construction. The purpose of the regulation is to create visual interest where windows occur through the creation of shadow-lines by requiring an off-set between the window plan and the plane of the wall. Similar effects through the use of wall finishes and projecting trim may be achieved.

4" trim is a minimum standard. Staff finds that adjustment #4 is not adequately mitigated though the use of contrasting trim 4" minimum width trim along with industry standard window installation which provides for quality construction, consistent with traditional wood-framed window & wall appearance. Therefore, prior to issuance of a building permit, the applicant shall propose additional mitigation such as increased minimum transparency, higher quality materials, greater articulation or modulation, or landscaping. **It is reasonable, practicable and likely that the applicant can meet this standard through the Condition of Approval.**

2. If more than one adjustment is being requested, the cumulative effect of the adjustments results in a project that is still consistent with the overall purpose of the zone;
Finding: Complies as proposed. The cumulative effect of the requested adjustments results in a project consistent with the overall purpose of the Mixed Use Downtown zone. The adjustments enhance security, increase buildability, and promote project feasibility, allowing for a mixed-use project appropriate to the MUD zone.

3. City-designated Goal 5 resources are protected to the extent otherwise required by Title 17;
Finding: Complies as proposed. Approval of the adjustments will not affect the protection of Goal 5 natural resources. The development will have no effect on the stream corridor of Abernethy Creek as determined under

Section 17.49. The Historic Review Board reviewed and approved landmark size reduction for the Hackett House. The historic Hackett House will remain in its original site location without modification. Development of a hotel serving the needs of visitors to the End of the Oregon Trail Interpretive Center across the street supports economic development in the area. Redevelopment of underutilized property within the MUD zone relieves development pressure on existing open space, while protecting natural resources, conserving scenic and historic areas.

4. Any impacts resulting from the adjustment are mitigated; and

Adjustment # 1
Code: 17.34.060.D.2 – Maximum building height 45'.

Requested adjustment: Exceed the 45' height limit by 21' from the average finished grade along Washington Street, or by 14.6' as measured from the Base Flood Elevation.
Finding: Complies with Conditions.
Mitigation proposed: The proposed design incorporates a series of roof parapets that step down in height as they near Washington Street, reducing the overall building scale. Horizontal banding and material changes reduce the visual impact of the building height. With respect to the Hackett House, larger screening trees are proposed between hotel and the existing building.
Staff finds that the applicant can mitigate for the proposed adjustments through the Conditions of Approval. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**

Adjustment #2
Code: 17.62.055.F – First floor to second floor height 14 feet minimum.
Requested adjustment: first floor to second floor height 12 feet minimum.
Finding: Complies as proposed.
Mitigation Proposed: As the reduced floor to floor height will not reduce the effectiveness of the spaces to function as retail/commercial, there is no impact to mitigate. These spaces are likely to remain as the uses intended as the hotel is a purpose built building and the ground floor of the mixed-use building is precluded from residential use by its location below the flood elevation. The structural system for the second floor will be concrete with approximate thickness of 12"-14". This floor assembly is substantially thinner than other possible systems, further allowing reduced floor to floor height without adversely effecting functionality.
Staff finds that adjustment #2 is adequately mitigated. Since the hotel use will likely not change, there is no impact to the effectiveness of the space to function as a retail and commercial building. However, the applicant failed to provide documentation into the record demonstrating how Phase 2 would be mitigated and thus compliance with this criteria for phase 2 could not be determined. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**

Adjustment #3
Code: 17.54.100.B.4 – Fence & retaining wall combined height 8.5':
Requested adjustment: Guardrail + retaining wall combined height 15 feet maximum.
Finding: Complies as proposed.
Mitigation Proposed: The proposed wall is designed have a slightly angled face, constructed from large concrete blocks. The wall will not be visible from public streets. Planting in front of or on the wall face will further diminish the visual impact of the wall. Staff finds that adjustment #3 is adequately mitigated though the use of screening landscaping and angling of the face and by the location of the wall.

Adjustment # 4

Code: 17.62.057.L.2 Window design - All windows on all elevations shall recess or project individual windows at least two inches from the facade and incorporate window trim at least four inches in width that features color that contrasts with the base building color.
Requested adjustment: Exception: wood framed walls with exterior wall finishes projecting less than 3-1/2" from face of wall sheathing shall not be required to recess or project windows from façade.
Finding: Complies with Condition.
Proposed Mitigation: Providing contrasting trim 4" minimum width trim along with industry standard window installation provides for quality construction, consistent with traditional wood-framed window & wall appearance.

4" trim is a minimum standard. Staff finds that adjustment #4 is not adequately mitigated though the use of contrasting trim 4" minimum width trim along with industry standard window installation which provides for quality construction, consistent with traditional wood-framed window & wall appearance. Therefore, prior to issuance of a building permit, the applicant shall propose additional mitigation such as increased minimum transparency, higher quality materials, greater articulation or modulation, or landscaping. **It is reasonable, practicable and likely that the applicant can meet this standard through the Condition of Approval.**

5. If in an environmental zone, the proposal has as few significant detrimental environmental impacts on the resource and resource values as is practicable.
Finding: Not applicable. Please see findings under 17.49. There are no officially inventoried resources or resource values present on the subject property. Tree regulations are discussed under section 17.41. The applicant requested verification that the proposal is exempt from the Natural Resources Overlay District and has no impact on nearby Goal 5 resources of Abernethy Creek and inventoried habitat areas. See Exhibit E, "NROD Boundary Verification Report" for background data and information supporting the following requested actions:
1. Concurrence that no wetlands, waterways, other protected features exist on the subject properties.
2. Concurrence that NROD buffers do not project onto the subject properties. In the case of Abernethy Creek, 17th Street constitutes a physical barrier. In the case of the wetland area to the North, the wetland buffers per table 17.49.110 fall about 150 feet from the project.

6. The proposed adjustment is consistent with the Oregon City Comprehensive Plan and ancillary documents.
Finding: Complies as proposed. As discussed earlier in this report, the proposed adjustments for the proposed general development plan are consistent with the Oregon City Comprehensive Plan and ancillary documents.

17.65.80 Amendments to Approved Plans
Finding: Not applicable. The proposed project does not include amendments to approved plans.

17.65.090 - Regulations that Apply
An applicant is entitled to rely on land use regulations in effect on the date its General Development Plan application was initially submitted, pursuant to ORS 227.178(3), as that statute may be amended from time to time. After a General Development Plan is approved, and so long as that General Development Plan is in effect, an applicant is entitled to rely on the land use regulations in effect on the date its General Development Plan application was initially submitted, as provided above, when seeking approval of detailed development plans that implement an approved General Development Plan. At its option, an applicant may request that a detailed development plan be subject to the land use regulations in effect on the date its detailed development plan is initially submitted.
Finding: Complies as proposed. The applicant did not respond to this section. This application includes both the General Development Plan as well as construction of the first phase with the Detailed Development Plan and

thus is being reviewed with the current code. Future Detailed Development Plan applications may utilize this section.

CHAPTER 17.62 SITE PLAN AND DESIGN REVIEW

17.62.015 - Modifications that will better meet design review requirements.

The review body may consider modification of site-related development standards. These modifications are done as part of design review and are not required to go through the Variance process pursuant to section 17.60.020. Adjustments to use-related development standards (such as floor area ratios, intensity of use, size of the use, number of units, or concentration of uses) are required to go through the Variance process pursuant to section 17.60.020. Modifications that are denied through design review may be requested as Variance through the Variance process pursuant to section 17.60.020. The review body may approve requested modifications if it finds that the applicant has shown that the following approval criteria are met:

A. The modification will result in a development that better meets design guidelines; and

B. The modification meets the intent of the standard. On balance, the proposal will be consistent with the purpose of the standard for which a modification is requested.

Finding: Not applicable. The applicant has not proposed a modification pursuant to this section.

17.62.020 – Pre-application conference.

Prior to filing for site plan and design review approval, the applicant shall confer with the community development director pursuant to Section 17.50.030. The community development director shall identify and explain the relevant review procedures and standards.

Finding: Complies as proposed. Pre-application conferences were attended on February 8, 2017 (PA 17-02), July 6, 2016 (PA 16-30), and August 18, 2015 (PA 15-25).

17.62.030 - When required.

Site plan and design review shall be required for all development of real property in all zones except the R-10, R-8, R-6, R-5 and R-3.5 zoning districts, unless otherwise provided for by this title or as a condition of approval of a permit. Site plan and design review shall also apply to all conditional uses, cottage housing development, multi-family and non-residential uses in all zones. No building permit or other permit authorization for development shall be issued prior to site plan and design review approval. Parking lots and parking areas accessory to uses regulated by this chapter also shall require site plan and design review approval. Site plan and design review shall not alter the type and category of uses permitted in zoning districts.

Finding: Applicable. The site has mixed use downtown zoning which requires site plan and Site Plan and Design Review is required for detailed development plans pursuant to OCMC 17.65.[0]60.

17.62.035 - Minor site plan and design review.

Finding: Not applicable. The proposal does not qualify for the minor site plan and design review process.

17.62.040 - Plans required.

A complete application for site plan and design review shall be submitted. Except as otherwise in subsection I of this section, the application shall include the following plans and information:

A. A site plan or plans, to scale, containing the following:

1. Vicinity information showing streets and access points, pedestrian and bicycle pathways, transit stops and utility locations;

2. The site size, dimensions, and zoning, including dimensions and gross area of each lot or parcel and tax lot and assessor map designations for the proposed site and immediately adjoining properties;

3. Contour lines at two-foot contour intervals for grades zero to ten percent, and five-foot intervals for grades over ten percent;

4. The location of natural hazard areas on and within one hundred feet of the boundaries of the site, including:
a. Areas indicated on floodplain maps as being within the one hundred-year floodplain,
b. Unstable slopes, as defined in Section 17.44.020,
c. Areas identified on the seismic conditions map in the comprehensive plan as subject to earthquake and seismic conditions;
5. The location of natural resource areas on and within one hundred feet of the boundaries of the site, including fish and wildlife habitat, existing trees (six inches or greater in caliper measured four feet above ground level), wetlands, streams, natural areas, wooded areas, areas of significant trees or vegetation, and areas designated as being within the natural resources overlay district;
6. The location of inventoried historic or cultural resources on and within one hundred feet of the boundaries of the site;
7. The location, dimensions, and setback distances of all existing permanent structures, improvements and utilities on or within twenty-five feet of the site, and the current or proposed uses of the structures;
8. The location, dimensions, square footage, building orientation and setback distances of proposed structures, improvements and utilities, and the proposed uses of the structures by square footage;
9. The location, dimension and names, as appropriate, of all existing and platted streets, other public ways, sidewalks, bike routes and bikeways, pedestrian/bicycle accessways and other pedestrian and bicycle ways, transit street and facilities, neighborhood activity centers, and easements on and within two hundred fifty feet of the boundaries of the site;
10. The location, dimension and names, as appropriate, of all proposed streets, other public ways, sidewalks, bike routes and bikeways, pedestrian/bicycle accessways and other pedestrian and bicycle ways, transit streets and facilities, neighborhood activity centers, and easements on and within two hundred fifty feet of the boundaries of the site;
11. All parking, circulation, loading and servicing areas, including the locations of all carpool, vanpool and bicycle parking spaces as required in Chapter 52 of this title;
12. Site access points for automobiles, pedestrians, bicycles and transit;
13. On-site pedestrian and bicycle circulation;
14. Outdoor common areas proposed as open space;
15. Total impervious surface created (including buildings and hard ground surfaces).
16. The proposed location, dimensions and materials of fences and walls.
B. A landscaping plan, drawn to scale, showing the location and types of existing trees (six inches or greater in caliper measured four feet above ground level) and vegetation proposed to be removed and to be retained on the site, the location and design of landscaped areas, the varieties, sizes and spacings of trees and plant materials to be planted on the site, other pertinent landscape features, and irrigation systems required to maintain plant materials.
C. Architectural drawings or sketches, drawn to scale and showing floor plans, elevations accurately reflected to grade, and exterior materials of all proposed structures and other improvements as they will appear on completion of construction.
D. A materials board, no larger size than eleven inches by seventeen inches clearly depicting all building materials with specifications as to type, color and texture of exterior materials of proposed structures. An electronic version may be accepted as an alternative if approved by the community development director.
E. An erosion/sedimentation control plan, in accordance with the requirements of Chapter 17.47 and the Public Works Erosion and Sediment Control Standards, and a drainage plan developed in accordance with city drainage master plan requirements, Chapter 13.12 and the Public Works Stormwater and Grading Design Standards. The drainage plan shall identify the location of drainage patterns and drainage courses on and within one hundred feet of the boundaries of the site. Where development is proposed within an identified hazard area, these plans shall reflect concerns identified in the hydrological/geological/geotechnical development impact statement.
F. The legal description of the site.

G. An exterior lighting plan, drawn to scale, showing type, height, and area of illumination.
H. Archeological Monitoring Recommendation. For all projects that will involve ground disturbance, the applicant shall provide:
1. A letter or email from the Oregon State Historic Preservation Office Archaeological Division indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the Oregon State Historic Preservation Office and that the Oregon State Historic Preservation Office had not commented within forty-five days of notification by the applicant; and
2. A letter or email from the applicable tribal cultural resource representative of the Confederated Tribes of the Grand Ronde, Confederated Tribes of the Siletz, Confederated Tribes of the Umatilla, Confederated Tribes of the Warm Springs and the Confederated Tribes of the Yakama Nation indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the applicable tribal cultural resource representative and that the applicable tribal cultural resource representative had not commented within forty-five days of notification by the applicant.
If, after forty-five days notice from the applicant, the Oregon State Historic Preservation Office or the applicable tribal cultural resource representative fails to provide comment, the city will not require the letter or email as part of the completeness review. For the purpose of this section, ground disturbance is defined as the movement of native soils.
I. Such special studies or reports as the community development director may require to obtain information to ensure that the proposed development does not adversely affect the surrounding community or identified natural resource areas or create hazardous conditions for persons or improvements on the site. The community development director shall require an applicant to submit one or more development impact statements, as described in Section 16.12.050, upon determination that (1) there is a reasonable likelihood that traffic safety or capacity improvements may be required; (2) the proposal could have significant adverse impacts on identified natural resource areas, including areas designated as being within the natural resources overlay district; or (3) the proposal would be located on or could have significant adverse impacts on natural hazard areas, including the geologic hazard and flood plain overlay districts. The community development director shall determine which types of development impact statements are necessary and provide written reasons for requiring the statement(s). The development impact statements shall include the information described in Sections 16.12.070, 16.12.080, and 16.12.120 [and this Section] 17.62.040.
J. The community development director may waive the submission of information for specific requirements of this section or may require information in addition to that required by a specific provision of this section, as follows:
1. The community development director may waive the submission of information for a specific requirement upon determination either that specific information is not necessary to evaluate the application properly, or that a specific approval standard is not applicable to the application. If submission of information is waived, the community development director shall, in the decision, identify the waived requirements, explain the reasons for the waiver, and state that the waiver may be challenged on appeal and may be denied by a subsequent review authority. If the matter is forwarded to the planning commission for initial review, the information required by this paragraph shall be included in the staff report;
2. The community development director may require information in addition to that required by a specific provision of this section upon determination that the information is needed to evaluate the application properly and that the need can be justified on the basis of a special or unforeseen circumstance. If additional information is required, the community development director shall, in the decision, explain the reasons for requiring the additional information.
K. If the applicant has not already done so as some other part of the land use review process, the applicant shall submit an erosion control plan that complies with the applicable requirements of Chapter 17.74 of this code.
Finding: Complies with Condition. The submittal requirements meet this standard and the application was deemed complete. The Community Development Director has not waived any submittal requirements. A copy of

the pre-application proposal was forwarded to SHPO, the Confederated Tribes of the Grand Ronde, Confederated Tribes of the Siletz, Confederated Tribes of the Umatilla, Confederated Tribes of the Warm Springs and the Confederated Tribes of the Yakama Nation requesting comments. Comments were received from the Confederated Tribes of the Grand Ronde recommending that subsurface archeological investigations be conducted prior to ground disturbance. A standard comment letter from SHPO was received advising the applicant of applicable state laws protecting cultural resources under ORS 358.905 and ORS 97.74. The applicant shall coordinate as needed to complete the necessary investigations prior to any ground disturbance.

It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.

17.62.050 - Standards.

A. All development shall comply with the following standards:

1. Landscaping, A minimum of fifteen percent of the lot shall be landscaped. Existing native vegetation shall be retained to the maximum extent practicable. All plants listed on the Oregon City Nuisance Plant List shall be removed from the site prior to issuance of a final occupancy permit for the building.

Finding: Complies with Condition. The applicant did not provide a calculation for the percentage of landscaping. The project is in the Mixed Use Downtown zone. Chapter 17.34.060.I requires a minimum of 10% of the site area to be landscaped including parking. The submitted stormwater site assessment indicates that the site is 2.15 acres (93,654 square feet) and that the amount of new and replaced impervious area (buildings and paved areas) will equal 62,137 square feet for phase 1. (62,137 ÷ 93,654 = 0.66 or 66%). All non-impervious areas shall be landscaped pursuant to OCMC 17.62.050.A.(1). Staff estimates based on this that the amount of landscaping will be approximately 34% of the site. See "Planting Plan", L1.0 showing required landscaping. Prior to issuance of a building permit, the applicant shall provide a calculation of the amount of landscaping on the site for both phases prior to issuance of a building permit.

It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.

a. Except as allowed elsewhere in the zoning and land division chapters of this Code, all areas to be credited towards landscaping must be installed with growing plant materials. A reduction of up to twenty-five percent of the overall required landscaping may be approved by the community development director if the same or greater amount of pervious material is incorporated in the non-parking lot portion of the site plan (pervious material within parking lots are regulated in OCMC 17.52.070).

Finding: Complies as proposed. The applicant's landscaping plans Sheet L1.0 indicate compliance with this standard. The applicant has not proposed the use of pervious paving materials in order to reduce the amount of landscaping required.

b. Pursuant to Chapter 17.49, landscaping requirements within the Natural Resource Overlay District, other than landscaping required for parking lots, may be met by preserving, restoring and permanently protecting native vegetation and habitat on development sites.

Finding: Not applicable. The applicant has applied for verification that the site is not regulated by the Natural Resources Overlay District. See section 17.49 for findings.

c. The landscaping plan shall be prepared by a registered landscape architect and include a mix of vertical (trees and shrubs) and horizontal elements (grass, groundcover, etc.) that within three years will cover one hundred percent of the Landscape area. No mulch, bark chips, or similar materials shall be allowed at the time of landscape installation except under the canopy of shrubs and within two feet of the base of trees. The

community development department shall maintain a list of trees, shrubs and vegetation acceptable for landscaping.
Finding: Complies with Conditions. The landscaping plan was prepared by Steven Koch, FASLA, PLA of Koch Landscape Architecture and includes a mix of vertical (trees and shrubs) and horizontal elements. The plan includes 11 species of deciduous and coniferous trees, 9 species of deciduous shrubs, 9 species of evergreen shrubs, and 6 species of perennials and ground covers. The plan includes the preservation of existing trees where possible. Additionally the existing landscaping around the Hackett House will be maintained. Prior to issuance of a building permit the applicant shall provide a revised landscaping plan indicating that within three years the landscaping will cover one hundred percent of the Landscape area and that no mulch, bark chips, or similar materials shall be allowed at the time of landscape installation except under the canopy of shrubs and within two feet of the base of trees.
It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.

d. For properties within the Downtown Design District, or for major remodeling in all zones subject to this chapter, landscaping shall be required to the extent practicable up to the ten percent requirement.
Finding: Not applicable. The site is not within the Downtown Design District.

e. Landscaping shall be visible from public thoroughfares to the extent practicable.
Finding: Complies as proposed. Proposed landscaping is visible to public thoroughfares to the extent practicable.

f. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum, unless otherwise permitted by the dimensional standards of the underlying zone district.
Finding: Complies with Conditions. OCMC 17.34.060.I allows the required landscaping of 10% of the site area to include parking lot landscaping. See "Planting Plan", L1.0 showing required landscaping. The applicant shall provide a calculation of the amount of landscaping on the site prior to issuance of a building permit.
It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.

2. Vehicular Access and Connectivity.
a. Parking areas shall be located behind buildings, below buildings, or on one or both sides of buildings.
Finding: Complies as proposed. Parking areas are located behind existing buildings on Washington Street, on the north side of the hotel, and west side of the Hackett House.

b. Ingress and egress locations on thoroughfares shall be located in the interest of public safety. Access for emergency services (fire and police) shall be provided.
Finding: Complies as proposed. Additional findings of compliance for driveway locations and spacing are provided under OCMC 12.04. The applicant proposed three vehicular access locations. An ingress and egress point on 17th St. approximately 30 feet east of the western property line, as well as an ingress only point approximately 75 feet east of the western property line is planned. Also an ingress and egress point is planned approximately 230 feet north of the 17th/Washington Street intersection. A fire lane through the hotel development site, connecting the entrance on Washington Street to the entrances on 17th Street is a part of the plan.

The submitted Traffic Impact Analysis from Lancaster Engineering includes intersection studies at three site access locations; the existing signalized intersection of Washington Street and 17th Street, the proposed site access at intersection at Washington Street, and the existing driveway at the train station.

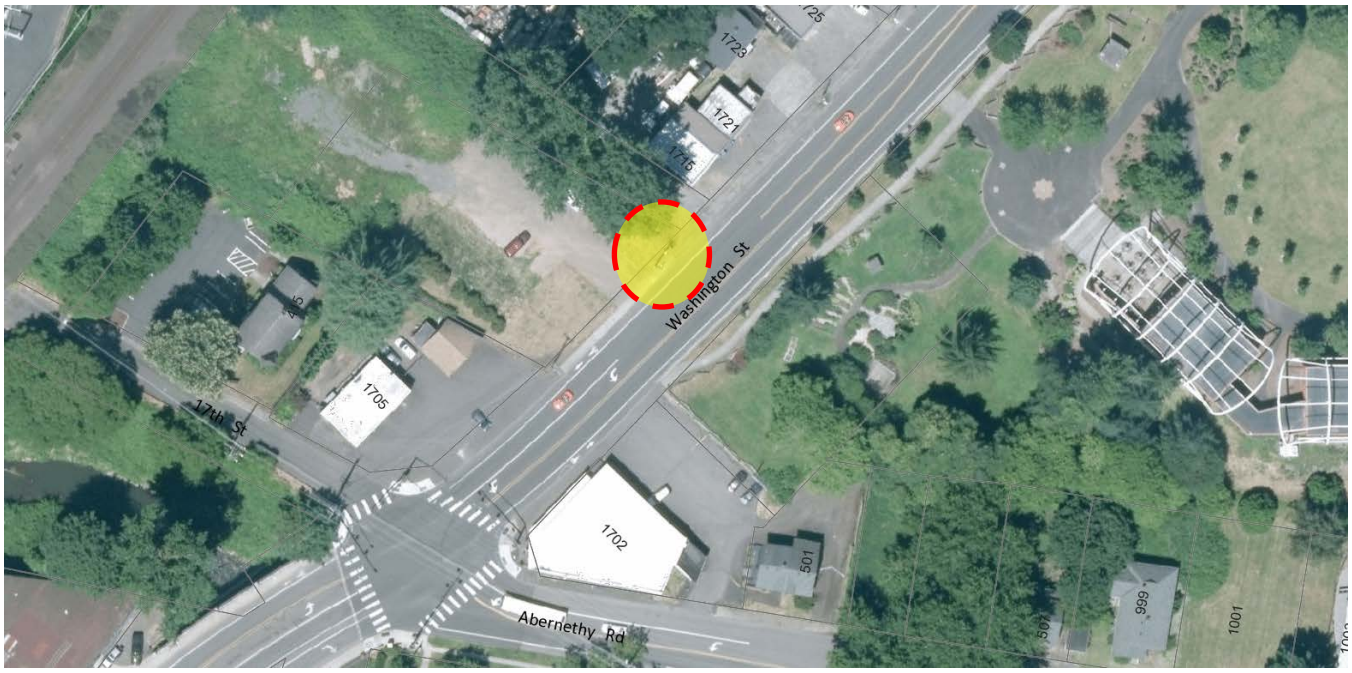
John Replinger of Replinger and Associates, the City's transportation engineer, finds the access locations to be appropriate and that sight distance requirements can be met.

c. Alleys or vehicular access easements shall be provided in the following Districts: R-2, MUC-1, MUC-2, MUD and NC zones unless other permanent provisions for access to off-street parking and loading facilities are approved by the decision-maker. The corners of alley intersections shall have a radius of not less than ten feet.
Finding: Complies with condition. The site is physically constrained by adjacent railroad tracks, right-of-way, and an adjacent train station. The applicant proposes a private driveway system on site to provide vehicular connections from Washington Street past the side of the hotel site, through the future phase 2 development site and ending at a connection to the adjacent train station. The drive aisle from this connection point in the train station to the right-of-way on Washington is constructed in a design similar to a streetscape. This connection will act in lieu of an alley, as it provides access through the site for the public. The City will require a public cross-access easement between the parcels to ensure pedestrian and vehicle access is maintained. The easement shall provide mutual access between all of the properties onsite as well as with the adjacent train station. See findings under (g) and (i) below. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

d. Sites abutting an alley shall be required to gain vehicular access from the alley unless deemed impracticable by the community development director.
Finding: Complies as proposed. The site does not abut an alley, however, as described within this report, a private access drive will meet the intent of this standard by providing access from the right-of-way through the site to the adjacent train station property.

e. Where no alley access is available, the development shall be configured to allow only one driveway per frontage. On corner lots, the driveway(s) shall be located off of the side street (unless the side street is an arterial) and away from the street intersection. Shared driveways shall be required as needed to accomplish the requirements of this section. The location and design of pedestrian access from the sidewalk shall be emphasized so as to be clearly visible and distinguishable from the vehicular access to the site. Special landscaping, paving, lighting, and architectural treatments may be required to accomplish this requirement.
Finding: Complies as proposed. The hotel site includes two parcels with one access point each. The site is not a corner lot due to the existing commercial development at the corner which is not part of this application. Parcel 1, which includes the Hackett House, is proposed to have ingress only access from 17th Street. Parcel 2, which will include the hotel site, is proposed to use a new ingress and egress access to both 17th St. and Washington St. The two accesses as proposed will not have an impact on traffic safety since 17th Street is a short, dead-end street and the ingress only access for the Hackett House will allow a separate access for users of the Hackett House parking lot.

f. Driveways that are at least twenty-four feet wide shall align with existing or planned streets on adjacent sites.
Finding: Complies as Proposed. The proposed driveway width on Washington Street is 32' wide. There are no existing or planned streets on adjacent sites that require alignment of driveways on the subject property. The existing End of the Oregon Trail entrance is already aligned with the entrance to the train depot. No additional streets are planned on the End of the Oregon Trail site. The following aerial photo indicates the approximate location of the proposed driveway.



g. Development shall be required to provide existing or future connections to adjacent sites through the use of vehicular and pedestrian access easements where applicable. Such easements shall be required in addition to applicable street dedications as required in Chapter 12.04.
Finding: Complies with conditions. A vehicular and pedestrian connection between the hotel site and the future Phase 2 site is planned. The City will require a public cross-access easement between the parcels to ensure pedestrian and vehicle access is maintained. The easement shall provide mutual access between all of the properties onsite as well as with the adjacent train station. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

h. Vehicle and pedestrian access easements may serve in lieu of streets when approved by the decision maker only where dedication of a street is deemed impracticable by the city.
Finding: Complies as Conditioned. The site is physically constrained by adjacent railroad tracks, right-of-way, and an adjacent train station. The applicant proposes a private driveway system on site to provide vehicular connections from Washington Street through the hotel site and parking lot to the future phase 2 development site and ending at a connection to the adjacent train station. No additional street connections are required due to the adjoining railroad right-of-way paralleling Washington Street. The drive aisle from the connection point at the train station to the right-of-way on Washington is constructed in a design similar to a public streetscape. This connection will act in-lieu-of an alley, as it provides access through the site for the public. The City will require a public cross-access easement between the parcels to ensure pedestrian and vehicle access is maintained. The City will require a cross-access easement between the parcels to ensure pedestrian and vehicle access is maintained. The easement shall provide mutual access between all of the properties onsite as well as with the adjacent train station. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

***i.** Vehicular and pedestrian easements shall allow for public access and shall comply with all applicable pedestrian access requirements.*
Finding: See findings under (c), (g) and (h) above.

j. *In the case of dead-end stub streets that will connect to streets on adjacent sites in the future, notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future.*
Finding: Complies as proposed. No new street extensions are proposed. 17th Street, which is an existing street, cannot be extended due to railroad right-of-way requirements. However, the connection through the site acts as a street connection to the adjacent train station.

k. Parcels larger than three acres shall provide streets as required in Chapter 12.04. The streets shall connect with existing or planned streets adjacent to the site.
Finding: See findings for compliance with Chapter 12.04 in this report.

l. *Parking garage entries shall not dominate the streetscape. They shall be designed and situated to be ancillary to the use and architecture of the ground floor. This standard applies to both public garages and any individual private garages, whether they front on a street or private interior access road.*
Finding: Not applicable. No parking garages are proposed with this detailed development plan. The design of phase 2 will be reviewed for compliance with this standard upon submittal of a detailed development application.

m. Buildings containing above-grade structured parking shall screen such parking areas with landscaping or landscaped berms, or incorporate contextual architectural elements that complement adjacent buildings or buildings in the area. Upper level parking garages shall use articulation or fenestration treatments that break up the massing of the garage and/or add visual interest.
Finding: Not applicable. No structured parking is proposed with this detailed development plan. The design of phase 2 will be reviewed for compliance with this standard upon submittal of a detailed development application.

3. *Building structures shall be complimentary to the surrounding area. All exterior surfaces shall present a finished appearance. All sides of the building shall include materials and design characteristics consistent with those on the front. Use of inferior or lesser quality materials for side or rear facades or decking shall be prohibited.*
a. Alterations, additions and new construction located within the McLoughlin Conservation District, Canemah National Register District, and the Downtown Design District and when abutting a designated Historic Landmark shall utilize materials and a design that incorporates the architecture of the subject building as well as the surrounding district or abutting Historic Landmark. Historic materials such as doors, windows and siding shall be retained or replaced with in kind materials unless the community development director determines that the materials cannot be retained and the new design and materials are compatible with the subject building, and District or Landmark. The community development director may utilize the Historic Review Board's Guidelines for New Constriction (2006) to develop findings to show compliance with this section.
b. In historic areas and where development could have a significant visual impact, the review authority may request the advisory opinions of appropriate experts designated by the community development director from the design fields of architecture, landscaping and urban planning. The applicant shall pay the costs associated with obtaining such independent professional advice; provided, however, that the review authority shall seek to minimize those costs to the extent practicable.
Finding: Complies with conditions. As demonstrated within this report, the application will comply with the applicable design standards with conditions of approval.

Exterior elevations proposed utilize materials and design characteristics consistent with those proposed on the front of the building, which faces Washington Street. These include a range of high quality, durable materials,

including stone veneer base, wood or composite siding with concealed fasteners, etc., including a troweled finish in a clean modern application for the Hotel, existing traditional materials and finishes for the historic Hackett House (with little or no change), and appropriate high quality, durable materials for the Mixed Use residential-over-commercial building. The submitted elevations for the hotel include the following materials:

	Façade			
Exterior Material	East (Front) Washington Street	South (Side) 17th Street	North (Side)	West (Back)
Natural Stone Veneer	✓	✓	✓	✓
Wood Texture Fiber Cement Panel System	✓	✓	✓	✓
Metal Louvers Integrated with Window System	✓	✓	✓	
Insulated Glazing with Painted Aluminum Mullion	✓	✓	✓	✓
Synthetic Plaster	✓	✓	✓	✓
Painted Metal	✓	✓	✓	✓
Metal Flashing and Smooth Finish Synthetic Plaster	✓	✓	✓	✓
Natural Stone Veneer Site Wall	✓	✓	✓	✓

The site is not located within a historic district. No changes to the Hackett House, a two-story Queen Anne style house, used as an office building onsite are proposed. The Hackett House is located on the project site, south of the proposed hotel.

The End of the Oregon Trail Interpretive Center is located east of the project site directly across Washington Street from the project site, although the End of the Oregon Trail Interpretive Center is not a historically designated site.

It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.

*4. Grading **s**hall be in accordance with the requirements of Chapter 15.48 and the public works stormwater and grading design standards.*

Finding: See findings under section 15.48 of this report.

5. Development subject to the requirements of the Geologic Hazard overlay district shall comply with the requirements of that district.

Finding: See finding under Chapter 17.44.035.

6. Drainage shall be provided in accordance with city's drainage master plan, Chapter 13.12, and the public works stormwater and grading design standards.

Finding: See findings under section 13.12 of this report.

*7. Parking, **in**cluding carpool, vanpool and bicycle parking, shall comply with city off-street parking standards, Chapter 17.52.*

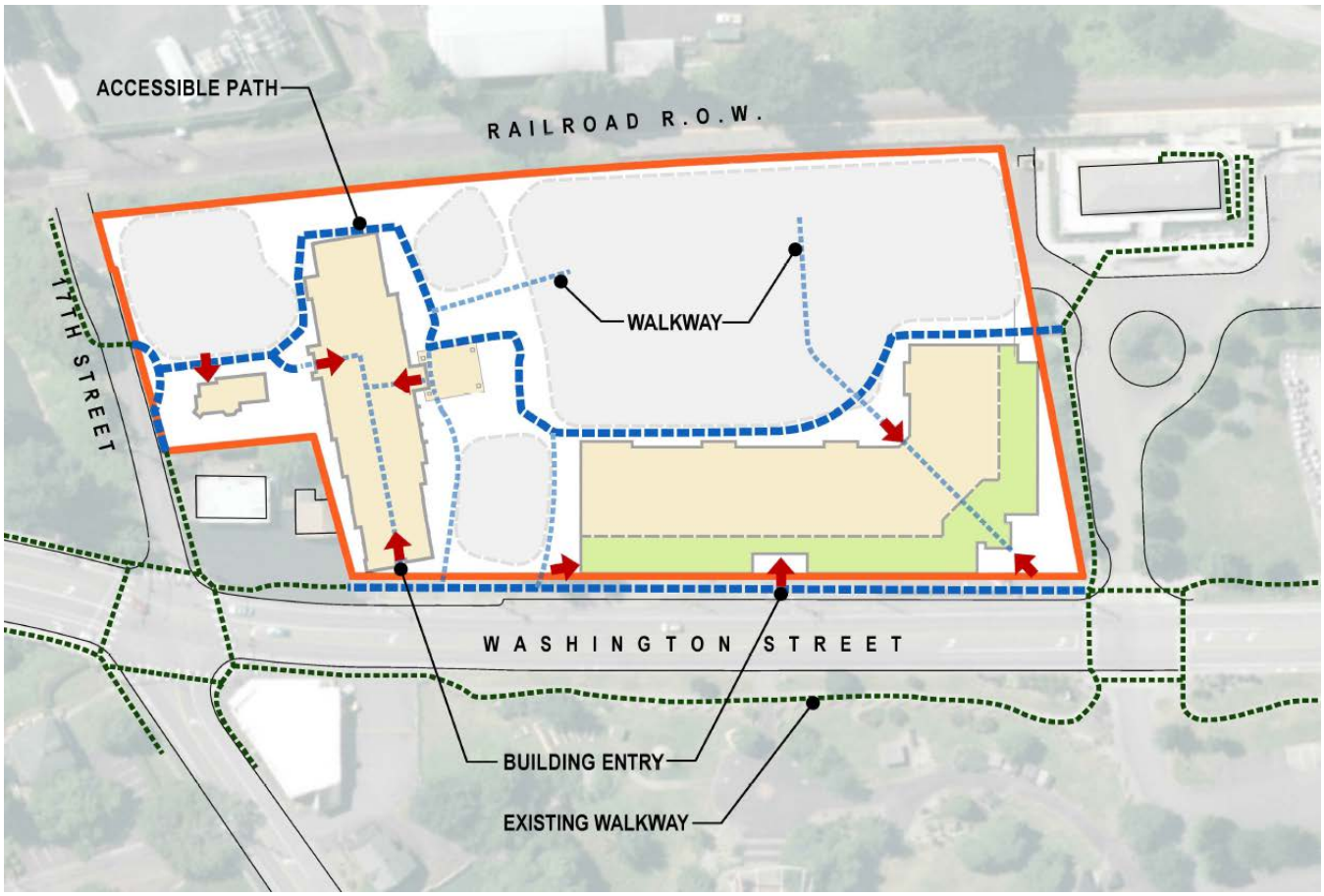
Finding: See findings for compliance with Chapter 17.52 in this report.

8. Sidewalks and curbs shall be provided in accordance with the city's transportation master plan and street design standards. Upon application, the community development director may waive this requirement in whole or in part in those locations where there is no probable need, or comparable alternative location provisions for pedestrians are made.

Finding: Complies with Condition. Sidewalk and curbs will be provided in accordance the City's transportation master plan and street design standards, except were specific design modifications, variances or deviations from the standards are requested and approved by the City.

The applicant did not provide a clear schedule for the timing of transportation improvements. Based on the submitted civil engineering plans for the detailed development plan it appears that the improvements to the abutting site frontage will be made along the entire frontage of the project area for both phases of the General Development Plan in phase 1, while deferring installation of the left turn lane on Washington Street until construction of Phase II, according to the applicant's submitted Traffic Impact Study. The applicant has also indicated that the street improvements will be concurrent with each phase.
Prior to issuance of a building permit, the applicant shall provide a phasing plan clarifying the timing of the proposed transportation improvements and a table linking the required transportation improvements to vehicle trip thresholds for each development phase.
It is reasonable, practicable and likely that this standard can be met through the conditions of approval.

9. A well-marked, continuous and protected on-site pedestrian circulation system *meeting the following standards shall be provided:*
a. Pathways between all building entrances and the street are required. Pathways between the street and buildings fronting on the street shall be direct. Exceptions may be allowed by the director where steep slopes or protected natural resources prevent a direct connection or where an indirect route would enhance the design and/or use of a common open space.



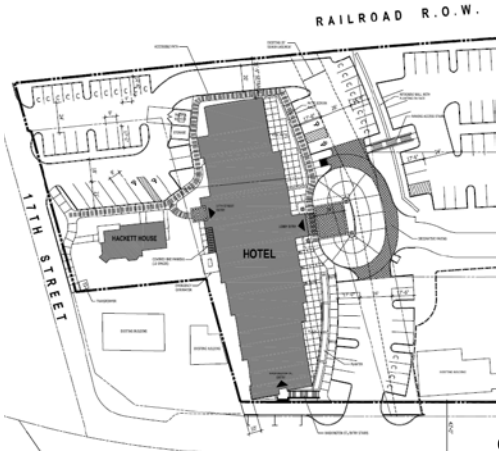
Finding: Complies as proposed. The application includes a system of interconnecting sidewalks and pathways that provide for continuous and protected on-site pedestrian circulation. This is illustrated in the pedestrian circulation plan sheet 2.3. Pathways between all building entrances are indicated on the site plans, with direct access to both 17th and Washington Street. The applicant will complete pedestrian improvements for Phase II when the Phase II buildings are proposed for detailed development plan review.

b. The pedestrian circulation system shall connect all main entrances on the site. For buildings fronting on the street, the sidewalk may be used to meet this standard. Pedestrian connections to other areas of the site, such as parking areas, recreational areas, common outdoor areas, and any pedestrian amenities shall be required.
Finding: Complies as proposed. The on-site pedestrian circulation system connects all main entrances on the site. Additional pedestrian connections are provided to parking areas.

c. Elevated external stairways or walkways, that provide pedestrian access to multiple dwelling units located above
the ground floor of any building are prohibited. The community development director may allow exceptions for external stairways or walkways located in, or facing interior courtyard areas provided they do not compromise visual access from dwelling units into the courtyard.
Finding: Not applicable. The proposed project does not include dwelling units. Access to the hotel floors is provide by means of interior stairs and elevators.

d. The pedestrian circulation system shall connect the main entrances of adjacent buildings on the same site.

Finding: Complies as proposed. The pedestrian circulation system shown on "Site Plan", drawing A100,



connects the main entrances of the Hackett House and the hotel within phase 1 of the development. The pedestrian circulation system demonstrates a variety of connection between Phase 1 and Phase 2 buildings.

e. The pedestrian circulation system shall connect the principal building entrance to those of buildings on adjacent commercial and residential sites where practicable. Walkway linkages to adjacent developments shall not be required within industrial developments or to industrial developments or to vacant industrially-zoned land.

Finding: Complies as proposed. The proposed pedestrian circulation system connects the Hackett House, the hotel and the future mixed-use building. Street sidewalks provide additional connectivity to adjoining properties. Future pedestrian connectivity to the Oregon City Train Station will be provided under phase 2 development of the General Development Plan. No pedestrian connections are available to the west due to the railroad right-of-way.

f. On-site pedestrian walkways shall be hard surfaced, well drained and at least five feet wide. Surface material shall contrast visually to adjoining surfaces. When bordering parking spaces other than spaces for parallel parking, pedestrian walkways shall be a minimum of seven feet in width unless curb stops are provided. When the pedestrian circulation system is parallel and adjacent to an auto travel lane, the walkway shall be raised or separated from the auto travel lane by a raised curb, bollards, landscaping or other physical barrier. If a raised walkway is used, the ends of the raised portions shall be equipped with curb ramps for each direction of travel. Pedestrian walkways that cross drive isles or other vehicular circulation areas shall utilize a change in textual material or height to alert the driver of the pedestrian crossing area.

Finding: Complies with conditions. All onsite walkways in Phase I appear to be designed in compliance with this standard with the following exceptions. The applicant has not a change in textual material or height to alert the driver of the pedestrian crossing area at the bottom of the stairs leading to the parking lot. Prior to issuance of a building permit, the applicant shall provide revised plans that indicate the use of a change in textural material or height to alert the driver of the pedestrian crossing area within the parking lot serving the hotel. **It is reasonable, practicable and likely that the applicant can meet this standard through a condition of approval.**

10. There shall be provided adequate means to ensure continued maintenance and necessary normal replacement of private common facilities and areas, drainage ditches, streets and other ways, structures, recreational facilities, landscaping, fill and excavation areas, screening and fencing, groundcover, garbage storage areas and other facilities not subject to periodic maintenance by the city or other public agency.

Finding: Complies as proposed. The applicant has indicated that they will provide the necessary maintenance of their private facilities and other areas not subject to periodic maintenance by the city. Any violations of this standard would typically be enforced through the standard code enforcement process.

11. Site planning shall conform to the requirements of OCMC Chapter 17.41 Tree Protection.
Finding: See section 17.41 for findings.

12. Development shall be planned, designed, constructed and maintained to protect water resources and habitat conservation areas in accordance with the requirements of the city's Natural Resources Overlay District, Chapter 17.49, as applicable.
Finding: See section 17.49 for findings.

13. *All development shall maintain continuous compliance with applicable federal, state, and city standards pertaining to air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference. Prior to issuance of a building permit, the community development director or building official may require submission of evidence demonstrating compliance with such standards and receipt of necessary permits. The review authority may regulate the hours of construction or operation to minimize adverse impacts on adjoining residences, businesses or neighborhoods. The emission of odorous gases or other matter in such quantity as to be readily detectable at any point beyond the property line of the use creating the odors or matter is prohibited.*
Finding: Complies as proposed. The applicant indicates that the development will maintain continuous compliance with applicable federal, state and city standards as they pertain to air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference. Any violations of this standard would typically be enforced through the standard code enforcement process.

14. *Adequate public water and sanitary sewer facilities sufficient to serve the proposed or permitted level of development shall be provided. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development. Service providers shall be presumed correct in the evidence, which they submit. All facilities shall be designated to city standards as set out in the city's facility master plans and public works design standards. A development may be required to modify or replace existing offsite systems if necessary to provide adequate public facilities. The city may require over sizing of facilities where necessary to meet standards in the city's facility master plan or to allow for the orderly and efficient provision of public facilities and services. Where over sizing is required, the developer may request reimbursement from the city for over sizing based on the city's reimbursement policy and fund availability, or provide for recovery of costs from intervening properties as they develop.*
Finding: Complies with condition. Applicant proposes to utilize an existing service connection to the 48 inch gravity trunk sewer line maintained by Tri-City Service District (TCSD) that is within the site. Existing service connection to the 48-inch sewer pipe on site shall be usable and meet the minimum inside diameter requirement of 6" for serving commercial buildings. Any new connection to the Tri-City Service District (TCSD) main will require permission from TCSD with all approved permits provided to the City. Documentation of TCSD easement over the 48-inch sanitary sewer main shall be provided. The development shall extend the 8-inch sanitary sewer main within Washington Street, to and through the site frontage. The applicant shall confirm that no buildings have sewer service running within the subject site. If other buildings have a sewer service running through the subject site, the applicant must provide a new service line from the required 8-inch sanitary sewer main extension within its frontage.

The City of Oregon City has a 10-inch water main in Washington Street adequate to serve the development.

The existing 6-inch water main in 17TH Street shall be upsized to the City's standard 8-inch diameter ductile iron water main. A fee-in-lieu of construction of the new 8-inch water main will be considered if upsizing of 6-inch pipe is shown to not be feasible. An easement shall be provided for the water main along the frontage of 17th Street.
It is reasonable, practicable and likely that the applicant can meet this standard through a condition of approval.

15. Adequate right-of-way and improvements to streets, *pedestrian ways, bike routes and bikeways, and transit facilities shall be provided and be consistent with the city's transportation master plan and design standards and this title. Consideration shall be given to the need for street widening and other improvements in the area of the proposed development impacted by traffic generated by the proposed development. This shall include, but not be limited to, improvements to the right-of-way, such as installation of lighting, signalization, turn lanes, median and parking strips, traffic islands, paving, curbs and gutters, sidewalks, bikeways, street drainage facilities and other facilities needed because of anticipated vehicular and pedestrian traffic generation. Compliance with [Chapter] 12.04, Streets, Sidewalks and Public Places shall be sufficient to achieve right-of-way and improvement adequacy.*
Finding: See Findings in 12.04.

16. *If a transit agency, upon review of an application for an industrial, institutional, retail or office development, recommends that a bus stop, bus turnout lane, bus shelter, accessible bus landing pad, lighting, or transit stop connection be constructed, or that an easement or dedication be provided for one of these uses, consistent with an agency adopted or approved plan at the time of development, the review authority shall require such improvement, using designs supportive of transit use. Improvements at a major transit stop may include intersection or mid-block traffic management improvements to allow for crossings at major transit stops, as identified in the transportation system plan.*
Finding: Complies as proposed. Notice of the application was provided to Tri-Met who did not comment. The site is not located on a Tri-Met Route. The applicant is not aware of transit improvements needed as a part of the proposed developments, but if such were found to be an appropriate improvement for public street improvements, such would be included as a part of the public improvements.

17. All utility lines shall be placed underground.
Finding: Complies with condition. Applicant proposed in the narrative to place all existing and proposed utility lines underground, but did not depict this on submitted plans. A condition will be applied to ensure overhead utilities along the site frontage will be relocated underground.
It is reasonable, practicable and likely that the applicant can meet this standard through a condition of approval.

18. *Access and facilities for physically handicapped people shall be incorporated into the site and building design consistent with applicable federal and state requirements, with particular attention to providing continuous, uninterrupted access routes.*
Finding: Complies as proposed. Formal compliance with this standard will be further reviewed upon submittal of building permits and construction plans for public and private street improvements. The applicant proposed accessibility improvements will be a part of the site and building design to serve physically handicapped people. See "Site Plan", drawing A100 and building floor plans, drawings A201 thru A203 for detailed information. Improvements will include:

- An accessible route to the public street sidewalk at 17th Street.
- An accessible route from public street northward to the Hackett House and the hotel.

- An accessible route extension to northerly edge phase 1 development to allow future accessible path connection to phase 2 building(s) and existing Oregon City Train Station.
- The hotel will meet ADA requirements including accessible hotel rooms as required by code.

19. For a residential development, site layout shall achieve at least eighty percent of the maximum density of the base zone for the net developable area. Net developable area excludes all areas for required right-of-way dedication, land protected from development through Natural Resource or Geologic Hazards protection, and required open space or park dedication.
Finding: Not applicable. The proposed phase 1 hotel project is not a residential development. The MUD zone does not have any minimum residential density requirements, so this section will not apply to the Phase II mixed use apartments either.

20. Screening of Mechanical Equipment:
a. Rooftop mechanical equipment, including HVAC equipment and utility equipment that serves the structure, shall be screened. Screening shall be accomplished through the use of parapet walls or a sight-obscuring enclosure around the equipment constructed of one of the primary materials used on the primary facades of the structure, and that is an integral part of the building's architectural design. The parapet or screen shall completely surround the rooftop mechanical equipment to an elevation equal to or greater than the highest portion of the rooftop mechanical equipment being screened. In the event such parapet wall does not fully screen all rooftop equipment, then the rooftop equipment shall be enclosed by a screen constructed of one of the primary materials used on the primary facade of the building so as to achieve complete screening.
Finding: Complies as proposed. Rooftop mechanical equipment will be located in the center portion of the hotel and screened by parapets using materials used on the primary building façade. The stepped parapet configuration is designed as an integral part of the building's architectural design.

b. Wall-mounted mechanical equipment shall not be placed on the front facade of a building or on a facade that faces a right-of-way. Wall-mounted mechanical equipment, including air conditioning or HVAC equipment and groups of multiple utility meters, that extends six inches or more from the outer building wall shall be screened from view from streets; from residential, public, and institutional properties; and from public areas of the site or adjacent sites through the use of (a) sight-obscuring enclosures constructed of one of the primary materials used on the primary facade of the structure, (b) sight-obscuring fences, or (c) trees or shrubs that block at least eighty percent of the equipment from view or (d) painting the units to match the building. Wall-mounted mechanical equipment that extends six inches or less from the outer building wall shall be designed to blend in with the color and architectural design of the subject building.
Finding: Complies as proposed. Wall-mounted mechanical equipment will not be placed on the front facade of a building or on a facade that faces a right-of-way. Wall-mounted mechanical equipment or meters are not proposed. Hotel rooms are equipped with individual PTAC units (Packaged Terminal Air Conditioner). These units are located entirely within each room behind louvers below windows. The PTAC louvers are integrated into the window unit, matching window frame style and color, to be as unobtrusive as possible.

c. Ground-mounted above-grade mechanical equipment shall be screened by ornamental fences, screening enclosures, trees, or shrubs that block at least eighty percent of the view. Placement and type of screening shall be determined by the community development director.
Finding: Complies as proposed. A ground-mounted backup generator within a screening enclosure is proposed adjacent to the south side of the hotel.

d. All mechanical equipment shall comply with the standards in this section. If mechanical equipment is installed outside of the site plan and design review process, planning staff shall review the plans to determine if additional screening is required. If the proposed screening meets this section, no additional planning review is required.
Finding: Complies as proposed. Mechanical equipment will be installed in compliance with the standards in this section.

e. This section shall not apply to the installation of solar energy panels, photovoltaic equipment or wind power generating equipment.
Finding: Not applicable. Alternative energy systems are not included in the proposed design of this project.

21. Building Materials.
a. Preferred building materials. *Building exteriors shall be constructed from high quality, durable materials. Preferred exterior building materials that reflect the city's desired traditional character are as follows:*
i. Brick.
Ii. Basalt stone or basalt veneer.
iii. Narrow horizontal wood or composite siding (generally five inches wide or less); wider siding will be considered where there is a historic precedent.
iv. Board and baton siding.
v. Other materials subject to approval by the community development director.
vi. Plywood with battens or fiber/composite panels with concealed fasteners and contagious aluminum sections at each joint that are either horizontally or vertically aligned.
vii. Stucco shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.
Finding: Complies with Conditions. See also findings under 17.62.050.A(3). The application includes a range of high quality, durable materials, including stone veneer base, wood or composite siding with concealed fasteners, etc., including a troweled finish of either Stucco or EIFS in a clean modern application for the Hotel, and appropriate high quality, durable materials for the Mixed Use residential over commercial building. No changes are proposed to the exterior of the Hackett House. Where Stucco or EIFS is implemented, it shall be detailed is such a way as to be trimmed, protected and sheltered by roof overhangs or other methods per the manufacturer's requirements. Prior to issuance of a building permit, the applicant shall clarify the use of "smooth finish synthetic plaster" on the submitted plans and provide details regarding how this material compares to EIFS and Stucco, and how it will be trimmed and protected from extreme weather in compliance with this OCMC 17.62.050.A.21. **It is reasonable, practicable and likely that the applicant can meet this standard through compliance with the Conditions of Approval.**

b. Prohibited materials. *The following materials shall be prohibited in visible locations unless an exception is granted by the community development director based on the integration of the material into the overall design of the structure.*
i. Vinyl or plywood siding (including T-111 or similar plywood).
Ii. Glass block or highly tinted, reflected, translucent or mirrored glass (except stained glass) as more than ten percent of the building facade.
iii. Corrugated fiberglass.
iv. Chain link fencing (except for temporary purposes such as a construction site or as a gate for a refuse enclosure).
[v.] Crushed colored rock/crushed tumbled glass.
[vi.] Non-corrugated and highly reflective sheet metal.
Finding: Complies with Conditions. The applicant did not propose any materials on the "prohibited" list. The applicant proposed a fence on top of the retaining wall at the rear of the site through no details were submitted

for review. Oregon Department of Transportation provided comments regarding the need for a safety fence to separate the property from trespassing onto the railroad right-of-way. This included a ODOT specification for a fence detail with two design options, one which is chain-link, which is a prohibited material, and the other which is a wrought iron picket fence design which would meet the design standard. Any fence proposal for the property shall comply with the applicable provisions of OCMC 17.62.050.A.21 Building Materials and shall not include chain link. **It is reasonable, practicable and likely that the applicant can meet this standard through compliance with the Conditions of Approval.**

c. Special material standards: *The following materials are allowed if they comply with the requirements found below:*
1. Concrete block. When used for the front facade of any building, concrete blocks shall be split, rock- or ground-faced and shall not be the prominent material of the elevation. Plain concrete block or plain concrete may be used as foundation material if the foundation material is not revealed more than three feet above the finished grade level adjacent to the foundation wall.
2. Metal siding. Metal siding shall have visible corner moldings and trim and incorporate masonry or other similar durable/permanent material near the ground level (first two feet above ground level).
3. Exterior Insulation and Finish System (EIFS) and similar toweled finishes shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.
4. Building surfaces shall be maintained in a clean condition and painted surfaces shall be maintained to prevent or repair peeling, blistered or cracking paint.
Finding: Complies with Condition. The application includes the use of painted architectural metal siding (metal louvers integrated with the window system), and painted metal siding for roof parapet edges and on the stair tower at the east end of the building, with the applicable trim and moldings. The applicant also proposes the use of synthetic plaster including a troweled finish of either Stucco or EIFS for the Hotel. Prior to issuance of a building permit, the applicant shall clarify the use of "smooth finish synthetic plaster" on the submitted plans and provide details regarding how this material compares to EIFS and Stucco, and how it will be trimmed and protected from extreme weather. **It is reasonable, practicable and likely that the applicant can meet this standard through compliance with the Conditions of Approval.**

22. Conditions of Approval. *The review authority may impose such conditions as it deems necessary to ensure compliance with these standards and other applicable review criteria, including standards set out in city overlay districts, the city's master plans, and city public works design standards. Such conditions shall apply as described in Sections 17.50.310, 17.50.320 and 17.50.330. The review authority may require a property owner to sign a waiver of remonstrance against the formation of and participation in a local improvement district where it deems such a waiver necessary to provide needed improvements reasonably related to the impacts created by the proposed development. To ensure compliance with this chapter, the review authority may require an applicant to sign or accept a legal and enforceable covenant, contract, dedication, easement, performance guarantee, or other document, which shall be approved in form by the city attorney.*
Finding: Complies with conditions. The applicant shall comply with the conditions of approval as noted in this report. It is the owner's intent to comply with Conditions of Approval as required by this section. **It is reasonable, practicable and likely that the applicant can meet this standard through compliance with the Conditions of Approval.**

17.62.055 - INSTITUTIONAL AND COMMERCIAL BUILDING STANDARDS.
A. Purpose. The primary objective of the regulations contained in this section is to provide a range of design choices that promote creative, functional, and cohesive development that is compatible with surrounding areas. Buildings approved through this process are intended to serve multiple tenants over the life of the building, and are not intended for a one-time occupant. The standards encourage people to spend time in the area, which also

provides safety though informal surveillance. Finally, this section is intended to promote the design of an urban environment that is built to human scale by creating buildings and streets that are attractive to pedestrians, create a sense of enclosure, provide activity and interest at the intersection of the public and private spaces, while also accommodating vehicular movement.
Finding: The applicant indicated understanding of the design intent for commercial buildings in this section.

B. Applicability. In addition to Section 17.62.050 requirements, institutional and commercial buildings shall comply with design standards contained in this section.
Finding: The applicant understands the applicability of this section and indicated willingness to fully comply with the design standards.

C. Relationship between zoning district design standards and requirements of this section.
1. Building design shall contribute to the uniqueness of the underlying zoning district by applying appropriate materials, elements, features, color range and activity areas tailored specifically to the site and its context.
Finding: Complies with condition. As demonstrated within this report, the proposal will comply with the design standards within the Oregon City Municipal Code, with the conditions of approval. The applicant proposed that the buildings designed for this project have unique qualities that are tailored to the site and its context while striving to contribute to the uniqueness of the Mixed Use Downtown zoning district. **It is reasonable, practicable and likely that the applicant can meet this standard through compliance with the Conditions of Approval.**

2. A standardized prototype or franchise design shall be modified if necessary to meet the provisions of this section.
Finding: Complies with conditions. The applicant has proposed several modifications to the prototypical Hilton brand hotel standards in the design of the hotel for this site, while keeping within the guidelines for the franchise, striking a balance between franchise standards and local city/government standards. For example, the applicant made several design alterations to the building to meet the main entry requirements of this section where the building fronts on Washington Street, and also modified the building floor plans to be sensitive to the historically designated Hackett House structure site and grounds. As demonstrated within this report, the design will comply with the standards in the Oregon City Municipal Code, with the conditions of approval. **It is reasonable, practicable and likely that the applicant can meet this standard through compliance with the Conditions of Approval.**

3. In the case of a multiple building development, *each individual building shall include predominant characteristics, architectural vocabulary and massing shared by all buildings in the development so that the development forms a cohesive place within the underlying zoning district or community.*
Finding: Complies as proposed. Phase 1 consists of one building, which is the hotel. For this multi-building development, the buildings have been designed with some common architectural vocabulary. The applicant proposes that the hotel and the mixed-use building will have similar massing, providing additional cohesiveness while also including unique elements that help to identify the nature of each. Phase 2 of the development will be reviewed for compliance with this standard when the phase 2 detailed development plan is proposed.

4. With the exception of standards for building orientation and building front setbacks, in the event of a conflict between a design standard in this section and a standard or requirement contained in the underlying zoning district, the standard in the zoning district shall prevail.
Finding: Not applicable. The requirements of the underlying Mixed Use Downtown zone, outside the Downtown Design District, would apply in the event of conflicts with requirements of this section with the exception of standards for building orientation and building front setbacks. Staff has not identified any such conflicts.

5. On sites with one hundred feet or more of frontage at least sixty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line, unless a greater setback is accepted under the provisions of Section 17.62.055D. For sites with less than one hundred feet of street frontage, at least fifty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line unless a greater setback is accepted under the provisions of Section 17.62.055D.

Finding: Complies as proposed. The street frontage along Washington Street has buildings located within five feet of the property line exceeding the sixty percent requirement, with the exception of required driveways and walkways upon completion of the Master Plan. The property has approximately 519 feet of street frontage. The phase 1 hotel plus the phase 2 mixed use building will take up approximately 50' + 283', respectively, including pedestrian amenity areas within the setbacks, and not including the private driveway access. This totals 63% of the property frontage (333/519 = 0.64).

D. Relationship of Buildings to Streets and Parking.

1. Buildings shall be placed no farther than five feet from the front property line. A larger front yard setback may be approved through site plan and design review if the setback area incorporates at least one element from the following list for every five feet of increased setback requested:

a. Tables, benches or other approved seating area.

b. Cobbled, patterned or paved stone or enhanced concrete.

c. Pedestrian scale lighting.

d. Sculpture/public art.

e. Fountains/Water feature.

f. At least twenty square feet of landscaping or planter boxes for each tenant facade fronting on the activity area.

g. Outdoor café.

h. Enhanced landscaping or additional landscaping.

i. Other elements, as approved by the community development director, that can meet the intent of this section.

Finding: Complies as proposed. Upon dedication of additional right—of-way along Washington Street, all buildings will be located within five feet of the new property line along Washington Street or include the required pedestrian amenity area within the setback. The hotel façade facing Washington is approximately 50 feet wide and varies from 2' to 12' from the property line with a pedestrian entry that connects the hotel to the street frontage along Washington Street in the setback area. The applicant has proposed this design to accentuate the front façade of the building and provide a pedestrian oriented main entrance onto Washington Street. Staff finds that the design of this pedestrian stairway the canopy it connects to, the rough stone facing materials proposed for the stair (patterned stone - subsection (b)), and the 50-foot long landscaping strip (additional landscaping - subsection (h)) below the stair meets the requirements of this section.

2. The front most architecturally significant facade shall be oriented toward the street and shall be accessed from a public sidewalk. Primary building entrances shall be clearly defined and recessed or framed by a sheltering element such as an awning, arcade or portico in order to provide shelter from the summer sun and winter weather.

Finding: Complies with Condition. The applicant provided a separate narrative with graphic three-dimensional renderings to support compliance with this standard. In particular the applicant stressed the following points:



"Please note that the Washington Street Elevation includes nearly all of the significant features outlined including the signature "Lantern" element, glazed double door entrance, direct access from the public street sidewalk, ceremonial grand stair up to the building entrance outdoor view terrace, cantilevered horizontal awning, entrance accent lighting, and ground level signage (which will be visible from the street and sidewalk adjacent to the hotel). The only significant features that





the Washington Street elevation does not include are the upper level signage which is viewed from a distance, and the Port Cochere which cannot be located at Washington Street elevation due to the 100 year flood elevation."



"The analysis of finishes shows that the front, Washington Street elevation has by far the highest percentage of the premium finishes such as floor to ceiling glazing, and wood accents, and the lowest percentages of lower cost finishes such as plaster siding, and aluminum punched windows. In comparison, all of the other elevations including the side, Interior elevation with the Port Cochere have lower percentages of the premium finishes such as floor to ceiling glazing and wood accents, and higher percentages of the lower cost finishes such as plaster siding and aluminum punched windows."

Staff finds that the proposal for the east entrance should be further enhanced in order to make the front façade the most architecturally significant. The applicant shall provide revised plans that extend the canopy further toward the street to highlight the entranceway, and propose art works, sculpture, fountain, lighting or a similarly prominent amenity feature placed on the side of the stone stairs facing Washington.
The applicant shall also prepare a quantitative table that clearly demonstrates the enhanced transparency in square feet, size of the patio, articulation, and use of materials as compared to other facades, and improve the connection from the doorway to the main lobby.
It is reasonable, practicable and likely that the applicant can meet this standard through the Condition of Approval.

3. Entryways. The primary entranceway for each commercial or retail establishment shall face the major street. The entrance may be recessed behind the property line a maximum of five feet unless a larger setback is approved pursuant to Section 17.62.055.D.1 and shall be accessed from a public sidewalk. Primary building entrances shall be clearly defined, highly visible and recessed or framed by a sheltering element including at least four of the following elements, listed below.
a. Canopies or porticos;
b. Overhangs;
c. Recesses/projections;
d. Arcades;
e. Raised corniced parapets over the door;
f. Peaked roof forms;
g. Arches;
h. Outdoor patios;
i. Display windows;
j. Architectural details such as tile work and moldings which are integrated into the building structure and design;
k. Integral planters or wing walls that incorporate landscaped areas and/or places for sitting.
l. Planter boxes and street furniture placed in the right-of-way shall be approved for use according to materials, scale and type.
Finding: Complies with Condition. See also findings above for standard (2). The primary pedestrian entranceway for the hotel faces the major street, Washington Street and includes a canopy running from along the front of the building for approximately 20 feet (a), large display windows (i), a recess for the doorway of 5' from the canopy edge (c), a parapet at the top of the wood and glass detailing adjacent to the door (e) , and a large natural stone wing wall as well as a wood architectural feature adjacent to the door(j), in addition to landscaping features below the stairs. This entrance has to be raised to access the first floor which is designed to be above the base flood elevation. Additionally the applicant has designed the stairwell leading to the upper floors as a tower with glass and wood elements so that it is highly visible from the north and south along Washington Street while softening the effect of the five story façade. The applicant shall provide revised plans that extend the canopy further toward the street to highlight the entranceway, and propose art works, sculpture, fountain, lighting or a similarly prominent amenity feature placed on the side of the stone stairs facing Washington. The applicant shall also prepare a quantitative table that clearly demonstrates the enhanced transparency in square feet, size of the patio, articulation, and use of materials as compared to other facades, and improve the connection from the doorway to the main lobby.
It is reasonable, practicable and likely that the applicant can meet this standard through the Condition of Approval.

4. Where additional stores will be located in the large retail establishment, each such store shall have at least one exterior customer entrance, which shall conform to the same requirements.

Finding: Not applicable. Phase I does not include retail use, therefore this standard does not apply. At the time a detailed development plan is submitted for Phase II, further compliance with this standard will be reviewed.

5. Trellises, canopies and fabric awnings may project up to five feet into front setbacks and public rights-of-way, provided that the base is not less than eight feet at the lowest point and no higher than ten feet above the sidewalk. Awnings shall be no longer than a single storefront.
Finding: Not applicable. No projections are proposed into the public right-of-way.

E. Corner Lots.
For buildings located at the corner of intersections, the primary entrance of the building shall be located at the corner of the building or within twenty-five feet of the corner of the building. Additionally, one of the following treatments shall be required:
1. Incorporate prominent architectural elements, such as increased building height or massing, cupola, turrets, or pitched roof, at the corner of the building or within twenty-five feet of the corner of the building.
2. Chamfer the corner of the building (i.e. cut the corner at a forty-five-degree angle and a minimum of ten feet from the corner) and incorporate extended weather protection (arcade or awning), special paving materials, street furnishings, or plantings in the chamfered area.
Finding: Not applicable. The project is not located on a corner lot.

F. Commercial First Floor Frontage.
In order to ensure that the ground floor of structures have adequate height to function efficiently for retail uses, the first floor height to finished ceiling of new infill buildings in the mixed use and neighborhood commercial districts shall be no lower than fourteen feet floor to floor. Where appropriate, the exterior facade at the ceiling level of new structures shall include banding, a change of materials or relief which responds to the cornice lines and window location of existing buildings that abut new structures.
Finding: See findings under 17.49.200. The proposed hotel building is designed to franchise standard 12 foot ground floor to second floor height. An adjustment is requested in the General Development Plan to the ground floor to second floor height requirement. No changes are proposed to the historic Hackett House which has less than 14 foot ground floor to second floor height.

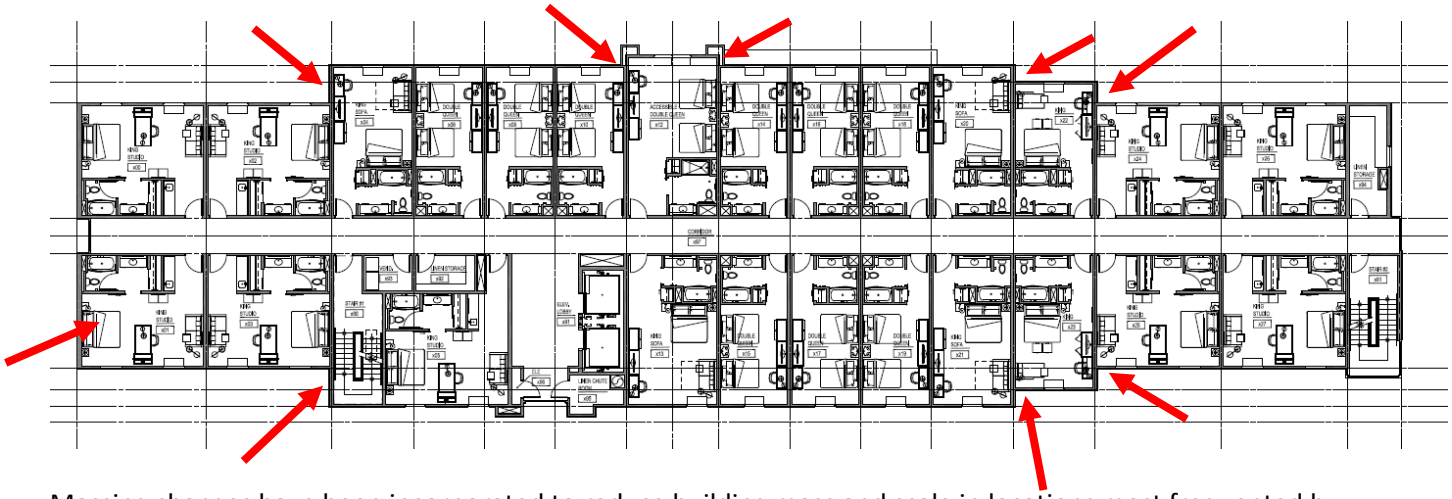
G. Variation in Massing.
1. A single, large, dominant building mass shall be avoided in new buildings and, to the extent reasonably feasible, in development projects involving changes to the mass of existing buildings.
Finding: Complies as proposed. To the extent reasonably feasible, a single dominant building mass has been avoided. In order to create visual interest and appropriate scale, the building mass has been articulated horizontally and vertically with offsets in wall planes and parapet heights as well as changes in materials.

2. Horizontal masses shall not exceed a height: width ratio of one-to-three without substantial variation in massing that includes a change in height and projecting or recessed elements.
Finding: Complies as proposed. The applicant has proposed substantial variations in the hotel building massing to reduce horizontal building mass, including projecting elements (porte cochere, Washington Street stair tower, south building entry), recessed Washington Street entry, and variation in building parapet heights. The standard requires a variation to the height and projecting or recessed elements every 179 feet based on a height of 59'8" (59'8"*3=179') as measured from the base flood elevation.

The following diagram illustrates the locations of the proposed massing variations for the facades that exceed the height-to-width ratio on the Washington Street elevation (variations indicated in yellow dashed elipses with the measurements in red).



East (Washington Street) façade.



Massing changes have been incorporated to reduce building mass and scale in locations most frequented by pedestrians**.**

H. Minimum Wall Articulation.

1. Facades shall add architectural interest and variety and avoid the effect of a single, long or massive wall with no relation to human size. No wall that faces a street or connecting walkway shall have a blank, uninterrupted length exceeding thirty feet without including, but not be limited to, at least two of the following:

i. Change in plane,

ii Change in texture or masonry pattern or color,

iii. Windows, treillage with landscaping appropriate for establishment on a trellis.

iv. An equivalent element that subdivides the wall into human scale proportions.

Finding: Complies as proposed. The hotel building facades are designed with architectural interest, utilizing strategies of changes in plane, textures, material variety, windows, and landscaping, in order to address the human scale and meet the minimum wall articulation requirement. Staff has confirmed that this standard is met for all the facades (example of staff review below).



	Façade

	East (Front) Washington Street	South (Side) 17th Street	North (Side facing walkway)	West (Back)
Wall Articulation Details	Seven changes of plane from 2' to 18' Multiple building material texture changes (Wood texture fiber cement panels, smooth plaster, architectural metal) 4 rows of 1 windows (rooms) Lobby and Entrance (First Floor Windows) Stair Tower	Seven (7) changes in plane from 14' to 52' Multiple Building material texture changes (Wood texture fiber cement panels, smooth plaster, architectural metal) 4 rows of 18 Windows per floor (rooms) Lobby (First Floor Windows) Stair Tower	Seven (7) changes in plane from 14' to 52' Multiple Building material texture changes (Wood texture fiber cement panels, smooth plaster, architectural metal) 4 rows of 18 Windows per floor Lobby (First Floor Windows) Stair Tower	Four (4) changes in plane Multiple Building material texture changes (Wood texture fiber cement panels, smooth plaster, architectural metal) Vertical row of windows Lobby (First Floor Windows)

2. Facades greater than one hundred feet in length, measured horizontally, shall incorporate wall plane projections or recesses having a depth of at least three percent of the length of the facade and extending at least twenty percent of the length of the facade. No uninterrupted length of any facade shall exceed one hundred horizontal feet.

Finding: Complies as proposed.

East and West Façade: This standard does not apply to the East and West facades since they are less than are less than 100 feet in length.

The North and South facades are both approximately 238 feet long. The standard requires a projection or recess of 3% of 238 feet or 7.14' for a minimum length of 20% of the length of the façade, or 47.6 feet.

North Facade: At the ground level, the large windows located on grid line E are recessed approximately 7.23' back from the wall plane located on Grid C meeting the standard. The recessed walls extends from grid 1 East toward Grid 3 a distance of approximately 33', and also extends west from Grid 16 a distance of approximately 42 feet for a total of approximately 75 feet, which meets the standard. At the top of the building face of the wall and parapet between grid 12 and grid 16, a distance of approximately 68 feet is recessed between 7'8" and 11'6" back from the face of the parapet at the center of the building between grid 3 and grid 12, which meets the standard.

South Façade: At the ground level, the wall plane located on grid line J is recessed approximately 9.5 feet back from the wall plane located on Grid M meeting the standard. The recessed walls extends from grid 1 East to Grid 2 a distance of approximately 23', and also extends west from Grid 16 a distance of approximately 33 feet for a total of approximately 56 feet, which meets the standard. At the top of the building face of the wall and parapet between grid 12 and grid 16, a distance of approximately 68 feet is recessed between 7'8" and 11'6" back from the face of the parapet at the center of the building between grid 3 and grid 12, which meets the standard.

3. Changes in mass shall be related to entrances, the integral structure and/or the organization of interior spaces and activities and not merely for cosmetic effect.

Finding: Complies as proposed. Changes in hotel building mass occur at building entries and/or are directly related to the organization of the interior spaces. This can be seen in a typical floor plan cross section that clearly indicates the multiple changes in plane at the exterior walls related to the interior spaces (See excerpt below with projections and wall plane changes indicated by red arrows).

3. Ground floor facades that face public streets shall have arcades, display windows, entry areas, awnings or other such features along no less than sixty percent of their horizontal length.
Finding: Complies as proposed. This standard applies to 17th Street and Washington Street. The façade immediately abutting Washington Street measures approximately 50 feet wide, although the entire building façade (as measured through widest section of the building at the ground floor in the middle between the front and rear entry vestibule) measures 80 feet wide. At the ground floor level facing Washington there is a recessed entry, entry stairway, canopy and windows for a horizontal length of the 52 feet and meets the standard (52/80 *100 = 65%).

The façade facing 17th Street measures approximately 238'-8" in length. At the ground floor level facing 17th Street there is a recessed entry, canopy and windows for a horizontal length of 158' and meets the standard (158'/239 * 100 = 66%). This area will be screened by the Hackett House and landscaping but meets the standard in any case.

4. Building facades shall include a repeating pattern that includes any one or more of the following elements:
a. Color change;
b. Texture change;
c. Material module change.
Finding: Complies as proposed. The hotel building façades include repeating patterns of color and material changes.

5. Facades shall have an expression of architectural or structural bays through a change in plane no less than twelve inches in width, such as an offset, reveal or projecting rib.
Finding: Complies as proposed. This standard may include windows. The hotel building facades include architectural expressions and indications of structural bays with changes in plane that are not less than twelve inches in width. Pilasters projecting beyond the wall plane occur at structural column locations throughout the ground floor.

6. Facades shall have at least one of elements subsections H.4. or H.5. of this section repeat horizontally. All elements shall repeat at intervals of no more than thirty feet, either horizontally or vertically.
Finding: Complies as proposed. Including windows, the hotel building facades include repeated color and material changes as well as structural bay expression.

I. Facade Transparency.
1. Transparent windows or doors facing the street are required. The main front elevation shall provide at least sixty percent windows or transparency at the pedestrian level. Facades on corner lots shall provide at least sixty percent windows or transparency on all corner-side facades. All other side elevations shall provide at least thirty percent transparency. The transparency is measured in lineal fashion. For example, a one hundred-foot long building elevation shall have at least sixty feet (sixty percent of one hundred feet) of transparency in length. Reflective, glazed, mirrored or tinted glass is limited to ten percent of the lineal footage of windows on the street facing facade. Highly reflective or glare-producing glass with a reflective factor of one-quarter or greater is prohibited on all building facades. Any glazing materials shall have a maximum fifteen percent outside visual

light reflectivity value. No exception shall be made for reflective glass styles that appear transparent when internally illuminated.

Finding: Complies as proposed. Ground level hotel building facades must include at least 60 percent transparency facing Washington Street and 30 percent transparency on other facades. The glazing will have a maximum 15 percent outside visual light reflectivity value. Proposed glazing is dual-glazed, clear, low-E glass.

Transparency Calculations

Transparency Calcs

Façade	Percentage	Façade Length	Total Window Length
North	42%	239	100.66
South	33%	239	77.99
East	61%	49.58	30.16
West	51%	49.1	25

For the Washington Street façade, staff measured 79% transparency based on the 80' width of the ground floor façade including the Porte Cochere.

For the 17th Street or south façade, staff measures 33% transparency based on the entire ground floor façade length of 239', however only approximately 80 feet of this façade is visible from 17th, Street, and the remainder will be screened by the Hackett House and the existing corner lot, so staff calculates 26.6%.

The applicant shall increase the transparency level on the 17th Street façade where visible to meet 60% at the pedestrian level.



It is reasonable, practicable and likely that the applicant can meet this standard through compliance with the conditions of approval.

2. Side or rear walls that face walkways may include false windows and door openings only when actual doors and windows are not feasible because of the nature of the use of the interior use of the building. False windows located within twenty feet of a right-of-way shall be utilized as display windows with a minimum display depth of thirty-six inches.

Finding: Complies as proposed. False windows are not proposed. In order to maintain design continuity, spandrel glass is proposed at storefront glazing where storefront extends above the interior ceiling line or passes in front of structural columns. In no case will spandrel glass be used to obscure interior spaces.

J. Roof Treatments.

1. All facades shall have a recognizable "top" consisting of, but not limited to:

a. Cornice treatments, other than just colored "stripes" or "bands," with integrally textured materials such as stone or other masonry or differently colored materials; or

b. Sloping roof with overhangs and brackets; or

c. Stepped parapets;

d. Special architectural features, such as bay windows, decorative roofs and entry features may project up to three feet into street rights-of-way, provided that they are not less than nine feet above the sidewalk.
Finding: Complies as proposed. Hotel facades feature a stepped parapet design, including material change and/or contemporary cornice projection.

2. Mixed use buildings: For flat roofs or facades with a horizontal eave, fascia, or parapet, the minimum vertical dimension of roofline modulation is the greater of two feet or 0.1 multiplied by the wall height (finish grade to top of wall). The maximum length of any continuous roofline shall be seventy-five feet.
Finding: Not applicable. The hotel is not a mixed use building. Phase 2 is proposed to include a mixed use building, however, it will be reviewed for compliance with this standard upon submittal of a building permit.

3. Other roof forms consistent with the design standards herein may satisfy this standard if the individual segments of the roof with no change in slope or discontinuity are less than forty feet in width (measured horizontally).
Finding: Not applicable. The roof treatments proposed under section 1 meet the standard and do not require consideration of the other roof forms.

K. Drive-through facilities shall:
1. Be located at the side or rear of the building.
2. Be designed to maximize queue storage on site.
Finding: Complies as proposed. The hotel incudes a porte cochere for guest and service drop-off and loading. The porte cochere is located on the north side of the hotel, outside the parking drive aisle, with 24 foot paving width providing for adequate queue storage on site.

17.62.056 - Additional standards for large retail establishments.
A. This section is intended to ensure that large retail building development is compatible with its surrounding area.
B. Large retail establishment shall mean a retail building occupying more than ten thousand gross square feet of floor area.
C. In addition to Sections 17.62.050 and 17.62.055 requirements, large retail buildings shall comply with design standards contained in this section.
Finding: Not applicable. Neither phase 1 nor phase 2 of the proposal includes a retail establishment larger than 10,000 square feet.

17.62.057 - Multi-family standards.
Finding: Not applicable. The phase 1 hotel does not include multi-family units. Phase 2 of the proposal includes 131-apartments and compliance with this section will be reviewed at the time a detailed development plan is proposed for phase 2.

17.62.059 - Cottage housing.
Finding: Not applicable. This proposal does not include cottage housing.

17.62.065 - Outdoor lighting.

B. Applicability.
1. General.
a. All exterior lighting for any type of commercial, mixed-use, industrial or multi-family development shall comply with the standards of this section, unless excepted in subsection B.3.

b. The city engineer/public works director shall have the authority to enforce these regulations on private property if any outdoor illumination is determined to present an immediate threat to the public health, safety and welfare.
Finding: Applicable. The applicant recognizes the city's authority to enforce these regulations.

2. Lighting Plan Requirement.
All commercial, industrial, mixed-use, cottage housing and multi-family developments shall submit a proposed exterior lighting plan. The plan must be submitted concurrently with the site plan. The exterior lighting plan shall include plans and specifications for streetlights, parking lot lights, and exterior building lights. The specifications shall include details of the pole, fixture height and design, lamp type, wattage, and spacing of lights.
Finding: Applicable. The applicant submitted the required exterior lighting plan including the required details. See "Site Photometrics Plan", drawings E004 & E005 for exterior lighting information required by this section.
3. Excepted Lighting.
The following types of lighting are excepted from the requirements of this section.
a. Residential lighting for single-family attached and detached homes, and duplexes.
b. Public street and right-of-way lighting.
c. Temporary decorative seasonal lighting provided that individual lamps have a light output of sixty watts or less.
d. Temporary lighting for emergency or nighttime work and construction.
e. Temporary lighting for theatrical, television, and performance areas, or for special public events.
f. Lighting for a special district, street, or building that, according to an adopted municipal plan or ordinance, is determined to require special lighting aesthetics as part of its physical character.
g. Lighting required and regulated by the Federal Aviation Administration.
Finding: Applicable. The proposal will include street lighting in the public right-of-way which is exempt from this regulation per (b) above.

C. General Review Standard. If installed, all exterior lighting shall meet the functional security needs of the proposed land use without adversely affecting adjacent properties or the community. For purposes of this section, properties that comply with the design standards of subsection D. below shall be deemed to not adversely affect adjacent properties or the community.
Finding: Complies as proposed. The applicant indicated that the proposed exterior lighting is intended to meet this general review standard, by meeting the functional security needs of the proposed project site while also complying with the design standards.

D. Design and Illumination Standards.
General Outdoor Lighting Standard and Glare Prohibition.
1. Outdoor lighting, if provided, shall be provided in a manner that enhances security, is appropriate for the use, avoids adverse impacts on surrounding properties, and the night sky through appropriate shielding as defined in this section. Glare shall not cause illumination on other properties in excess of a measurement of 0.5 footcandles of light as measured at the property line. In no case shall exterior lighting add more than 0.5 footcandle to illumination levels at any point off-site. Exterior lighting is not required except for purposes of public safety. However, if installed, all exterior lighting shall meet the following design standards:
Finding: Complies as proposed. Staff reviewed the "Site Photometrics Plan", drawings E004 & E005 for exterior lighting information required by this section, and finds the proposed lighting levels at the property line to be at or below the 0.5 footcandle limit.

2. Any light source or lamp that emits more than nine hundred lumens (thirteen watt compact fluorescent or sixty watt incandescent) shall be concealed or shielded with a full cut-off style fixture in order to minimize the

potential for glare and unnecessary diffusion on adjacent property. All fixtures shall utilize one of the following bulb types: metal halide, induction lamp, compact fluorescent, incandescent (including tungsten-halogen), or high pressure sodium with a color rendering index above seventy.

Finding: Complies with Conditions. The applicant has proposed LED fixtures that mention the use of full cut-off style glare protection as an option, however it is not clear from the submitted plans whether the proposed lighting will utilize this option. See "Site Photometrics Plan", drawings E004 & E005 for exterior lighting information required by this section. LED lighting is a newer technology that was not available when this code section was written. LED lighting is very efficient and uses less energy than traditional bulbs, and can be screened and designed to meet the lighting levels of this section just like older technology lighting sources. The applicant's photometric engineer shall provide revised lighting plans in compliance with this standard prior to issuance of a building permit.

It is reasonable, likely and practicable that the applicant can meet this standard through the attached condition of approval.

3. The maximum height of any lighting pole serving a multi-family residential use shall be twenty feet. The maximum height serving any other type of use shall be twenty-five feet, except in parking lots larger than five acres, the maximum height shall be thirty-five feet if the pole is located at least one hundred feet from any residential use.

Finding: Complies as proposed. The applicant has not proposed pole mounted lighting fixtures for the hotel taller than 25 feet above ground. Phase 2 shall be reviewed for compliance with this standard upon submittal of permits.

4. Lighting levels:

Table 1-17.62.065. Foot-candle Levels

Location	*Min*	*Max*	*Avg*
Pedestrian Walkways	*0.5*	*7:1 max/min ratio*	*1.5*
Pedestrian Walkways in Parking Lots		*10:1 max/min ratio*	*0.5*
Pedestrian Accessways	*0.5*	*7:1 max/min ratio*	*1.5*
Building Entrances	*3*		
Bicycle Parking Areas	*3*		
Abutting property	*N/A*	*.05*	

Finding: Complies with Condition. The lighting plan does not indicate the max/min ratio required by this standard therefore compliance cannot be determined. The applicant's photometric engineer shall provide revised lighting plans in compliance with this standard prior to issuance of a building permit.

It is reasonable, likely and practicable that the applicant can meet this standard through the attached condition of approval.

5. Parking lots and other background spaces shall be illuminated as unobtrusively as possible while meeting the functional needs of safe circulation and protection of people and property. Foreground spaces, such as building entrances and outside seating areas, shall utilize pedestrian scale lighting that defines the space without glare.

Finding: Complies as proposed. Pedestrian scale lighting, such as bollards, will be used to help provide adequate lighting levels and define spaces while also not causing unwanted glare.

6. Any on-site pedestrian circulation system shall be lighted to enhance pedestrian safety and allow employees, residents, customers or the public to use the walkways at night. Pedestrian walkway lighting through parking lots shall be lighted to light the walkway and enhance pedestrian safety pursuant to Table 1.
Finding: Complies with condition. The lighting plan does not indicate the max/min ratio required by this standard therefore compliance cannot be determined. The applicant's photometric engineer shall provide revised lighting plans in compliance with this standard prior to issuance of a building permit.
It is reasonable, likely and practicable that the applicant can meet this standard through the attached condition of approval.

7. Pedestrian Accessways. To enhance pedestrian and bicycle safety, pedestrian accessways required pursuant to OCMC 12.28 shall be lighted with pedestrian-scale lighting. Accessway lighting shall be to a minimum level of one-half foot-candles, a one and one-half foot-candle average, and a maximum to minimum ratio of seven-to-one and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances. Lamps shall include a high-pressure sodium bulb with an unbreakable lens.
Finding: Not applicable. The applicant has not proposed pedestrian accessways.

8. Floodlights shall not be utilized to light all or any portion of a building facade between ten p.m. and six a.m.
Finding: Not applicable. The applicant has not proposed floodlights.

9. Lighting on automobile service station, convenience store, and other outdoor canopies shall be fully recessed into the canopy and shall not protrude downward beyond the ceiling of the canopy.
Finding: Complies as proposed. The applicant indicated that canopy lighting will be fully recessed lighting as required by this section.

10. The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site.
Finding: Complies as proposed. The proposed light standards and fixtures are commercial grade and thus consistent with the architecture of the proposed structures on this site.

11. In no case shall exterior lighting add more than one foot-candle to illumination levels at any point off-site.
Finding: Complies as proposed. The photometric plan indicates compliance with this standard. Exterior lighting proposed for this site will not exceed 1 foot-candle of illumination level to any offsite areas.

12. All outdoor light not necessary for security purposes shall be reduced, activated by motion sensor detectors, or turned off during non-operating hours.
Finding: Complies as proposed. The hotel operates 24 hours so no sensor operated outdoor lighting is proposed.

13. Light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform shall use a narrow cone beam of light that will not extend beyond the illuminated object.
Finding: Complies as proposed. The applicant indicated that illumination of flags or other pole-mounted objects will comply by use of narrow cone beam so as not to extend beyond the object of illumination.

14. For upward-directed architectural, landscape, and decorative lighting, direct light emissions shall not be visible above the building roofline.

Finding: Complies with Conditions. The applicant indicated that any upward directed lighting will not be visible beyond the building roofline, although no such lighting was indicated on the submitted photometric plans. The applicant may propose such lighting in order to meet the requirements of 17.62.055(D) to enhance the pedestrian amenity area between the front of the building and the street. If proposed, such lighting shall comply with this section. **It is reasonable, likely and practicable that the applicant can meet this standard through the attached condition of approval.**

15. No flickering or flashing lights shall be permitted, except for temporary decorative seasonal lighting.
Finding: Not applicable. No flickering or flashing lights are proposed.

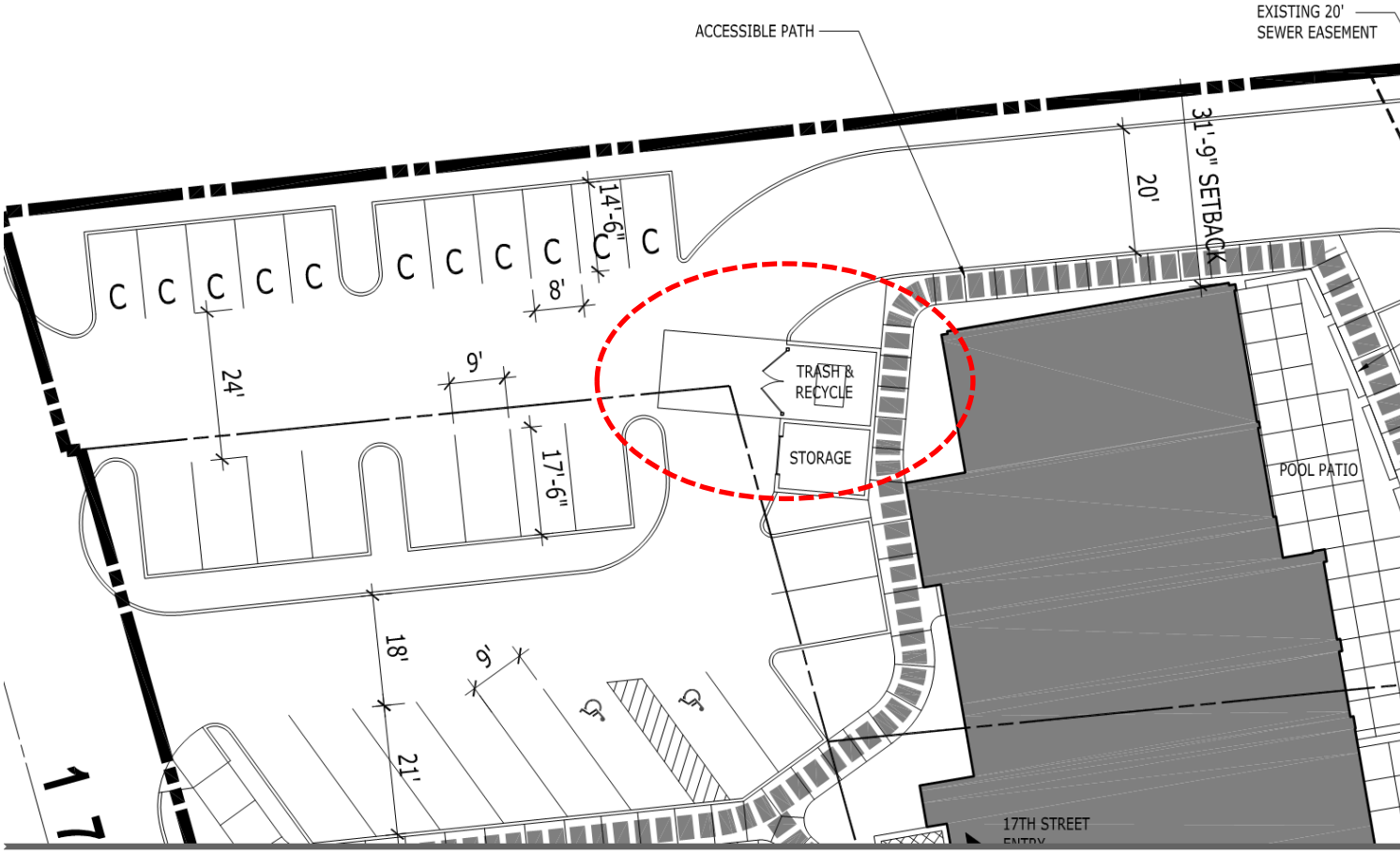
16. Wireless Sites. Unless required by the Federal Aviation Administration or the Oregon Aeronautics Division, artificial lighting of wireless communication towers and antennas shall be prohibited. Strobe lighting of wireless communication facilities is prohibited unless required by the Federal Aviation Administration. Security lighting for equipment shelters or cabinets and other on-the-ground auxiliary equipment on wireless communication facilities shall be initiated by motion detecting lighting.
Finding: Not applicable. This is not a wireless communication facility.

17. Lighting for outdoor recreational uses such as ball fields, playing fields, tennis courts, and similar uses, provided that such uses comply with the following standards:
i. Maximum permitted light post height: eighty feet.
ii. Maximum permitted illumination at the property line: 0.5 foot-candles.
Finding: Not applicable. No outdoor recreational uses are proposed.

17.62.080 - Special development standards along transit streets.
B. Applicability. Except as otherwise provide in this section, the requirements of this section shall apply to the construction of new retail, office and institutional buildings which front on a transit street.
Finding: Not applicable. Washington Street is not currently a transit street in the Oregon City Transportation System Plan and no transit passes by the site currently. Currently Tri-Met Route 154 runs on Washington Street and Abernethy Road and the nearest bus stops are approximately 500 feet south of the intersection of Abernethy Road and Washington Street. Tri-Met was sent notice of this application and did not provide comments.

17.62.085 - Refuse and recycling standards for commercial, industrial, and multi-family developments.
The purpose and intent of these provisions is to provide an efficient, safe and convenient refuse and recycling enclosure for the public as well as the local collection firm. All new development, change in property use, expansions or exterior alterations to uses other than single-family or duplex residences shall include a refuse and recycling enclosure. The area(s) shall be:
A. Sized appropriately to meet the needs of current and expected tenants, including an expansion area if necessary;
B. Designed with sturdy materials, which are compatible to the primary structure(s);
C. Fully enclosed and visually screened;
D. Located in a manner easily and safely accessible by collection vehicles;
E. Located in a manner so as not to hinder travel lanes, walkways, streets or adjacent properties;
F. On a level, hard surface designed to discharge surface water runoff and avoid ponding;
G. Maintained by the property owner;
H. Used only for purposes of storing solid waste and recyclable materials;
I. Designed in accordance with applicable sections of the Oregon City Municipal Code (including Chapter 8.20—Solid Waste Collection and Disposal) and city adopted policies.

Finding: Complies with Conditions. Refuse and recycling facilities to serve the hotel are proposed near the western corner of the site at the rear of the hotel next to a drive aisle that loops behind the building. The applicant did not indicate the proposed materials to show that they will be compatible with the hotel. The applicant shall provide such details during the construction plan submittal. **It is reasonable, likely and practicable that the applicant can meet this standard through the attached condition of approval.**



CHAPTER 17.52 OFF-STREET PARKING AND LOADING

17.52.010 - Applicability.

The construction of a new structure or parking lot, or alterations to the size or use of an existing structure, parking lot or property use shall require site plan review approval and compliance with this chapter. This chapter does not apply to single- and two-family residential dwellings.

Finding: Applicable. The applicant has proposed a new commercial building requiring a detailed development plan (Site Plan and Design Review) which includes review of the parking to serve the new use.

17.52.015 - Planning commission adjustment of parking standards.

A. Purpose: The purpose of permitting a planning commission adjustment to parking standards is to provide for flexibility in modifying parking standards in all zoning districts, without permitting an adjustment that would

adversely impact the surrounding or planned neighborhood. The purpose of an adjustment is to provide flexibility to those uses which may be extraordinary, unique or to provide greater flexibility for areas that can accommodate a denser development pattern based on existing infrastructure and ability to access the site by means of walking, biking or transit. An adjustment to a minimum or maximum parking standard may be approved based on a determination by the planning commission that the adjustment is consistent with the purpose of this Code, and the approval criteria can be met.

B. Procedure: A request for a planning commission parking adjustment shall be initiated by a property owner or authorized agent by filing a land use application. The application shall be accompanied by a site plan, drawn to scale, showing the dimensions and arrangement of the proposed development and parking plan, the extent of the adjustment requested along with findings for each applicable approval criteria. A request for a parking adjustment shall be processed as a Type III application as set forth in Chapter 17.50.

C. Approval criteria for the adjustment are as follows:

1. Documentation: The applicant shall document that the individual project will require an amount of parking that is different from that required after all applicable reductions have been taken.

2. Parking analysis for surrounding uses and on-street parking availability: The applicant must show that there is a continued fifteen percent parking vacancy in the area adjacent to the use during peak parking periods and that the applicant has permission to occupy this area to serve the use pursuant to the procedures set forth by the community development director.

a. For the purposes of demonstrating the availability of on street parking as defined in [Section] 17.52.020.B.3., the applicant shall undertake a parking study during time periods specified by the community development director. The time periods shall include those during which the highest parking demand is anticipated by the proposed use. Multiple observations during multiple days shall be required. Distances are to be calculated as traversed by a pedestrian that utilizes sidewalks and legal crosswalks or an alternative manner as accepted by the community development director.

b. The onsite parking requirements may be reduced based on the parking vacancy identified in the parking study. The amount of the reduction in onsite parking shall be calculated as follows:

i. Vacant on-street parking spaces within three hundred feet of the site will reduce onsite parking requirements by 0.5 parking spaces; and

ii. Vacant on-street parking spaces between three hundred and six hundred feet of the [site] will reduce onsite parking requirements by 0.2 parking spaces.

3. Function and Use of Site: The applicant shall demonstrate that modifying the amount of required parking spaces will not significantly impact the use or function of the site and/or adjacent sites.

4. Compatibility: The proposal is compatible with the character, scale and existing or planned uses of the surrounding neighborhood.

5. Safety: The proposal does not significantly impact the safety of adjacent properties and rights-of-way.

6. Services: The proposal will not create a significant impact to public services, including fire and emergency services.

Finding: Not applicable. The applicant has not requested a Planning Commission adjustment from the parking standards. The proposed site design is intended to meet the parking standards applicable to the zone and intended uses.

17.52.020 - Number of automobile spaces required.

A. The number of parking spaces shall comply with the minimum and maximum standards listed in Table 17.52.020. The parking requirements are based on spaces per one thousand square feet net leasable area unless otherwise stated.

Table 17.52.020

LAND USE	*PARKING REQUIREMENTS*	
	MINIMUM	*MAXIMUM*
Hotel, Motel	*1.0 per guest room*	*1.25 per guest room*
Office	*2.70*	*3.33*

Finding: Complies as proposed. The required number of parking spaces per table 17.52.020 is as follows:

Hackett House (2,110 net SF offices):	5.69 spaces minimum / 7.02 spaces maximum.
Hotel (99 rooms):	99 spaces minimum / 123.75 (124) spaces maximum
TOTAL:	105 spaces minimum / 131 spaces maximum

The applicant has proposed 101 off-street parking spaces, of which 23 are compact. Two on-street spaces are indicated in front of the hotel. Per 17.52.020.C, the subject site is within the Downtown Parking District and is eligible for a 50% reduction per 17.52.020.C, thus the minimum number of parking stalls is 53. The applicant has proposed 101 on-site stalls, in excess of the minimum and less than the maximum of 131. The number of parking stalls onsite will be evaluated upon submittal of a Detailed Development Plan for Phase 2.

1. Multiple Uses. In the event several uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of the several uses computed separately.
Finding: Complies as proposed. Required parking spaces have been calculated as the sum of required spaces for all uses.

2. Requirements for types of buildings and uses not specifically listed herein shall be determined by the community development director, based upon the requirements of comparable uses listed.
Finding: Not applicable. The proposed use does not include uses not specifically listed. Compliance of the mixed use phase of the project will be determined at the time of detailed development plan review.

3. Where calculation in accordance with the above list results in a fractional space, any fraction less than one-half shall be disregarded and any fraction of one-half or more shall require one space.
Finding: Complies as proposed. The applicant calculated correctly.

4. The minimum required parking spaces shall be available for the parking of operable passenger automobiles of residents, customers, patrons and employees only, and shall not be used for storage of vehicles or materials or for the parking of vehicles used in conducting the business or use.
Finding: Complies as proposed. The applicant indicates that minimum required parking spaces will be available for the parking of operable passenger automobiles of residents, customers, patrons and employees only.

5. A change in use within an existing habitable building located in the MUD Design District or the Willamette Falls Downtown District is exempt from additional parking requirements. Additions to an existing building and new construction are required to meet the minimum parking requirements for the areas as specified in Table 17.52.020 for the increased square footage.
Finding: Not applicable. The project includes the existing Hackett House office building, which will not change, and a new hotel building. Parking requirements have been calculated using the sum of the requirements for each as required by Table 17.52.020 and Section 17.52.020.C.

B. Parking requirements can be met either onsite, or offsite by meeting the following conditions:
1. Mixed Uses. If more than one type of land use occupies a single structure or parcel of land, the total requirements for off-street automobile parking shall be the sum of the requirements for all uses, unless it can be shown that the peak parking demands are actually less (e.g. the uses operate on different days or at different times of the day). In that case, the total requirements shall be reduced accordingly, up to a maximum reduction of fifty percent, as determined by the community development director.
Finding: Complies as proposed. The required parking spaces have been calculated as the sum of required spaces for all uses.

2. Shared Parking. Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that the owners or operators show that the need for parking facilities does not materially overlay (e.g., uses primarily of a daytime versus nighttime nature), that the shared parking facility is within one thousand feet of the potential uses, and provided that the right of joint use is evidenced by a recorded deed, lease, contract, or similar written instrument authorizing the joint use.
Finding: Not applicable. The applicant has not proposed the use of shared parking since the properties involved are under common ownership.

3. On-Street Parking. On-street parking may be counted toward the minimum standards when it is on the street face abutting the subject land use. An on-street parking space must not obstruct a required clear vision area and it shall not violate any law or street standard. On-street parking for commercial uses shall conform to the following standards:
a. Dimensions. The following constitutes one on-street parking space:
1. Parallel parking, each [twenty-two] feet of uninterrupted and available curb;
2. [Forty-five/sixty] degree diagonal, each with [fifteen] feet of curb;
3. Ninety degree (perpendicular) parking, each with [twelve] feet of curb.
4. Public Use Required for Credit. On-street parking spaces counted toward meeting the parking requirements of a specific use may not be used exclusively by that use, but shall be available for general public use at all times. Signs or other actions that limit general public use of on-street spaces are prohibited.
Finding: Complies as proposed. The application proposes two 22' deep parallel on-street parking spaces on Washington Street.

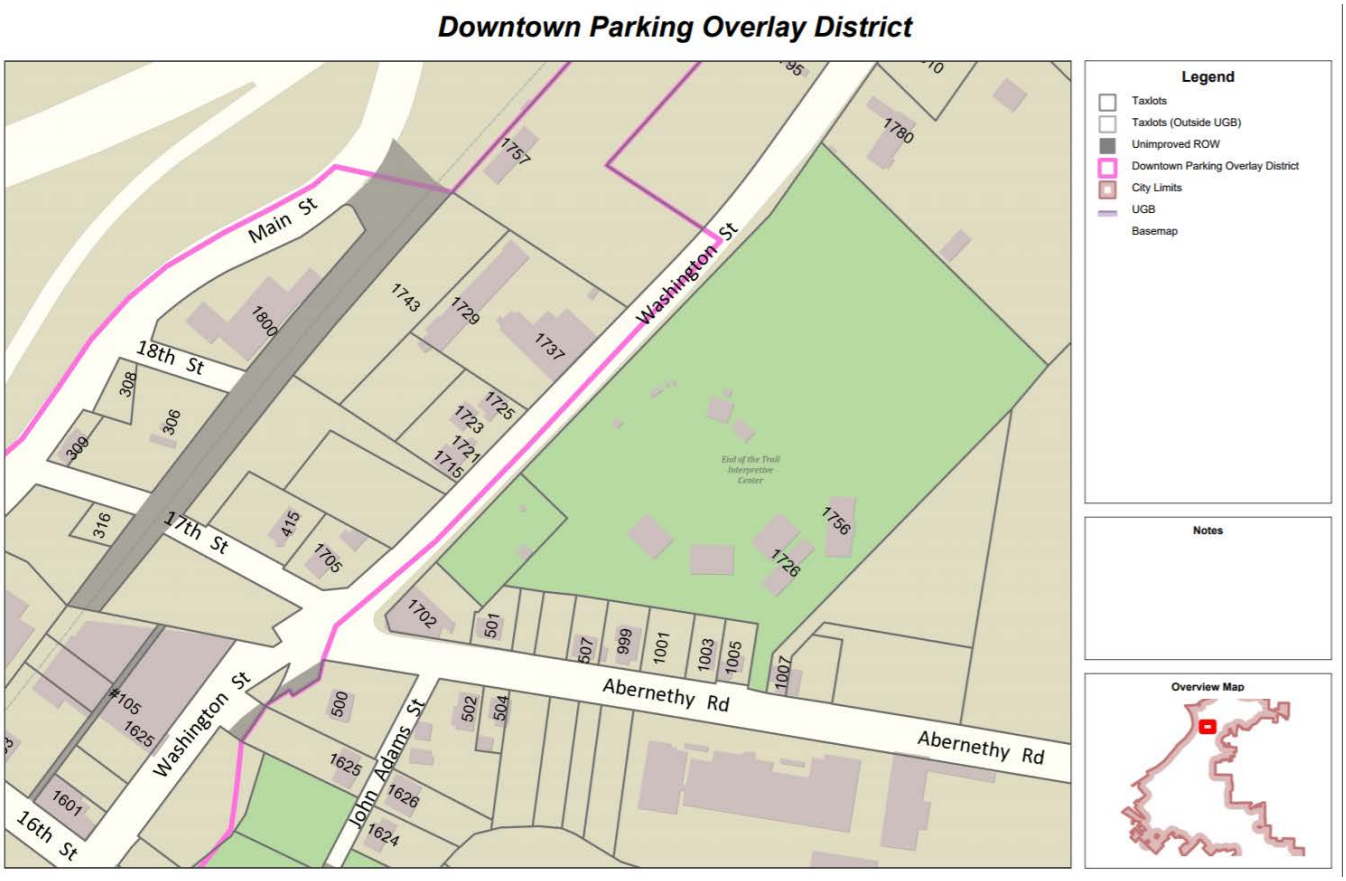
C. Reduction of the Number of Automobile Spaces Required. The required number of parking stalls may be reduced in the Downtown Parking Overlay District: Fifty percent reduction in the minimum number of spaces required is allowed prior to seeking further reductions in [sub]sections 2. and 3. below:
1. Transit Oriented Development. For projects not located within the Downtown Parking Overlay District, the community development director may reduce the required number of parking stalls up to twenty-five percent when it is determined that a project in a commercial center (sixty thousand square feet or greater of retail or office use measured cumulatively within a five hundred-foot radius) or multi-family development with over eighty units, is adjacent to or within one thousand three hundred twenty feet of an existing or planned public transit street and is within one thousand three hundred twenty feet of the opposite use (commercial center or multi-family development with over eighty units).
2. Reduction in Parking for Tree Preservation. The community development director may grant an adjustment to any standard of this requirement provided that the adjustment preserves a regulated tree or grove so that the reduction in the amount of required pavement can help preserve existing healthy trees in an undisturbed, natural condition. The amount of reduction must take into consideration any unique site conditions and the impact of the reduction on parking needs for the use, and must be approved by the community development director. This reduction is discretionary.

3. Transportation Demand Management. The community development director may reduce the required number of parking stalls up to twenty-five percent when a parking-traffic study prepared by a traffic engineer demonstrates:

a. Alternative modes of transportation, including transit, bicycles, and walking, and/or special characteristics of the customer, client, employee or resident population will reduce expected vehicle use and parking space demand for this development, as compared to standard Institute of Transportation Engineers vehicle trip generation rates and further that the transportation demand management program promotes or achieves parking utilization lower than minimum city parking requirements.

b. Transportation demand management (TDM) program has been developed for approval by, and is approved by the city engineer. The plan will contain strategies for reducing vehicle use and parking demand generated by the development and will be measured annually. If, at the annual assessment, the city determines the plan is not successful, the plan may be revised. If the city determines that no good-faith effort has been made to implement the plan, the city may take enforcement actions.

Finding: Complies as proposed. The applicant has proposed 101 off-street parking spaces with Phase 1, of which 23 are compact. Two on-street spaces are indicated in front of the hotel. Per See also response to 17.52.020.C, the subject site is within the Downtown Parking District and is eligible for a 50% reduction, thus the minimum number of parking stalls is 53. The applicant has proposed 101 on-site stalls, in excess of the minimum and less than the maximum of 131.



17.52.030 - Standards for automobile parking.

A. Access. Ingress and egress locations on public thoroughfares shall be located in the interests of public traffic safety. Groups of more than four parking spaces shall be so located and served by driveways so that their use will

require no backing movements or other maneuvering within a street right-of-way other than an alley. No driveway with a slope of greater than fifteen percent shall be permitted without approval of the city engineer.
Finding: Complies as proposed. All parking stalls will be served by driveways that will not require backing movements into public rights-of-way. No driveway will exceed 15% grade. A temporary access, approximately 12% slope, will be developed between the upper parking areas around the hotel and the lower parking area to the north of the primary hotel grounds. When the Phase 2 portion of the Abernethy Place site is redeveloped, a flatter access, suitable for ADA access will be constructed.

B. Surfacing. Required off-street parking spaces and access aisles shall have paved surfaces adequately maintained. The use of pervious asphalt/concrete and alternative designs that reduce storm water runoff and improve water quality pursuant to the city's stormwater and low impact development design standards are encouraged.
Finding: Complies as proposed. The application proposes that all off-street parking spaces and drive aisles will have paved surfacing. Low impact development design is intended for the majority of the hotel parking and access area. This facility will be in a landscape strip between rows of parking in the lower parking area and will be extended when the next phase is developed to accommodate the additional parking developed at that time. A portion of the hotel site will require draining through a filter system near the driveway entrance onto Washington Street.

C. Drainage. Drainage shall be designed in accordance with the requirements of Chapter 13.12 and the city public works stormwater and grading design standards.
Finding: See responses under section 13.12.

D. Dimensional Standards.
1. Requirements for parking developed at varying angles are according to the table included in this section. A parking space shall not be less than seven feet in height when within a building or structure, and shall have access by an all-weather surface to a street or alley. Parking stalls in compliance with the American with Disabilities Act may vary in size in order to comply with the building division requirements. Up to thirty-five percent of the minimum required parking may be compact, while the remaining required parking stalls are designed to standard dimensions. The community development director may approve alternative dimensions for parking stalls in excess of the minimum requirement which comply with the intent of this chapter.
2. Alternative parking/plan. Any applicant may propose an alternative parking plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. In such situations, the community development director may approve an alternative parking lot plan with variations to parking dimensions of this section. The alternative shall be consistent with the intent of this chapter and shall create a safe space for automobiles and pedestrians while providing landscaping to the quantity and quality found within parking lot landscaping requirements.
PARKING *STANDARD*
PARKING ANGLE SPACE DIMENSIONS

A Parking Angle		*B Stall Width*	*C Stall to Curb*	*D Aisle Width*	*E Curb Length*	*F Overhang*
0 degrees		*8.5*	*9.0*	*12*	*20*	*0*
30 degrees	*Standard* *Compact*	*9'* *8'*	*17.3'* *14.9'*	*11'* *11'*	*18'* *16'*	

45 degrees	*Standard Compact*	*8.5 8.5*	*19.8' 17.0'*	*13' 13'*	*12.7' 11.3'*	*1.4*
60 degrees	*Standard Compact*	*9' 8'*	*21' 17.9'*	*18' 16'*	*10.4' 9.2'*	*1.7*
90 degrees	*Standard Compact*	*9' 8'*	*19.0' 16.0'*	*24' 22'*	*9' 8'*	*1.5*

All dimensions are to the nearest tenth of a foot.

Finding: Complies as proposed. All parking stalls will meet the dimensional standards of either the City's standard or compact stall dimensions. See Site Plan, drawing A100 for dimensioned parking. 23 compact spaces are proposed, 22% of the total parking spaces provided.

E. Carpool and Vanpool Parking. New developments with seventy-five or more parking spaces, and new hospitals, government offices, group homes, nursing and retirement homes, schools and transit park-and-ride facilities with fifty or more parking spaces, shall identify the spaces available for employee, student and commuter parking and designate at least five percent, but not fewer than two, of those spaces for exclusive carpool and vanpool parking. Carpool and vanpool parking spaces shall be located closer to the main employee, student or commuter entrance than all other employee, student or commuter parking spaces with the exception of ADA accessible parking spaces. The carpool/vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only."

Finding: Complies as proposed. 5% of 40 employee spaces would result in 2 carpool/vanpool spaces. The proposed project (phase 1) will have less than 40 employees, therefore, two carpool/vanpool spaces are required. These spaces are marked on the Site Plan, drawing A100 as "CARPOOL" and are located near the south side of the hotel, in close proximity to the hotel entrance and Hackett House.

17.52.040 - Bicycle parking standards.

A. Purpose-Applicability. To encourage bicycle transportation to help reduce principal reliance on the automobile, and to ensure bicycle safety and security, bicycle parking shall be provided in conjunction with all uses other than single-family dwellings or duplexes.

Finding: Applicable. Bicycle parking is provided adjacent to the South side of the hotel, in close proximity to the Hackett House. See Site Plan, drawing A100.

B. Number of Bicycle Spaces Required. For any use not specifically mentioned in Table A, the bicycle parking requirements shall be the same as the use which, as determined by the community development director, is most similar to the use not specifically mentioned. Calculation of the number of bicycle parking spaces required shall be determined in the manner established in Section 17.52.020 for determining automobile parking space requirements. Modifications to bicycle parking requirements may be made through the site plan and design, conditional use, or master plan review process.

*TABLE A Required Bicycle Parking Spaces**

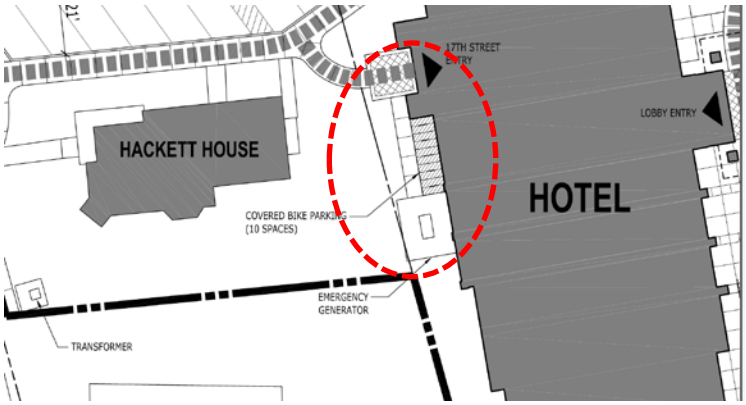
Where two options for a requirement are provided, the option resulting in more bicycle parking applies. Where a calculation results in a fraction, the result is rounded up to the nearest whole number.

USE	*MINIMUM BICYCLE PARKING*	*MINIMUM BICYCLE PARKING - COVERED - The following percentage of bicycle parking is required to be covered*
Multi-family (three or more units)	*1 per 10 units (minimum of 2)*	*50% (minimum of 1)*
Institutional		
Correctional institution	*1 per 15 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Nursing home or care facility	*1 per 30 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Hospital	*1 per 20 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Park-and-ride lot	*1 per 5 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Transit center	*1 per 5 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Parks and open space	*1 per 10 auto spaces (minimum of 2)*	*0%*
Public parking lots	*1 per 10 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Automobile parking structures	*1 per 10 auto spaces (minimum of 4)*	*80% (minimum of 2)*
Religious institutions, movie theater, auditorium or meeting room	*1 per 10 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Libraries, museums	*1 per 5 auto spaces (minimum of 2)*	*30% (minimum of 1)*

Preschool, nursery, kindergarten	*2 per classroom (minimum of 2)*	*50% (minimum of 1)*
Elementary	*4 per classroom (minimum of 2)*	*50% (minimum of 1)*
Junior high and High school	*2 per classroom (minimum of 2)*	*50% (minimum of 2)*
College, business/commercial schools	*2 per classroom (minimum of 2)*	*50% (minimum of 1)*
Swimming pools, gymnasiums, ball courts	*1 per 10 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Retail stores and shopping centers	*1 per 20 auto spaces (minimum of 2)*	*50% (minimum of 2)*
Retail stores handling exclusively bulky merchandise such as automobile, boat or trailer sales or rental	*1 per 40 auto spaces (minimum of 2)*	*0%*
Bank, office	*1 per 20 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Medical and dental clinic	*1 per 20 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Eating and drinking establishment	*1 per 20 auto spaces (minimum of 2)*	*0%*
Gasoline service station	*1 per 10 auto spaces (minimum of 2)*	*0%*

* *Covered bicycle parking is not required for developments with two or fewer stalls.*

Finding: Complies as proposed. Hotel use is not specified on the table, though staff used the "retail" and/or m multi-family categories to determine compliance with this standard which have a ratio of 1 bicycle parking space per ten automobile spaces. The applicant has proposed 101 off-street parking spaces with Phase 1, so ten (10) bicycle parking spaces are required based on the proposed use.



C. Security of Bicycle Parking. Bicycle parking facilities shall be secured. Acceptable secured bicycle parking area shall be in the form of a lockable enclosure onsite, secure room in a building onsite, a covered or uncovered rack onsite, bicycle parking within the adjacent right-of-way or another form of secure parking where the bicycle can be stored, as approved by the decision maker. All bicycle racks and lockers shall be securely anchored to the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience and, when in the right-of-way shall comply with clearance and ADA requirements.
Finding: Complies as proposed. All Bicycle spaces will include stationary steel pipe bicycle racks secured to concrete paving. No bicycle parking is located within the right-of-way.

D. Bicycle parking facilities shall offer security in the form of either a lockable enclosure or a stationary rack to which the bicycle can be locked. All bicycle racks and lockers shall be securely anchored to the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience.

Location of Bicycle Parking:

1. Bicycle parking shall be located on-site, in one or more convenient, secure and accessible location. The city engineer and the community development Director may permit the bicycle parking to be provided within the right-of-way provided adequate clear zone and ADA requirements are met. If sites have more than one building, bicycle parking shall be distributed as appropriate to serve all buildings. If a building has two or more main building entrances, the review authority may require bicycle parking to be distributed to serve all main building entrances, as it deems appropriate.
Finding: Complies as proposed. Bicycle parking is located adjacent to the south entrance of the hotel, in close proximity to the Hackett House, convenient to both buildings, easily accessible by walkway, and in a location visible from both buildings for security. All bicycle spaces will include stationary steel pipe bicycle racks secured to concrete paving.

2. Bicycle parking areas shall be clearly marked or visible from on-site buildings or the street. If a bicycle parking area is not plainly visible from the street or main building entrance, a sign must be posted indicating the location of the bicycle parking area. Indoor bicycle parking areas shall not require stairs to access the space unless approved by the community development director.
Finding: Complies with Condition. Bicycle parking will be clearly visible from both the South entry to the Hotel and the Hackett House. The applicant shall provide revised plans that include signs at the main entrance that indicate the location of the bicycle parking at the south entrance. **It is reasonable, practicable and likely that the applicant can meet this standard through the Condition of Approval.**

3. All bicycle parking areas shall be located to avoid conflicts with pedestrian and motor vehicle movement.

a. Bicycle parking areas shall be separated from motor vehicle parking and maneuvering areas and from arterial streets by a barrier or a minimum of five feet.
b. Bicycle parking areas shall not obstruct pedestrian walkways; provided, however, that the review authority may allow bicycle parking in the right-of-way where this does not conflict with pedestrian accessibility.
Finding: Complies as proposed. The bicycle parking area is separated from motor vehicle areas by more than five feet, and located where it will not obstruct pedestrian walkways.

4. Accessibility.
a. Outdoor bicycle areas shall be connected to main building entrances by pedestrian accessible walkways.
b. Outdoor bicycle parking areas shall have direct access to a right-of-way.
c. Outdoor bicycle parking should be no farther from the main building entrance than the distance to the closest vehicle space, or fifty feet, whichever is less, unless otherwise determined by the community development director, city engineer, or planning commission.
Finding: Complies as proposed. The bicycle parking area will be connected to the hotel and Hackett House entries by pedestrian accessible walkways. Direct access to 17th street is provided by pedestrian walkway or parking drive aisle. Bicycle parking is located closer to the 17th Street hotel entry than the closest vehicle space.

17.52.060 - Parking lot landscaping.
Purpose. The purpose of this code section includes the following:
1. To enhance and soften the appearance of parking lots;
2. To limit the visual impact of parking lots from sidewalks, streets and particularly from residential areas;
3. To shade and cool parking areas;
4. To reduce air and water pollution;
5. To reduce storm water impacts and improve water quality; and
6. To establish parking lots that are more inviting to pedestrians and bicyclists.
Finding: Complies as proposed. The applicant indicated that the parking lot perimeter and interior landscaping treatments are paramount to the users and public enjoyment of this site. The landscaping will be designed in accordance with the City's adopted stormwater and drainage design standards. The applicant has prioritized maintaining any existing native plantings that have significant ecological value and to proposing native and naturalized plant species. The landscape design will provide alternative species when site conditions warrant to fulfill required public safety and enjoyment goals.

A. Development Standards.
1. The landscaping shall be located in defined landscaped areas that are uniformly distributed throughout the parking or loading area.
Finding: Complies as proposed. The parking lot landscaping is located in defined landscape areas and uniformly distributed throughout the parking area.

2. All areas in a parking lot not used for parking, maneuvering, or circulation shall be landscaped.
Finding: Complies as proposed. All areas in a parking lot not used for parking, maneuvering, or circulation will be landscaped.

3. Parking lot trees shall be a mix of deciduous shade trees and coniferous trees. The trees shall be evenly distributed throughout the parking lot as both interior and perimeter landscaping to provide shade.
Finding: Complies as proposed. The proposed Landscape design includes a mixture of deciduous shade trees and coniferous trees, see Planting Plan, drawing L1.0.

4. Required landscaping trees shall be of a minimum two-inch minimum caliper size (though it may not be standard for some tree types to be distinguished by caliper), planted according to American Nurseryman Standards, and selected from the Oregon City Street Tree List;
Finding: Complies as proposed. The proposed landscaping plan was prepared by a certified landscape architect and includes trees selected for the specific site needs. The plan indicates the use of three (3)-inch caliper trees.

5. Landscaped areas shall include irrigation systems unless an alternate plan is submitted, and approved by the community development director, that can demonstrate adequate maintenance;
Finding: Complies as proposed. The applicant indicated that an irrigation system will be provided.

6. All plant materials, including trees, shrubbery and ground cover should be selected for their appropriateness to the site, drought tolerance, year-round greenery and coverage and staggered flowering periods. Species found on the Oregon City Native Plant List are strongly encouraged and species found on the Oregon City Nuisance Plant List are prohibited.
Finding: Complies as proposed. The proposed landscaping plan was prepared by a certified landscape architect and includes plants selected for the specific site needs. Many native and naturalized plant species are proposed.

7. The landscaping in parking areas shall not obstruct lines of sight for safe traffic operation and shall comply with all requirements of Chapter 10.32, Traffic Sight Obstructions.
Finding: Complies as proposed. The transportation analysis indicates that sight distances are adequate.

8. Landscaping shall incorporate design standards in accordance with Chapter 13.12, Stormwater Management.
Finding: Complies as proposed. All landscape areas, in the lower parking area, will incorporate the design standards for water quality in accordance with Chapter 13.12.

B. Perimeter Parking Lot Landscaping and Parking Lot Entryway/Right-of-Way Screening. Parking lots shall include a five-foot wide landscaped buffer where the parking lot abuts the right-of-way and/or adjoining properties. In order to provide connectivity between non-single-family sites, the community development director may approve an interruption in the perimeter parking lot landscaping for a single driveway where the parking lot abuts property designated as multi-family, commercial or industrial. Shared driveways and parking aisles that straddle a lot line do not need to meet perimeter landscaping requirements.
1. The perimeter parking lot are[a] shall include:
a. Trees spaced a maximum of thirty-five feet apart (minimum of one tree on either side of the entryway is required). When the parking lot is adjacent to a public right-of-way, the parking lot trees shall be offset from the street trees;
Finding: Complies as proposed. The entry to the parking lots abutting Washington Street and 17th Street include landscape islands that are at least 5' wide on average with trees on either side.

b. Ground cover, such as wild flowers, spaced a maximum of 16-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and
Finding: Complies with Condition. The proposed landscaping plan includes ground covers that appear to meet this standard. Prior to issuance of a building permit, the applicant's landscape architect shall confirm in writing that the proposed planting plan can achieve 100% coverage within three years, and that no bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

c. An evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than four feet apart on average. The hedge/shrubs shall be parallel to and not nearer than two feet from the right-of-way line. The required screening shall be designed to allow for free access to the site and sidewalk by pedestrians. Visual breaks, no more than five feet in width, shall be provided every thirty feet within evergreen hedges abutting public right-of-ways.
Finding: Complies with Condition. The proposed landscaping plan did not clearly indicate an evergreen hedge or the height of the proposed vegetation. Prior to issuance of a building permit, the applicant's landscape architect shall provide a revised landscaping plan conforming to this requirement. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

C. Parking Area/Building Buffer. Parking areas shall be separated from the exterior wall of a structure, exclusive of pedestrian entranceways or loading areas, by one of the following:
1. Minimum five-foot wide landscaped planter strip (excluding areas for pedestrian connection) abutting either side of a parking lot sidewalk with:
Finding: Complies with conditions. The landscaping plan indicates that there will be head-in parking spaces abutting the on-site pedestrian pathway which is next to a retaining wall with a planter box running the length of the wall which is six feet wide. This separates the main patio on the north side of the hotel from the parking lot. This meets the intent of this standard for the front of the hotel.
At the rear of the hotel and abutting the Hackett House, no landscaping buffer was proposed on either side of the pedestrian walkway abutting the head in parking. The applicant shall revise the plans to comply with subsection (1(a)-(c)), or (2) of this section. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

a. Trees spaced a maximum of thirty-five feet apart;
Finding: Complies as proposed. The planting area includes trees spaced a maximum of thirty-five feet apart.

b. Ground cover such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and
Finding: Complies with Condition. The proposed landscaping plan includes ground covers that appear to meet this standard. Prior to issuance of a building permit, the applicant's landscape architect shall confirm in writing that the proposed planting plan can achieve 100% coverage within three years, and that no bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

c. An evergreen hedge of thirty to forty-two inches or shrubs placed no more than four feet apart on average; or
Finding: Complies with Condition. The proposed landscaping plan includes a planter box above the retaining wall that appears to meet this standard. Prior to issuance of a building permit, the applicant's landscape architect shall provide revised plans indicating an evergreen hedge of thirty to forty-two inches or shrubs placed no more than four feet apart on average for the parking area/building buffer or otherwise confirm in writing that the plan meet this standard. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

2. Seven-foot sidewalks with shade trees spaced a maximum of thirty-five feet apart in three-foot by five-foot tree wells.
Finding: Complies with Condition. If the revisions required in (c) above cannot meet the standard, prior to issuance of a building permit the applicant shall revise the plans to include seven-foot sidewalks with shade trees spaced a maximum of thirty-five feet apart in three-foot by five-foot tree wells for the parking area / building

buffer. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

D. Interior Parking Lot Landscaping. Surface parking lots shall have a minimum ten percent of the interior of the gross area of the parking lot devoted to landscaping to improve the water quality, reduce storm water runoff, and provide pavement shade. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum total site landscaping required by Section 17.62.050(1) unless otherwise permitted by the dimensional standards of the underlying zone district. Pedestrian walkways or any impervious surface in the landscaped areas are not to be counted in the percentage. Interior parking lot landscaping shall include:
Finding: Complies with Condition. The applicant did not provide a response to this section, although it appears to be met. The applicant shall provide landscaping percentage calculations for the parking lot interior and all other landscaped areas on the site prior to issuance of a building permit. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

a. A minimum of one tree per six parking spaces.
Finding: Complies with Conditions. The submitted landscaping plans indicates 39 trees in the interior of the parking lot. There are 101 parking spaces, which requires 16 trees. The standard is met.

b. Ground cover, such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.
Finding: Complies with condition. The proposed landscaping plan includes ground covers that appear to meet this standard. Prior to issuance of a building permit, the applicant's landscape architect shall confirm in writing that the proposed planting plan can achieve 100% coverage within three years, and that no bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

c. Shrubs spaced no more than four feet apart on average.
Finding: Complies as proposed. The landscaping plan includes shrubs that meet the spacing requirement.

d. No more than eight contiguous parking spaces shall be created without providing an interior landscape strip between them. Landscape strips shall be provided between rows of parking shall be a minimum of six feet in width and a minimum of ten feet in length.
Finding: Complies as proposed. The landscaping plan includes landscaping islands at the required spacing of one Landscape Island per six spaces. The typical landscaping islands indicated are 16' long and six feet wide.

e. Pedestrian walkways shall have shade trees spaced a maximum of every thirty-five feet in a minimum three-foot by five-foot tree wells; or
Trees spaced every thirty-five feet, shrubs spaced no more than four feet apart on average, and ground cover covering one hundred percent of the exposed ground. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.
Finding: Complies with Condition. This standard applies to pedestrian walkways on the interior of parking lots. Pathways are proposed leading to the Phase II portion of the site. Where such pathways are proposed in Phase I, the applicant shall provide a revised landscaping plan that includes trees at the required spacing. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

E. Installation.

1. All landscaping shall be installed according to accepted planting procedures, according to American Nurseryman Standards.
2. The site, soils and proposed irrigation systems shall be appropriate for the healthy and long-term maintenance of the proposed plant species.
3. Certificates of occupancy shall not be issued unless the landscaping requirements have been met or other arrangements have been made and approved by the city, such as the posting of a surety.
Finding: Complies as proposed. Landscaping and irrigation will comply with the requirements of this section.

17.52.070 - Alternative landscaping plan.
Any applicant may propose an alternative landscaping plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. Alternative plans may include the use of low impact development techniques and minimized landscaping requirements. In such situations, the community development director may approve variations to the landscaping standards of section 17.52.060.
A. General Review Standard. The alternative shall be meet or exceed the intent of this chapter and shall create a safe space for automobiles and pedestrians. The alternative landscaping plan shall be prepared by a licensed landscape architect.
B. Credit for Pervious/Low Impact Development. The community development director may count up to fifty percent of the square footage of any pervious hardscaped landscape material within a parking lot that is designed and approved pursuant to the city's adopted stormwater and low impact development design standards toward minimum landscaping requirements for the site. (This includes porous pavement detention, open celled block pavers, porous asphalt, porous concrete pavement, porous turf, porous gravel, etc).
Finding: Not applicable. The applicant has not proposed an alternative landscaping plan.

17.52.080 - Maintenance.
The owner, tenant and their agent, if any, shall be jointly and severally responsible for the maintenance of the site including but not limited to the off-street parking and loading spaces, bicycle parking and all landscaping which shall be maintained in good condition so as to present a healthy, neat and orderly appearance and shall be kept free from refuse and debris.
All plant growth in interior landscaped areas shall be controlled by pruning, trimming, or otherwise so that:
a. It will not interfere with the maintenance or repair of any public utility;
b. It will not restrict pedestrian or vehicular access; and
c. It will not constitute a traffic hazard due to reduced visibility.
Finding: Complies as proposed. The owners and/or operators of properties of the proposed development will provide maintenance in accordance with this code. Any violations may be subject to compliance through the city's standard process of code enforcement.

17.52.090 - Loading areas.
A. Purpose.
1. The purpose of this section is to provide adequate loading areas for commercial, office, retail and industrial uses that do not interfere with the operation of adjacent streets.
Finding: Complies as proposed. The applicant indicated that the proposed hotel brand typically has minimal loading area needs. Passenger shuttle vans providing guest transit connections to airport, car rental, and other tourist destinations may make daytime stops at the lobby entry under the porte cochere. Regular deliveries are anticipated for food supplies, and would be received at the porte cochere as well. The hotel does not include a full service restaurant, and as the food service is of a limited nature, the required deliveries are of a nature more limited than a typical restaurant. These deliveries typically occur at night or early morning, when they would not likely conflict with shuttle services. No interference with the operation of adjacent streets is anticipated.

B. Applicability.
1. Section 17.52.090 applies to uses that are expected to have service or delivery truck visits with a forty-foot or longer wheelbase, at a frequency of one or more vehicles per week. The city engineer and decision maker shall determine through site plan and design review the number, size, and location of required loading areas, if any.
Finding: Not applicable. The proposed hotel use does not expect 40 foot or longer wheelbase vehicles at a frequency of one or more vehicles per week.

C. Standards.
1. The off-street loading space shall be large enough to accommodate the largest vehicle that is expected to serve the use without obstructing vehicles or pedestrian traffic on adjacent streets and driveways. Applicants are advised to provide complete and accurate information about the potential need for loading spaces because the city engineer or decision maker may restrict the use of other public right-of-way to ensure efficient loading areas and reduce interference with other uses.
Finding: Not applicable/Complies as proposed. Though this standard is not applicable, according to the applicant, vehicles for hotel needs vary in size from 20 feet to about 30 feet but all should be accommodated within the dedicated porte cochere drop-off area which provides width for two side-by-side vehicles. The porte cochere includes a 24' drive aisle separate from normal on-site vehicle circulation, and is set back from the street to eliminate interference with other uses.

2. Where parking areas are prohibited between a building and the street, loading areas are also prohibited.
Finding: Not applicable. No loading areas are proposed between the building and the street.

3. The city engineer and decision maker, through site plan and design review, may approve a loading area adjacent to or within a street right-of-way when all of the following loading and unloading operations conditions are met:
a. Short in duration (i.e., less than one hour);
b. Infrequent (less than three operations daily between 5:00 a.m. and 12:00 a.m. or all operations between 12:00 a.m. and 5:00 a.m. at a location that is not adjacent to a residential zone);
c. Does not obstruct traffic during peak traffic hours;
d. Does not interfere with emergency response services; and
e. Is acceptable to the applicable roadway authority.
Finding: Not applicable. No loading areas adjacent to or within a street right-of-way are proposed.

CHAPTER 13.12 – STORMWATER MANAGEMENT

13.12.050 - Applicability and exemptions.

This chapter establishes performance standards for stormwater conveyance, quantity and quality. Additional performance standards for erosion prevention and sediment control are established in OCMC 17.47.

A. Stormwater Conveyance. The stormwater conveyance requirements of this chapter shall apply to all stormwater systems constructed with any development activity, except as follows:

1. The conveyance facilities are located entirely on one privately owned parcel;
2. The conveyance facilities are privately maintained; and
3. The conveyance facilities receive no stormwater runoff from outside the parcel's property limits.

Those facilities exempted from the stormwater conveyance requirements by the above subsection will remain subject to the requirements of the Oregon Uniform Plumbing Code. Those exempted facilities shall be reviewed by the building official.

Finding: Applicable. Construction of improvements to the public stormwater conveyance facilities is required to serve this development; therefore, the proposal does not meet the criteria for exemption.

B. Water Quality and Flow Control. The water quality and flow control requirements of this chapter shall apply to the following proposed uses or developments, unless exempted under subsection C:

1. Activities located wholly or partially within water quality resource areas pursuant to Chapter 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the WQRA or will disturb more than one thousand square feet of existing impervious surface within the WQRA as part of a commercial or industrial redevelopment project. These square footage measurements will be considered cumulative for any given five-year period; or

2. Activities that create or replace more than five thousand square feet of impervious surface per parcel or lot, cumulated over any given five-year period.

Finding: Applicable. The proposed development will create or replace more than 5,000 sf of impervious area.

C. Exemptions. The following exemptions to subsection B of this section apply:

1. An exemption to the flow control requirements of this chapter will be granted when the development site discharges to the Willamette River, Clackamas River or Abernethy Creek; and either lies within the one hundred-year floodplain or is up to ten feet above the design flood elevation as defined in Chapter 17.42, provided that the following conditions are met:

a. The project site is drained by a conveyance system that is comprised entirely of manmade elements (e.g. pipes, ditches, culverts outfalls, outfall protection, etc.) and extends to the ordinary high water line of the exempt receiving water; and

b. The conveyance system between the project site and the exempt receiving water has sufficient hydraulic capacity and erosion stabilization measures to convey discharges from the proposed conditions of the project site and the existing conditions from non-project areas from which runoff is collected.

2. Projects in the following categories are generally exempt from the water quality and flow control requirements:

a. Stream enhancement or restoration projects approved by the city.

b. Farming practices as defined by ORS 30.960 and farm use as defined in ORS 214.000; except that buildings associated with farm practices and farm use are subject to the requirements of this chapter.

c. Actions by a public utility or any other governmental agency to remove or alleviate an emergency condition.

d. Road and parking area preservation/maintenance projects such as pothole and square cut patching, surface sealing, replacing or overlaying of existing asphalt or concrete pavement, provided the preservation/maintenance activity does not expand the existing area of impervious coverage above the thresholds in subsection B of this section.

e. Pedestrian and bicycle improvements (sidewalks, trails, pathways, and bicycle paths/lands) where no other impervious surfaces are created or replaced, built to direct stormwater runoff to adjacent vegetated areas.

f. Underground utility projects that replace the ground surface with in-kind material or materials with similar runoff characteristics.

g. Maintenance or repair of existing utilities.

Finding: Applicable. Most of the development site lies within the 100 year floodplain of the Willamette River/ Abernethy Creek floodplain and all of the subject site lies within 10 feet vertically of the design flood elevation as defined in Chapter 17.42 and therefore the site meets the flow control requirement exception of

13.12.050.C1. The project shall meet water quality standards of Oregon City Stormwater and Grading Design Standards but is not required to meet flow control standards.

D. Uses Requiring Additional Management Practices. In addition to any other applicable requirements of this chapter, the following uses are subject to additional management practices, as defined in the Public Works Stormwater and Grading Design Standards:

1. *Bulk petroleum storage facilities;*
2. *Above ground storage of liquid materials;*
3. *Solid waste storage areas, containers, and trash compactors for commercial, industrial, or multi-family uses;*
4. *Exterior storage of bulk construction materials;*
5. *Material transfer areas and loading docks;*
6. *Equipment and/or vehicle washing facilities;*
7. *Development on land with suspected or known contamination;*
8. *Covered vehicle parking for commercial or industrial uses;*
9. *Industrial or commercial uses locating in high traffic areas, defined as average daily count trip of two thousand five hundred or more trips per day; and*
10. *Land uses subject to DEQ 1200-Z Industrial Stormwater Permit Requirements.*

Finding: Not Applicable. The proposal (Application) does not contain elements requiring additional stormwater management practices.

13.12.080 - Submittal requirements.

A. Applications subject to stormwater conveyance, water quality, and/or flow control requirements of this chapter shall prepare engineered drainage plans, drainage reports, and design flow calculation reports in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards.

B. Each project site, which may be composed of one or more contiguous parcels of land, shall have a separate valid city approved plan and report before proceeding with construction.

Finding: Complies as Proposed. The applicant has submitted preliminary drainage plans, drainage reports, and design flow calculation reports demonstrating compliance with this section.

13.12.090 - Approval criteria for engineered drainage plans and drainage report.

An engineered drainage plan and/or drainage report shall be approved only upon making the following findings:

A. The plan and report demonstrate how the proposed development and stormwater facilities will accomplish the purpose statements of this chapter.

B. The plan and report meet the requirements of the Public Works Stormwater and Grading Design Standards adopted by resolution under Section 13.12.020.

C. The storm drainage design within the proposed development includes provisions to adequately control runoff from all public and private streets and roof, footing, and area drains and ensures future extension of the current drainage system.

D. Streambank erosion protection is provided where stormwater, directly or indirectly, discharges to open channels or streams.

E. Specific operation and maintenance measures are proposed that ensure that the proposed stormwater quantity control facilities will be properly operated and maintained.

Finding: Complies as Proposed. The applicant has submitted preliminary drainage plans, drainage reports, and design flow calculation reports demonstrating that this criteria will be met with engineered plans to be submitted with construction plans.

13.12.100 - Alternative materials, alternative design and methods of construction.

The provisions of this chapter are not intended to prevent the use of any material, alternate design or method of construction not specifically prescribed by this chapter or the Public Works Stormwater and Grading Design Standards, provided any alternate has been approved and its use authorized by the city engineer. The city engineer may approve any such alternate, provided that the city engineer finds that the proposed design is satisfactory and complies with the intent of this chapter and that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed by this chapter in effectiveness, suitability, strength, durability and safety. The city engineer shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use. The details of any action granting approval of an alternate shall be recorded and entered in the city files.

Finding: Not Applicable. The applicant has not proposed alternative design methods requiring special approval by the City Engineer. However, should the applicant propose such methods with the public facilities construction plan submittal, the proposal will be reviewed and approved by the City Engineer as required.

13.12.120 - Standard construction specifications.

The workmanship and materials shall be in accordance with the edition of the "Standard Specifications for Public Works Construction," as prepared by the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the city, in effect at the time of application. The exception to this requirement is where this chapter and the Public Works Stormwater and Grading Design Standards provide other design details, in which case the requirements of this chapter and the Public Works Stormwater and Grading Design Standards shall be complied with.

Finding: Complies as Proposed. The proposal appears to be in accordance with the Stormwater and Grading Design Standards adopted August 18, 2015, which are in effect at time of application, and all other applicable standards.

CHAPTER 12.04 - STREETS SIDEWALKS AND PUBLIC PLACES

12.04.003 - Applicability.

A. Compliance with this chapter is required for all land divisions, site plan and design review, master plan, detailed development plan and conditional use applications and all public improvements.

B. Compliance with this chapter is also required for new construction or additions which exceed fifty percent of the existing square footage, of all single and two-family dwellings. All applicable single and two-family dwellings shall provide any necessary dedications, easements or agreements as identified in the transportation system plan and this chapter. In addition, the frontage of the site shall comply with the following prioritized standards identified in this chapter:

1. Improve street pavement, construct curbs, gutters, sidewalks and planter strips; and

2. Plant street trees.

The cost of compliance with the standards identified in 12.04.003.B.1 and 12.04.003.B.2 is limited to ten percent of the total construction costs. The value of the alterations and improvements as determined by the community development director is based on the entire project and not individual building permits. It is the responsibility of the applicant to submit to the community development director the value of the required improvements. Additional costs may be required to comply with other applicable requirements associated with the proposal such as access or landscaping requirements.

Finding: Applicable. The applicant has proposed a General Development (Master) Plan and a Detailed Development Plan and therefore this section is applicable to the proposed development**.**

12.04.005 - Jurisdiction and management of the public rights-of-way.

A. The city has jurisdiction and exercises regulatory management over all public rights-of-way within the city under authority of the City Charter and state law by issuing separate public works right-of-way permits or permits as part of issued public infrastructure construction plans. No work in the public right-of-way shall be done without the

proper permit. Some public rights-of-way within the city are regulated by the State of Oregon Department of Transportation (ODOT) or Clackamas County and as such, any work in these streets shall conform to their respective permitting requirements.
B. Public rights-of-way include, but are not limited to, streets, roads, highways, bridges, alleys, sidewalks, trails, paths, public easements and all other public ways or areas, including the subsurface under and air space over these areas.
C. The city has jurisdiction and exercises regulatory management over each public right-of-way whether the city has a fee, easement, or other legal interest in the right-of-way. The city has jurisdiction and regulatory management of each right-of-way whether the legal interest in the right-of-way was obtained by grant, dedication, prescription, reservation, condemnation, annexation, foreclosure or other means.
D. No person may occupy or encroach on a public right-of-way without the permission of the city. The city grants permission to use rights-of-way by franchises, licenses and permits.
E. The exercise of jurisdiction and regulatory management of a public right-of-way by the city is not official acceptance of the right-of-way, and does not obligate the city to maintain or repair any part of the right-of-way.
Finding: Complies as proposed. The applicant acknowledges the City's jurisdiction and management of the public right-of-way.

12.04.007 - Modifications.
The review body may consider modification of this standard resulting from constitutional limitations restricting the city's ability to require the dedication of property or for any other reason, based upon the criteria listed below and other criteria identified in the standard to be modified. All modifications shall be processed through a Type II Land Use application and may require additional evidence from a transportation engineer or others to verify compliance. Compliance with the following criteria is required:
A. The modification meets the intent of the standard;
B. The modification provides safe and efficient movement of pedestrians, motor vehicles, bicyclists and freight;
C. The modification is consistent with an adopted plan; and
D. The modification is complementary with a surrounding street design; or, in the alternative;
E. If a modification is requested for constitutional reasons, the applicant shall demonstrate the constitutional provision or provisions to be avoided by the modification and propose a modification that complies with the state or federal constitution. The city shall be under no obligation to grant a modification in excess of that which is necessary to meet its constitutional obligations.
Finding: Complies with Conditions.
Applicant has requested modification from normal street design standards in the following areas:

On Washington Street:

- Having a half street right-of-way width of 43 feet.
- Having an on-street parking that slopes away from the curbline toward a 4 foot gutter pan between the on-street parking area and bike lane
- Having a 6 foot wide through pedestrian way on the sidewalk and a 4 foot street tree area, rather than the standard 5 foot through way and 5 foot street tree area (street tree wells would be 4'x6' rather than 5'x5')
- Having a standard curb, instead of curb and gutter along the on-street parking area, as the street is proposed to drain back towards the gutter pan instead of to the curb.
- Extensions of curb return radii into the on-street parking area at driveway entrances to match curb return already in the adjacent northeast property. Landscape strip of driveway entrance with curb return radii to be utilize as roadside water quality planters.

On 17th Street:

- Having a 24 feet wide street section, as can be fitted without extending street pavement towards Abernethy Creek.
- Stopping the sidewalk short of the railroad right-of-way, and allowing for a mid-block ramp that could be utilized for a possible future pedestrian extension under the railroad trestle.
- Having a 7 foot sidewalk rather than the required 5 foot sidewalk.
- In order to save a large tree near the Hackett House, routing the public sidewalk around the tree onto a public sidewalk easement on private property.

12.04.195 Spacing Standards:

- Because of the narrow depth between Washington Street and the railroad right-of-way, it is requested that no public street or public pedestrian connection be imposed on the development as the railroad right-of-way blocks possible through connections to Main St.

Staff has evaluated the proposed modifications to the Washington Street and 17th Street cross-sections. The proposed modifications meet the intent of the standard, provide safe and efficient movement of vehicles, freight, pedestrians and bicycles, and are consistent with surrounding street patterns and are in accordance with the adopted Transportation System Plan. The modifications were not sought due to constitutional reasons. The applicant shall dedicate sufficient right-of-way (ROW) to provide, at minimum, a ROW width 43 feet north of the centerline for Washington Street. Improvements required north of the centerline along the frontage of Washington Street are: a 6-foot-wide half center lane, a 12-foot-wide travel lane, a 6-foot-wide bike lane, 8-foot-wide on-street parking, 0.5-wide curb, 4-foot-wide furnishing zone/planter strip, 6-foot-wide sidewalk behind the planter strip and 0.5-foot public access.

17th Street shall have a 24-foot wide street section, as can be accommodated without extending street pavement towards Abernethy Creek. The improvements required along 17th Street are 0.5-wide curb with gutter, 5-foot-wide curb-tight sidewalk and 0.5-foot public access. Portions of the sidewalk will be allowed to meander around the existing tree but shall be provided a public sidewalk easement.

The block length along Washington Street is exceeded. The applicant has stated that the existing railroad right-of-way justifies modification to the block length standards, as there are no opportunities to provide connection to the street system west of the tracks. The proposed on-site circulation provides vehicular, bicycle, and pedestrian access between Washington Street and 17th Street for Phase 1 and for Phase 2. The proposed on-site circulation therefore meets the intent of the standard, provide safe and efficient movement of vehicles, freight, pedestrians and bicycles, and are consistent with surrounding street patterns. The modifications were not sought due to constitutional reasons. To ensure adequate public access in accordance with the intent of this standard, a public access easement shall be recorded over the existing access road serving the adjacent parcel to the northeast.

12.04.010 - Construction specifications—Improved streets.

All sidewalks hereafter constructed in the city on improved streets shall be constructed to city standards and widths required in the Oregon City Transportation System Plan. The curb shall be constructed at the same time as the construction of the sidewalk and shall be located as provided in the ordinance authorizing the improvement of said street next proceeding unless otherwise ordered by the city commission. Both sidewalks and curbs are to be constructed according to plans and specifications provided by the city engineer.

Finding: Complies with Condition. Construction to City standards will occur except as noted in the modification requests under Chapter 12.04.007.

12.04.020 - Construction specifications—Unimproved streets.

Sidewalks constructed on unimproved streets shall be constructed of concrete according to lines and grades established by the city engineer and approved by the city commission. On unimproved streets curbs do not have to be constructed at the same time as the sidewalk.
Finding: Not applicable. Street frontages are proposed to be improved.

12.04.025 - Street design—Driveway curb cuts.
A. One driveway shall be allowed per frontage. In no case shall more than two driveways be allowed on any single or two-family residential property with multiple frontages.
B. With the exception of the limitations identified in 12.04.025.C, all driveway curb cuts shall be limited to the following dimensions.

Property Use	*Minimum Driveway Width at sidewalk or property line*	*Maximum Driveway Width at sidewalk or property line*
Single or two-family dwelling with one car garage/parking space	*10 feet*	*12 feet*
Single or two-family dwelling with two car garage/parking space	*12 feet*	*24 feet*
Single or two-family dwelling with three or more car garages/parking space	*18 feet*	*30 feet*
Nonresidential or multi-family residential driveway access	*15 feet*	*40 feet*

The driveway width abutting the street pavement may be extended three feet on either side of the driveway to accommodate turn movements. Driveways may be widened onsite in locations other than where the driveway meets sidewalk or property line (for example between the property line and the entrance to a garage).
Figure 12.04.025: Example Driveway Curb Cut
Finding: Complies as proposed. The proposed driveways are between 15 and 40 feet wide as permitted for nonresidential or multi-family residential.

C. The decision maker shall be authorized through a Type II process, unless another procedure applicable to the proposal applies, to minimize the number and size of curb cuts (including driveways) as far as practicable for any of the following purposes:
1. To provide adequate space for on-street parking;
2. To facilitate street tree planting requirements;
3. To assure pedestrian and vehicular safety by limiting vehicular access points; and
4. To assure that adequate sight distance requirements are met.
a. Where the decision maker determines any of these situations exist or may occur due to the approval of a proposed development for non-residential uses or attached or multi-family housing, a shared driveway shall be required and limited to twenty-four feet in width adjacent to the sidewalk or property line and may extend to a maximum of thirty feet abutting the street pavement to facilitate turning movements.
b. Where the decision maker determines any of these situations exist or may occur due to approval of a proposed development for detached housing within the "R-5" Single-Family Dwelling District or "R-3.5" Dwelling District, driveway curb cuts shall be limited to twelve feet in width adjacent to the sidewalk or property line and may extend to a maximum of eighteen feet abutting the street pavement to facilitate turning movements.

Finding: Not applicable. Minimization of the number and size of curb cuts is not required.

D. For all driveways, the following standards apply.
1. Each new or redeveloped curb cut shall have an approved concrete approach or asphalted street connection where there is no concrete curb and a minimum hard surface for at least ten feet and preferably twenty feet back into the lot as measured from the current edge of street pavement to provide for controlling gravel tracking onto the public street. The hard surface may be concrete, asphalt, or other surface approved by the city engineer.
2. Driving vehicles, trailers, boats, or other wheeled objects across a sidewalk or roadside planter strip at a location other than an approved permanent or city-approved temporary driveway approach is prohibited. Damages caused by such action shall be corrected by the adjoining property owner.
3. Placing soil, gravel, wood, or other material in the gutter or space next to the curb of a public street with the intention of using it as a permanent or temporary driveway is prohibited. Damages caused by such action shall be corrected by the adjoining property owner.
4. Any driveway built within public street or alley right-of-way shall be built and permitted per city requirements as approved by the city engineer.
Finding: Complies as proposed. The submitted plan demonstrates compliance with driveway design and construction standards.

E. Exceptions. The public works director reserves the right to waive this standard, if it is determined through a Type II decision including written findings that it is in the best interest of the public to do so.
Finding: Not Applicable. Applicant is not requesting deviation from standard.

12.04.030 - Maintenance and repair.
The owner of land abutting the street where a sidewalk has been constructed shall be responsible for maintaining said sidewalk and abutting curb, if any, in good repair.
Finding: Acknowledged. The applicant is responsible for maintaining all sidewalk and abutting curb adjacent to the proposed development.

12.04.031 - Liability for sidewalk injuries.
A. The owner or occupant of real property responsible for maintaining the adjacent sidewalk shall be liable to any person injured because of negligence of such owner or occupant in failing to maintain the sidewalk in good condition.
B. If the city is required to pay damages for an injury to persons or property caused by the failure of a person to perform the duty that this ordinance imposes, the person shall compensate the city for the amount of the damages paid. The city may maintain an action in a court of competent jurisdiction to enforce this section.
Finding: Acknowledged. The applicant is liable for sidewalk injuries caused by negligence of owner failing to maintain the sidewalk in good condition.

12.04.032 - Required sidewalk repair.
A. When the public works director determines that repair of a sidewalk is necessary he or she shall issue a notice to the owner of property adjacent to the sidewalk.
B. The notice shall require the owner of the property adjacent to the defective sidewalk to complete the repair of the sidewalk within ninety days after the service of notice. The notice shall also state that if the repair is not made by the owner, the city may do the work and the cost of the work shall be assessed against the property adjacent to the sidewalk.
C. The public works director shall cause a copy of the notice to be served personally upon the owner of the property adjacent to the defective sidewalk, or the notice may be served by registered or certified mail, return receipt requested. If after diligent search the owner is not discovered, the public works director shall cause a copy of the

notice to be posted in a conspicuous place on the property, and such posting shall have the same effect as service of notice by mail or by personal service upon the owner of the property.
D. The person serving the notice shall file with the city recorder a statement stating the time, place and manner of service or notice.
Finding: Not applicable. The applicant has not proposed and is not required to repair a sidewalk.

12.04.033 - City may do work.
If repair of the sidewalk is not completed within ninety days after the service of notice, the public works director shall carry out the needed work on the sidewalk. Upon completion of the work, the public works director shall submit an itemized statement of the cost of the work to the finance director. The city may, at its discretion, construct, repair or maintain sidewalks deemed to be in disrepair by the public works director for the health, safety and general welfare of the residents of the city.
Finding: Not applicable. This is not a criterion for this development because no sidewalk repair is required.

12.04.034 - Assessment of costs.
Upon receipt of the report, the finance director shall assess the cost of the sidewalk work against the property adjacent to the sidewalk. The assessment shall be a lien against the property and may be collected in the same manner as is provided for in the collection of street improvement assessment.
Finding: Not applicable. This is not a criterion for this development because no sidewalk repair is required.

12.04.040 - Streets—Enforcement.
Any person whose duty it is to maintain and repair any sidewalk, as provided by this chapter, and who fails to do so shall be subject to the enforcement procedures of Chapters 1.16, 1.20 and 1.24. Failure to comply with the provisions of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.
Finding: Not applicable. This is not a criterion for this development, as no sidewalk repair is required.

12.04.050 - Retaining walls—Required.
Every owner of a lot within the city, abutting upon an improved street, where the surface of the lot or tract of land is above the surface of the improved street and where the soil or earth from the lot, or tract of land is liable to, or does slide or fall into the street or upon the sidewalk, or both, shall build a retaining wall, the outer side of which shall be on the line separating the lot, or tract of land from the improved street, and the wall shall be so constructed as to prevent the soil or earth from the lot or tract of land from falling or sliding into the street or upon the sidewalk, or both, and the owner of any such property shall keep the wall in good repair.
Finding: Not applicable. No soil is expected to fall or slide from the proposed improvements into public street right-of-way.

12.04.060 - Retaining walls—Maintenance.
When a retaining wall is necessary to keep the earth from falling or sliding onto the sidewalk or into a public street and the property owner or person in charge of that property fails or refuses to build such a wall, such shall be deemed a nuisance. The violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.
Finding: Not applicable. No retaining wall is proposed or required to prevent soil from falling or sliding from the proposed improvements into public street right-of-way.

12.04.070 - Removal of sliding dirt.
It shall be the duty of the owner of any property as mentioned in Section 12.04.050, and in case the owner is a nonresident, then the agent or other person in charge of the same, to remove from the street or sidewalk or both

as the case may be, any and all earth or dirt falling on or sliding into or upon the same from the property, and to build and maintain in order at all times, the retaining wall as herein required; and upon the failure, neglect or refusal of the land owner, the agent or person in charge of the same to clean away such earth or dirt, falling or sliding from the property into the street or upon the sidewalk, or both, or to build the retaining wall, shall be deemed guilty of a misdemeanor.

Finding: Acknowledged. Applicant accepts responsibility for maintaining the public right-of-way clear from falling dirt.

12.04.080 - Excavations—Permit required.

It shall be unlawful for any person to dig up, break, excavate, disturb, dig under or undermine any public street or alley, or any part thereof or any macadam, gravel, or other street pavement or improvement without first applying for and obtaining from the engineer a written permit so to do.

Finding: Acknowledged. The applicant will obtain required excavation permits in conjunction with public facilities plan approval.

12.04.090 - Excavations—Permit restrictions.

The permit shall designate the portion of the street to be so taken up or disturbed, together with the purpose for making the excavation, the number of days in which the work shall be done, and the trench or excavation to be refilled and such other restrictions as may be deemed of public necessity or benefit.

Finding: Not Applicable. This section applies to temporary excavation permit work. The proposed development will be permitted instead through the public facilities construction plan approval process.

12.04.100 - Excavations—Restoration of pavement.

Whenever any excavation shall have been made in any pavement or other street improvement on any street or alley in the city for any purpose whatsoever under the permit granted by the engineer, it shall be the duty of the person making the excavation to restore the pavement in accordance with the City of Oregon City Public Works Pavement Cut Standard in effect at the time a right-of-way permit application is filed. The city commission may adopt and modify the City of Oregon City Public Works Pavement Cut Standards by resolution as necessary to implement the requirements of this chapter.

Finding: Complies with Condition. The applicant has proposed work in the public right-of-way that will require pavement restoration. The applicant shall perform all cuts and restoration to pavement within the right-of-way in accordance with the City's Pavement Cut Standards**. It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

12.04.110 - Excavations—Nuisance—Penalty.

Any excavation in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Finding: Not Applicable. No violation of this chapter has been identified.

12.04.120 - Obstructions—Permit required.

A. Permanent Obstructions. It is unlawful for any person to place, put or maintain any obstruction, other than a temporary obstruction, as defined in subsection B. of this section, in any public street or alley in the city, without obtaining approval for a right-of-way permit from the commission by passage of a resolution.

1. The city engineer shall provide applicants with an application form outlining the minimum submittal requirements.

2. The applicant shall submit at least the following information in the permitting process in order to allow the commission to adequately consider whether to allow the placement of an obstruction and whether any conditions may be attached:

a. Site plan showing right-of-way, utilities, driveways as directed by staff;
b. Sight distance per Chapter 10.32, Traffic Sight Obstructions;
c. Traffic control plan including parking per Manual on Uniform Traffic Control Devices (MUTCD);
d. Alternative routes if necessary;
e. Minimizing obstruction area; and
f. Hold harmless/maintenance agreement.
3. If the commission adopts a resolution allowing the placement of a permanent obstruction in the right-of-way, the city engineer shall issue a right-of-way permit with any conditions deemed necessary by the commission.
B. Temporary Obstructions.
1. A "temporary obstruction" is defined as an object placed in a public street, road or alley for a period of not more than sixty consecutive days. A "temporary obstruction" includes, but is not limited to, moving containers and debris dumpsters.
2. The city engineer, or designee, is authorized to grant a permit for a temporary obstruction.
3. The city engineer shall provide applicants with an application form outlining the minimum submittal requirements.
4. The applicant shall submit, and the city engineer, or designee, shall consider, at least the following items in the permitting process. Additional information may be required in the discretion of the city engineer:
a. Site plan showing right-of-way, utilities, driveways as directed by staff;
b. Sight distance per Chapter 10.32, Traffic Sight Obstructions;
c. Traffic control plan including parking per Manual on Uniform Traffic Control Devices (MUTCD);
d. Alternative routes if necessary;
e. Minimizing obstruction area; and
f. Hold harmless/maintenance agreement.
5. In determining whether to issue a right-of-way permit to allow a temporary obstruction, the city engineer may issue such a permit only after finding that the following criteria have been satisfied:
a. The obstruction will not unreasonably impair the safety of people using the right-of-way and nearby residents;
b. The obstruction will not unreasonably hinder the efficiency of traffic affected by the obstruction;
c. No alternative locations are available that would not require use of the public right-of-way; and
d. Any other factor that the city engineer deems relevant.
6. The permittee shall post a weatherproof copy of the temporary obstruction permit in plain view from the right-of-way.
C. Fees. The fee for obtaining a right-of-way permit for either a permanent obstruction or a temporary obstruction shall be set by resolution of the commission.
Finding: Not applicable. The applicant does not propose any obstructions of the right-of-way requiring an obstruction permit.

12.04.130 - Obstructions—Sidewalk sales.
A. It is unlawful for any person to use the public sidewalks of the city for the purpose of packing, unpacking or storage of goods or merchandise or for the display of goods or merchandise for sale. It is permissible to use the public sidewalks for the process of expeditiously loading and unloading goods and merchandise.
B. The city commission may, in its discretion, designate certain areas of the city to permit the display and sale of goods or merchandise on the public sidewalks under such conditions as may be provided.
Finding: Not Applicable. The applicant has not proposed a sidewalk sale with this application.

12.04.140 - Obstructions—Nuisance—Penalty.
Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.
Finding: Acknowledged. Applicant acknowledges violations will be subject to code enforcement procedures.

12.04.150 - Street and alley vacations—Cost.

At the time of filing a petition for vacation of a street, alley or any part thereof, a fee as established by city commission resolution shall be paid to the city.

Finding: Not Applicable. The applicant has not proposed a street or alley vacation with this application.

12.04.160 - Street vacations—Restrictions.

The commission, upon hearing such petition, may grant the same in whole or in part, or may deny the same in whole or in part, or may grant the same with such reservations as would appear to be for the public interest, including reservations pertaining to the maintenance and use of underground public utilities in the portion vacated.

Finding: Not Applicable. The applicant has not proposed a street or alley vacation with this application.

12.04.170 - Street design—Purpose and general provisions.

All development shall be in conformance with the policies and design standards established by this chapter and with applicable standards in the city's public facility master plan and city design standards and specifications. In reviewing applications for development, the city engineer shall take into consideration any approved development and the remaining development potential of adjacent properties. All street, water, sanitary sewer, storm drainage and utility plans associated with any development must be reviewed and approved by the city engineer prior to construction. All streets, driveways or storm drainage connections to another jurisdiction's facility or right-of-way must be reviewed by the appropriate jurisdiction as a condition of the preliminary plat and when required by law or intergovernmental agreement shall be approved by the appropriate jurisdiction.

Finding: Complies with Condition. All development shall be in conformance with the policies and design standards established by Chapter 12.04.170 of the Oregon City Municipal Code and with applicable standards in the city's public facility master plan and city design standards and specifications. All street, water, sanitary sewer, storm drainage and utility plans associated with any development shall be reviewed and approved by the City prior to construction. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

12.04.175 - Street design—Generally.

The location, width and grade of street shall be considered in relation to: existing and planned streets, topographical conditions, public convenience and safety for all modes of travel, existing and identified future transit routes and pedestrian/bicycle accessways, overlay districts, and the proposed use of land to be served by the streets. The street system shall assure an adequate traffic circulation system with intersection angles, grades, tangents and curves appropriate for the traffic to be carried considering the terrain. To the extent possible, proposed streets shall connect to all existing or approved stub streets that abut the development site. The arrangement of streets shall either:

A. Provide for the continuation or appropriate projection of existing principal streets in the surrounding area and on adjacent parcels or conform to a plan for the area approved or adopted by the city to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical;

B. Where necessary to give access to or permit a satisfactory future development of adjoining land, streets shall be extended to the boundary of the development and the resulting dead-end street (stub) may be approved with a temporary turnaround as approved by the city engineer. Notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future. Access control in accordance with [Chapter] 12.04 shall be required to preserve the objectives of street extensions.

Finding: Complies with Condition. Construction to City standards is intended by applicant except as noted in the modification requests under Chapter 12.04.007. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

12.04.180 - Street design.

All development regulated by this chapter shall provide street improvements in compliance with the standards in Figure 12.04.180 depending on the street classification set forth in the Transportation System Plan and the Comprehensive Plan designation of the adjacent property, unless an alternative plan has been adopted. The standards provided below are maximum design standards and may be reduced with an alternative street design which may be approved based on the modification criteria in [Section] 12.04.007. The steps for reducing the maximum design below are found in the Transportation System Plan.

Table 12.04.180 Street Design

To read the table below, select the road classification as identified in the Transportation System Plan and the Comprehensive Plan designation of the adjacent properties to find the maximum design standards for the road cross section. If the Comprehensive Plan designation on either side of the street differs, the wider right-of-way standard shall apply.

Road Classification	*Comprehensive Plan Designation*	*Right-of-Way Width*	*Pavement Width*	*Public Access*	*Sidewalk*	*Landscape Strip*	*Bike Lane*	*Street Parking*	*Travel Lanes*	*Median*
Minor Arterial	*Mixed Use, Commercial or Public/Quasi Public*	*116 ft.*	*94 ft.*	*0.5 ft.*	*10.5 ft. sidewalk including 5 ft. x 5 ft. tree wells*		*6 ft.*	*8 ft.*	*(5) 12 ft. Lanes*	*6 ft.*
	Industrial	*118 ft.*	*86 ft.*	*0.5 ft.*	*5 ft.*	*10.5 ft.*	*6 ft.*	*7 ft.*	*(5) 12 ft. Lanes*	*N/A*
	Residential	*100 ft.*	*68 ft.*	*0.5 ft.*	*5 ft.*	*10.5 ft.*	*6 ft.*	*7 ft.*	*(3) 12 ft. Lanes*	*6 ft.*

Road Classification	*Comprehensive Plan Designation*	*Right-of-Way Width*	*Pavement Width*	*Public Access*	*Sidewalk*	*Landscape Strip*	*Bike Lane*	*Street Parking*	*Travel Lanes*	*Median*
Local	*Mixed Use, Commercial or*	*62 ft.*	*40 ft.*	*0.5 ft.*	*10.5 ft. sidewalk including 5 ft. x 5 ft. tree wells*		*N/A*	*8 ft.*	*(2) 12 ft.*	*N/A*

	Public/Quasi Public							*Lanes*	
	Industrial	*60 ft.*	*38 ft.*	*0.5 ft.*	*5 ft.*	*5.5 ft.*	*(2) 19 ft. Shared Space*		*N/A*
	Residential	*54 ft.*	*32 ft.*	*0.5 ft.*	*5 ft.*	*5.5 ft.*	*(2) 16 ft. Shared Space*		*N/A*

1. Pavement width includes, bike lane, street parking, travel lanes and median.
2. Public access, sidewalks, landscape strips, bike lanes and on-street parking are required on both sides of the street in all designations. The right-of-way width and pavement widths identified above include the total street section.
3. A 0.5 foot curb is included in landscape strip or sidewalk width.
4. Travel lanes may be through lanes or turn lanes.
5. The 0.5 foot public access provides access to adjacent public improvements.
6. Alleys shall have a minimum right-of-way width of twenty feet and a minimum pavement width of sixteen feet. If alleys are provided, garage access shall be provided from the alley.
Finding: Complies with Condition. See Chapter 12.04.007 of this report for additional description of street design modifications. **It is reasonable, practicable and likely that the applicant can meet this standard through a Condition of Approval.**

12.04.185 - Street design—Access control.
A. A street which is dedicated to end at the boundary of the development or in the case of half-streets dedicated along a boundary shall have an access control granted to the city as a city controlled plat restriction for the purposes of controlling ingress and egress to the property adjacent to the end of the dedicated street. The access control restriction shall exist until such time as a public street is created, by dedication and accepted, extending the street to the adjacent property.
B. The city may grant a permit for the adjoining owner to access through the access control.
C. The plat shall contain the following access control language or similar on the face of the map at the end of each street for which access control is required: "Access Control (See plat restrictions)."
D. Said plats shall also contain the following plat restriction note(s): "Access to (name of street or tract) from adjoining tracts (name of deed document number[s]) shall be controlled by the City of Oregon City by the recording of this plat, as shown. These access controls shall be automatically terminated upon the acceptance of a public road dedication or the recording of a plat extending the street to adjacent property that would access through those Access Controls."
Finding: Not Applicable. No stub streets or half-streets are proposed with this development.

12.04.190 - Street design—Alignment.
The centerline of streets shall be:
A. Aligned with existing streets by continuation of the centerlines; or
B. Offset from the centerline by no more than five (5) feet, provided appropriate mitigation, in the judgment of the city engineer, is provided to ensure that the offset intersection will not pose a safety hazard.
Finding: Complies as Proposed. The proposed internal private streets will align with and provide continuation of the adjacent private access street serving the train station.

12.04.194 - Traffic sight obstructions.

All new streets shall comply with the Traffic Sight Obstructions in Chapter 10.32.
Finding: Complies as Proposed. The traffic impact analysis indicates compliance with this section.

12.04.195 - Spacing standards.
A. All new streets shall be designed as local streets unless otherwise designated as arterials and collectors in Figure 8 in the transportation system plan. The maximum block spacing between streets is five hundred thirty feet and the minimum block spacing between streets is one hundred fifty feet as measured between the right-of-way centerlines. If the maximum block size is exceeded, pedestrian accessways must be provided every three hundred thirty feet. The spacing standards within this section do not apply to alleys.
B. All new development and redevelopment shall meet the minimum driveway spacing standards identified in Table 12.04.195.B.

Table 12.04.195.B Minimum Driveway Spacing Standards

Street Functional Classification	*Minimum Driveway Spacing Standards*	*Distance*
Major Arterial Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*175 ft.*
Minor Arterial Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*175 ft.*
Collector Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*100 ft.*
Local Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*25 ft.*

The distance from a street corner to a driveway is measured along the right-of-way from the edge of the intersection right-of-way to the nearest portion of the driveway and the distance between driveways is measured at the nearest portions of the driveway at the right-of-way.
Finding: Complies as Proposed. See Chapter 12.04.007 of this report for discussion of street design modifications.

12.04.199 - Pedestrian and bicycle accessways.
Pedestrian/bicycle accessways are intended to provide direct, safe and convenient connections between residential areas, retail and office areas, institutional facilities, industrial parks, transit streets, neighborhood activity centers, rights-of-way, and pedestrian/bicycle accessways which minimize out-of-direction travel, and transit-orientated developments where public street connections for automobiles, bicycles and pedestrians are unavailable. Pedestrian/bicycle accessways are appropriate in areas where public street options are unavailable, impractical or inappropriate. Pedestrian and bicycle accessways are required through private property or as right-of-way connecting development to the right-of-way at intervals not exceeding three hundred thirty feet of frontage; or where the lack of street continuity creates inconvenient or out of direction travel patterns for local pedestrian or bicycle trips.

A. Entry points shall align with pedestrian crossing points along adjacent streets and with adjacent street intersections.
B. Accessways shall be free of horizontal obstructions and have a nine-foot, six-inch high vertical clearance to accommodate bicyclists. To safely accommodate both pedestrians and bicycles, accessway right-of-way widths shall be as follows:
1. Accessways shall have a fifteen-foot-wide right-of-way with a seven-foot wide paved surface between a five-foot planter strip and a three-foot planter strip.
2. If an accessway also provides secondary fire access, the right-of-way width shall be at least twenty-three feet wide with a fifteen-foot paved surface a five-foot planter strip and a three-foot planter strip.
C. Accessways shall be direct with at least one end point of the accessway always visible from any point along the accessway. On-street parking shall be prohibited within fifteen feet of the intersection of the accessway with public streets to preserve safe sight distance and promote safety.
D. To enhance pedestrian and bicycle safety, accessways shall be lighted with pedestrian-scale lighting. Accessway lighting shall be to a minimum level of one-half-foot-candles, a one and one-half foot-candle average, and a maximum to minimum ratio of seven-to-one and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances.
E. Accessways shall comply with Americans with Disabilities Act (ADA).
F. The planter strips on either side of the accessway shall be landscaped along adjacent property by installation of the following:
1. Within the three-foot planter strip, an evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than four feet apart on average;
2. Ground cover covering one hundred percent of the exposed ground. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees;
3. Within the five-foot planter strip, two-inch minimum caliper trees with a maximum of thirty-five feet of separation between the trees to increase the tree canopy over the accessway;
4. In satisfying the requirements of this section, evergreen plant materials that grow over forty-two inches in height shall be avoided. All plant materials shall be selected from the Oregon City Native Plant List.
G. Accessways shall be designed to prohibit unauthorized motorized traffic. Curbs and removable, lockable bollards are suggested mechanisms to achieve this.
H. Accessway surfaces shall be paved with all-weather materials as approved by the city. Pervious materials are encouraged. Accessway surfaces shall be designed to drain stormwater runoff to the side or sides of the accessway. Minimum cross slope shall be two percent.
I. In parks, greenways or other natural resource areas, accessways may be approved with a five-foot wide gravel path with wooden, brick or concrete edgings.
J. The community development director may approve an alternative accessway design due to existing site constraints through the modification process set forth in Section 12.04.007.
K. Ownership, liability and maintenance of accessways. To ensure that all pedestrian/bicycle accessways will be adequately maintained over time, the hearings body shall require one of the following:
1. Dedicate the accessways to the public as public right-of-way prior to the final approval of the development; or
2. The developer incorporates the accessway into a recorded easement or tract that specifically requires the property owner and future property owners to provide for the ownership, liability and maintenance of the accessway.
Finding: Not applicable. An offsite pedestrian accessway is not proposed or required.

12.04.205 - Mobility standards.
Development shall demonstrate compliance with intersection mobility standards. When evaluating the performance of the transportation system, the City of Oregon City requires all intersections, except for the facilities identified in subsection D below, to be maintained at or below the following mobility standards during the two-

hour peak operating conditions. The first hour has the highest weekday traffic volumes and the second hour is the next highest hour before or after the first hour. Except as provided otherwise below, this may require the installation of mobility improvements as set forth in the transportation system plan or as otherwise identified by the city transportation engineer.

A. For intersections within the regional center, the following mobility standards apply:

1. During the first hour, a maximum v/c ratio of 1.10 shall be maintained. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.

2. During the second hour, a maximum v/c ratio of 0.99 shall be maintained at signalized intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.

3. Intersections located on the Regional Center boundary shall be considered within the Regional Center.

B. For intersections outside of the Regional Center but designated on the Arterial and Throughway Network, as defined in the Regional Transportation Plan, the following mobility standards apply:

1. During the first hour, a maximum v/c ratio of 0.99 shall be maintained. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.

2. During the second hour, a maximum v/c ratio of 0.99 shall be maintained at signalized intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.

C. For intersections outside the boundaries of the Regional Center and not designated on the Arterial and Throughway Network, as defined in the Regional Transportation Plan, the following mobility standards apply:

1. For signalized intersections:

a. During the first hour, LOS "D" or better will be required for the intersection as a whole and no approach operating at worse than LOS "E" and a v/c ratio not higher than 1.0 for the sum of the critical movements.

b. During the second hour, LOS "D" or better will be required for the intersection as a whole and no approach operating at worse than LOS "E" and a v/c ratio not higher than 1.0 for the sum of the critical movements.

2. For unsignalized intersections outside of the boundaries of the Regional Center:

a. For unsignalized intersections, during the peak hour, all movements serving more than twenty vehicles shall be maintained at LOS "E" or better. LOS "F" will be tolerated at movements serving no more than twenty vehicles during the peak hour.

D. Until the city adopts new performance measures that identify alternative mobility targets, the city shall exempt proposed development that is permitted, either conditionally, outright, or through detailed development master plan approval, from compliance with the above-referenced mobility standards for the following state-owned facilities:

I-205/OR 99E Interchange

I-205/OR 213 Interchange

OR 213/Beavercreek Road

State intersections located within or on the Regional Center Boundaries

1. In the case of conceptual development approval for a master plan that impacts the above references intersections:

a. The form of mitigation will be determined at the time of the detailed development plan review for subsequent phases utilizing the Code in place at the time the detailed development plan is submitted; and

b. Only those trips approved by a detailed development plan review are vested.

2. Development which does not comply with the mobility standards for the intersections identified in [Section] 12.04.205.D shall provide for the improvements identified in the Transportation System Plan (TSP) in an effort to

improve intersection mobility as necessary to offset the impact caused by development. Where required by other provisions of the Code, the applicant shall provide a traffic impact study that includes an assessment of the development's impact on the intersections identified in this exemption and shall construct the intersection improvements listed in the TSP or required by the Code.
Finding: Complies with Conditions. A traffic impact study is included in the application including assessment of the development impact on the intersections identified in this exemption.

The applicant submitted a 335-page Traffic Impact Study (TIS), prepared by Daniel Stumpf, EI and Michael Ard, PE of Lancaster Engineering, dated April 18, 2017. The study contains information regarding the study area, traffic counts, trip generation and distribution, traffic growth, traffic volume analysis (level-of-service as well as volume-to-capacity ratios), crash information, turn lanes at site entrances, pedestrian and bicycle facilities, site plan and access, intersection spacing, sight distance, consistency with the Transportation System Plan (TSP), and conclusions and recommendations of the applicant's traffic engineer. The City's transportation consultant, Replinger and Associates, reviewed the study and determined that it provided a basis upon which the development can be evaluated for the specific purposes of determining the transportation impacts of the proposed development.

Replinger and Associates concluded that the TIS provides an adequate basis upon which to assess the impacts of the proposed development. The engineer uses appropriate data and methods to analyze the operations and developed appropriate mitigation measures to address safety and operation issues.

With regard to the proposed development, Replinger and Associates recommend the following conditions of approval relative to the off-site transportation impacts:

- The applicant construct Washington Street along the site frontage including a center turn lane to provide for left turns into the site.
- The applicant participate in the funding of improvements for the I-205/OR-99E ramp terminal projects (TSP Projects D75 and D76) in proportion to traffic volumes as a percentage of total year 2035 intersection volumes from the TSP. Based on this methodology, the applicant would be responsible for 0.42% of the $3 million cost for Project D75 and for 0.49% of the project cost for Project D76. This would result in a contribution from the applicant of $12,600 + $14,700.
- The applicant participate in the funding of improvements for the Main Street/14th Street improvements (TSP Projects D7 and D8) in proportion to traffic volume as a percentage of the predicted 2035 traffic volume at the intersection calculated in the TSP. Based on the applicant's predicted site traffic, the applicant's responsibility would be 1.66% of the project's cost. The higher cost option in the TSP is listed at $670,000. That would result in a contribution from the applicant of $11,122.
- Based on the existing high crash rate at the intersection of Main Street and 14th Street and continuing development in the city that will result in increased traffic volumes, the selection of a preferred option for TSP project D7 and a review of the implementation schedule for this project may be appropriate.

Prior to issuance of a building permit, the applicant shall provide a phasing plan clarifying the timing of the proposed transportation improvements and a table linking the required transportation improvements to vehicle trip thresholds for each development phase.
It is reasonable, practicable and likely that this standard can be met through the conditions of approval.

12.04.210 - Street design—Intersection angles.
Except where topography requires a lesser angle, streets shall be laid out to intersect at angles as near as possible to right angles. In no case shall the acute angles be less than eighty degrees unless there is a special intersection

design. An arterial or collector street intersecting with another street shall have at least one hundred feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least fifty feet of tangent adjacent to the intersection unless topography requires a lesser distance. All street intersections shall be provided with a minimum curb return radius of twenty-five feet for local streets. Larger radii shall be required for higher street classifications as determined by the city engineer. Additional right-of-way shall be required to accommodate curb returns and sidewalks at intersections. Ordinarily, intersections should not have more than two streets at any one point.

Finding: Complies as Proposed. No new public streets are proposed. The site will be served by an existing private access to the northeast which meets the standard.

12.04.215 - Street design—Off-site street improvements.

During consideration of the preliminary plan for a development, the decision maker shall determine whether existing streets impacted by, adjacent to, or abutting the development meet the city's applicable planned minimum design or dimensional requirements. Where such streets fail to meet these requirements, the decision-maker shall require the applicant to make proportional improvements sufficient to achieve conformance with minimum applicable design standards required to serve the proposed development.

Finding: Complies with condition. Mitigation of off-site impacts was discussed above under 12.04.205. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**

12.04.220 - Street design—Half street.

Half streets, while generally not acceptable, may be approved where essential to the development, when in conformance with all other applicable requirements, and where it will not create a safety hazard. When approving half streets, the decision maker must first determine that it will be practical to require the dedication of the other half of the street when the adjoining property is divided or developed. Where the decision maker approves a half street, the applicant must construct an additional ten feet of pavement width so as to make the half street safe and usable until such time as the other half is constructed. Whenever a half street is adjacent to property capable of being divided or developed, the other half of the street shall be provided and improved when that adjacent property divides or develops. Access control may be required to preserve the objectives of half streets.

When the remainder of an existing half-street improvement is made it shall include the following items: dedication of required right-of-way, construction of the remaining portion of the street including pavement, curb and gutter, landscape strip, sidewalk, street trees, lighting and other improvements as required for that particular street. It shall also include at a minimum the pavement replacement to the centerline of the street. Any damage to the existing street shall be repaired in accordance with the city's "Moratorium Pavement Cut Standard" or as approved by the city engineer.

Finding: Not Applicable. No new half streets are proposed.

12.04.225 - Street design—Cul-de-sacs and dead-end streets.

The city discourages the use of cul-de-sacs and permanent dead-end streets except where construction of a through street is found by the decision maker to be impracticable due to topography or some significant physical constraint such as geologic hazards, wetland, natural or historic resource areas, dedicated open space, existing development patterns, arterial access restrictions or similar situation as determined by the community development director. When permitted, access from new cul-de-sacs and permanent dead-end streets shall be limited to a maximum of twenty-five dwelling units and a maximum street length of two hundred feet, as measured from the right-of-way line of the nearest intersecting street to the back of the cul-de-sac curb face. In addition, cul-de-sacs and dead end roads shall include pedestrian/bicycle accessways as required in this chapter. This section is not intended to preclude the use of curvilinear eyebrow widening of a street where needed.

Where approved, cul-de-sacs shall have sufficient radius to provide adequate turn-around for emergency vehicles in accordance with fire district and city adopted street standards. Permanent dead-end streets other than cul-de-

sacs shall provide public street right-of-way/easements sufficient to provide turn-around space with appropriate no-parking signs or markings for waste disposal, sweepers, and other long vehicles in the form of a hammerhead or other design to be approved by the decision maker. Driveways shall be encouraged off the turnaround to provide for additional on-street parking space.

Finding: Complies with Condition. No new streets are proposed. 17th Street will remain a permanent dead-end street due the requirements of the railroad for closure. The proposed entrance on 17th Street is approximately 200 feet from the Washington Street right-of-way, so the dead-end length requirement is met. Requiring a cul-de-sac at the end of 17th Street is neither appropriate nor required for the following reasons: (a) the additional impervious surface created would impact the existing stream bank and vegetated buffer of Abernethy Creek, a sensitive watershed, and (b) the proposed private driveway access through the site will provide opportunities for longer vehicles to circulate without the need for backing movements. A condition has been applied to ensure public access is allowed throughout the site. This alternative meet the intent of this standard. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**

12.04.230 - Street design—Street names.

Except for extensions of existing streets, no street name shall be used which will duplicate or be confused with the name of an existing street. Street names shall conform to the established standards in the city and shall be subject to the approval of the city.

Finding: Not Applicable. No new streets are proposed.

12.04.235 - Street design—Grades and curves.

Grades and center line radii shall conform to the standards in the city's street design standards and specifications.

Finding: Not Applicable. No new streets are proposed.

12.04.240 - Street design—Development abutting arterial or collector street.

Where development abuts or contains an existing or proposed arterial or collector street, the decision maker may require: access control; screen planting or wall contained in an easement or otherwise protected by a restrictive covenant in a form acceptable to the decision maker along the rear or side property line; or such other treatment it deems necessary to adequately protect residential properties or afford separation of through and local traffic. Reverse frontage lots with suitable depth may also be considered an option for residential property that has arterial frontage. Where access for development abuts and connects for vehicular access to another jurisdiction's facility then authorization by that jurisdiction may be required.

Finding: Complies as Proposed. Washington Street is designated as a Minor Arterial so this section applies. Staff has determined that the proposed vehicular access plan provides adequate protection and buffering. No restrictive covenant or other form of protection is needed for the proposed development.

12.04.245 - Street design—Pedestrian and bicycle safety.

Where deemed necessary to ensure public safety, reduce traffic hazards and promote the welfare of pedestrians, bicyclists and residents of the subject area, the decision maker may require that local streets be so designed as to discourage their use by nonlocal automobile traffic.

All crosswalks shall include a large vegetative or sidewalk area which extends into the street pavement as far as practicable to provide safer pedestrian crossing opportunities. These curb extensions can increase the visibility of pedestrians and provide a shorter crosswalk distance as well as encourage motorists to drive slower. The decision maker may approve an alternative design that achieves the same standard for constrained sites or where deemed unnecessary by the city engineer.

Finding: Complies as proposed. 17th Street is designated as a Local Street, and has no sidewalk on its southerly side; the applicant will provide northerly sidewalk that will terminate prior to the railroad crossing. ODOT Rail

and Public Transit Division will not allow future pedestrian connection within the railroad ROW. Because 17th Street is a permanent dead-end, it is not utilized by nonlocal automobile traffic.

12.04.255 - Street design—Alleys.

Public alleys shall be provided in the following districts R-5, R-3.5, R-2, MUC-1, MUC-2 and NC zones unless other permanent provisions for private access to off-street parking and loading facilities are approved by the decision maker. The corners of alley intersections shall have a radius of not less than ten feet.

Finding: Not applicable. The parcel is zoned MUD.

12.04.260 - Street design—Transit.

Streets shall be designed and laid out in a manner that promotes pedestrian and bicycle circulation. The applicant shall coordinate with transit agencies where the application impacts transit streets as identified in [Section] 17.04.1310. Pedestrian/bicycle access ways shall be provided as necessary in Chapter 12.04 to minimize the travel distance to transit streets and stops and neighborhood activity centers. The decision maker may require provisions, including easements, for transit facilities along transit streets where a need for bus stops, bus pullouts or other transit facilities within or adjacent to the development has been identified.

Finding: Not applicable. Washington Street north of 17th Street is not a transit route.

12.04.265 - Street design—Planter strips.

All development shall include vegetative planter strips that are five feet in width or larger and located adjacent to the curb. This requirement may be waived or modified if the decision maker finds it is not practicable. The decision maker may permit constrained sites to place street trees on the abutting private property within ten feet of the public right-of-way if a covenant is recorded on the title of the property identifying the tree as a city street tree which is maintained by the property owner. Development proposed along a collector, minor arterial, or major arterial street may use tree wells with root barriers located near the curb within a wider sidewalk in lieu of a planter strip, in which case each tree shall have a protected area to ensure proper root growth and reduce potential damage to sidewalks, curbs and gutters.

To promote and maintain the community tree canopy adjacent to public streets, trees shall be selected and planted in planter strips in accordance with Chapter 12.08, Street Trees. Individual abutting lot owners shall be legally responsible for maintaining healthy and attractive trees and vegetation in the planter strip. If a homeowners' association is created as part of the development, the association may assume the maintenance obligation through a legally binding mechanism, e.g., deed restrictions, maintenance agreement, etc., which shall be reviewed and approved by the city attorney. Failure to properly maintain trees and vegetation in a planter strip shall be a violation of this code and enforceable as a civil infraction.

Finding: Complies with condition. See findings for Chapter 12.04.180. If trees are planted within an easement along 17th Street the applicant shall provide a protective covenant that allows the city to enforce the public street tree requirements in this area. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**

12.04.270 - Standard construction specifications.

The workmanship and materials for any work performed under permits issued per this chapter shall be in accordance with the edition of the "Oregon Standard Specifications for Construction" as prepared by the Oregon Department of Transportation (ODOT) and the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the city in accordance with this ordinance, in effect at the time of application. The exception to this requirement is where this chapter and the Public Works Street Design Drawings provide other design details, in which case the requirements of this chapter and the Public Works Street Design Drawings shall be complied with. In the case of work within ODOT or Clackamas County rights-of-way, work shall be in conformance with their respective construction standards.

Finding: Complies with Condition. The applicant is responsible for this project's compliance with the standards referenced in this section. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**

12.04.280 - Violation—Penalty.
Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.
Finding: Acknowledged

CHAPTER 12.08 - PUBLIC AND STREET TREES

12.08.010 - Purpose.
The purpose of this chapter is to:
A. Develop tree-lined streets to protect the living quality and beautify the city;
B. Establish physical separation between pedestrians and vehicular traffic;
C. Create opportunities for solar shading;
D. Improve air quality; and
E. Increase the community tree canopy and resource.
Finding: The applicant acknowledged the intent of this section.

12.08.015 - Street tree planting and maintenance requirements.
All new construction or major redevelopment shall provide street trees adjacent to all street frontages. Species of trees shall be selected based upon vision clearance requirements, but shall in all cases be selected from the Oregon City Street Tree List or be approved by a certified arborist. If a setback sidewalk has already been constructed or the Development Services determines that the forthcoming street design shall include a setback sidewalk, then all street trees shall be installed with a planting strip. If existing street design includes a curb-tight sidewalk, then all street trees shall be placed within the front yard setback, exclusive of any utility easement.
Finding: Complies with condition. The applicant did not provide a street tree plan. Street trees will be selected from the Oregon City Street Tree List or otherwise approved as appropriate for use along the street frontages. Street trees along Washington Street will be in tree wells, trees along 17th Street will be planted behind the curb tight sidewalk. The applicant shall provide a street tree plan for 17th Street and Washington Street for both phases prior to issuance of a building permit.
It is reasonable, practicable and likely that this standard can be met through the conditions of approval.

A. One street tree shall be planted for every thirty-five feet of property frontage. The tree spacing shall be evenly distributed throughout the total development frontage. The community development director may approve an alternative street tree plan if site or other constraints prevent meeting the placement of one street tree per thirty-five feet of property frontage.
Finding: See finding above.

B. The following clearance distances shall be maintained when planting trees:
1. Fifteen feet from streetlights;
2. Five feet from fire hydrants;
3. Twenty feet from intersections;
4. A minimum of five feet (at mature height) below power lines.
Finding: See finding above.

C. All trees shall be a minimum of two inches in caliper at six inches above the root crown and installed to city specifications.
Finding: See finding above.

D. All established trees shall be pruned tight to the trunk to a height that provides adequate clearance for street cleaning equipment and ensures ADA complaint clearance for pedestrians.
Finding: See finding above.

12.08.020 - Street tree species selection.
The community development director may specify the species of street trees required to be planted if there is an established planting scheme adjacent to a lot frontage, if there are obstructions in the planting strip, or if overhead power lines are present.
Finding: See finding above.

12.08.025 - General tree maintenance.
Abutting property owners shall be responsible for the maintenance of street trees and planting strips. Topping of trees is permitted only under recommendation of a certified arborist, or other qualified professional, if required by city staff. Trees shall be trimmed appropriately. Maintenance shall include trimming to remove dead branches, dangerous limbs and to maintain a minimum seven-foot clearance above all sidewalks and ten-foot clearance above the street. Planter strips shall be kept clear of weeds, obstructing vegetation and trash.
Finding: Complies as proposed. The property owner will be responsible for maintenance of all street trees.

12.08.030 - Public property tree maintenance.
The city shall have the right to plant, prune, maintain and remove trees, plants and shrubs in all public rights-of-way and public grounds, as may be necessary to ensure public safety or to preserve and enhance the symmetry or other desirable characteristics of such public areas. The natural resources committee may recommend to the community development director the removal of any tree or part thereof which is in an unsafe condition, or which by reason of its nature is injurious to above or below-ground public utilities or other public improvements.
Finding: The applicant acknowledges the city's authority to conduct necessary maintenance if needed.

12.08.035 - Public tree removal.
Existing street trees shall be retained and protected during construction unless removal is specified as part of a land use approval or in conjunction with a public facilities construction project, as approved by the community development director. A diseased or hazardous street tree, as determined by a registered arborist and verified by the City, may be removed if replaced. A non-diseased, non-hazardous street tree that is removed shall be replaced in accordance with the Table 12.08.035.
All new street trees will have a minimum two-inch caliper trunk measured six inches above the root crown. The community development director may approve off-site installation of replacement trees where necessary due to planting constraints. The community development director may additionally allow a fee in-lieu of planting the tree(s) to be placed into a city fund dedicated to planting trees in Oregon City in accordance with Oregon City Municipal Code 12.08.
Table 12.08.035

Replacement Schedule for Trees Determined to be Dead, Diseased or Hazardous by a Certified Arborist	*Replacement Schedule for Trees Not Determined to be Dead, Diseased or Hazardous by a Certified Arborist*

Diameter of tree to be Removed (Inches of diameter at 4-ft height)	*Number of Replacement Trees to be Planted*	*Diameter of tree to be Removed (Inches of diameter at 4-ft height)*	*Number of Replacement Trees to be Planted*
Any Diameter	*1 Tree*	*Less than 6"*	*1 Tree*
		6" to 12"	*2 Trees*
		13" to 18"	*3 Trees*
		19" to 24"	*4 Trees*
		25" to 30"	*5 Trees*
		31" and over	*8 Trees*

Finding: Not applicable. The proposal did not identify if the trees would be removed this this proposal. Any removal associated with the proposed development will be reviewed per OCMC 17.41.

CHAPTER 15.48 - GRADING, FILLING AND EXCAVATING

15.48.030 Applicability—Grading permit required.

A. A city-issued grading permit shall be required before the commencement of any of the following filling or grading activities:

1. Grading activities in excess of ten cubic yards of earth;

2. Grading activities which may result in the diversion of existing drainage courses, both natural and man-made, from their natural point of entry or exit from the grading site;

3. Grading and paving activities resulting in the creation of impervious surfaces greater than two thousand square feet or more in area;

4. Any excavation beyond the limits of a basement or footing excavation, having an unsupported soil height greater than five feet after the completion of such a structure; or

5. Grading activities involving the clearing or disturbance of one-half acres (twenty-one thousand seven hundred eighty square feet) or more of land.

Finding: Applicable. The proposed development involves grading activities in excess of ten cubic yards, disturbance of over one-half acre, and creation of more than two thousand square feet of impervious area.

15.48.090 Submittal requirements.

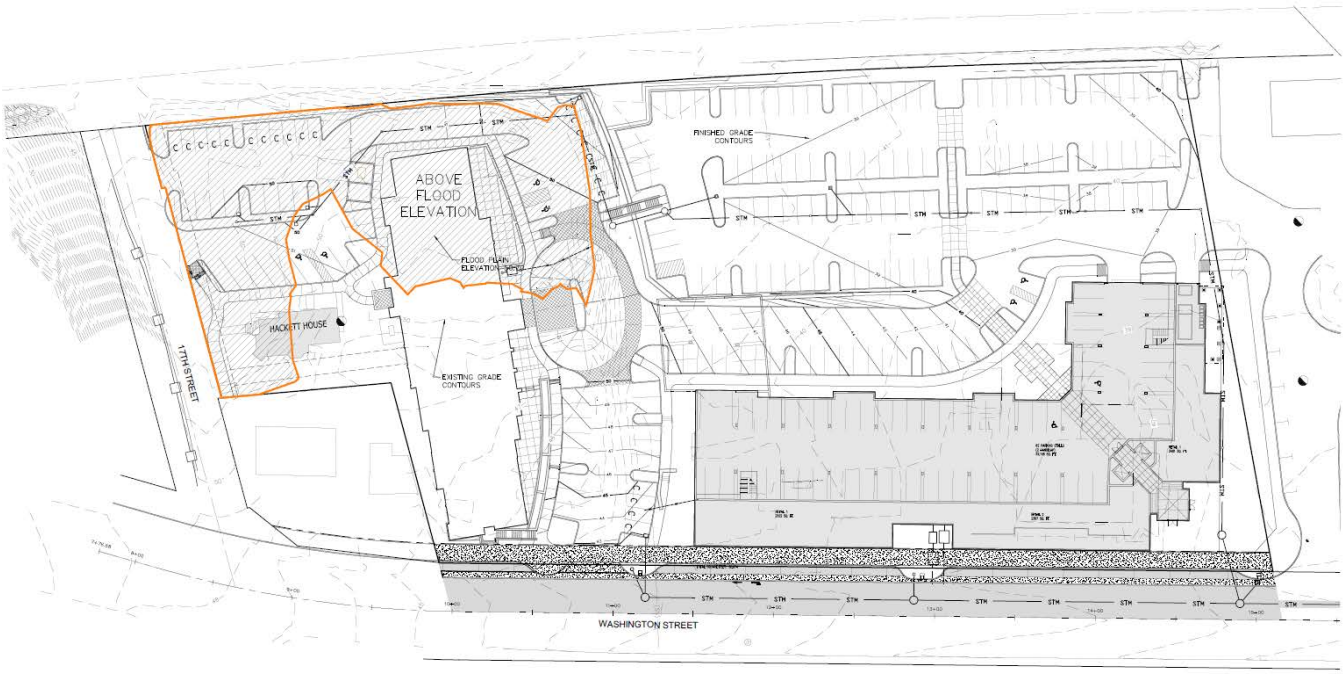
An engineered grading plan or an abbreviated grading plan shall be prepared in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards whenever a city approved grading permit is required. In addition, a geotechnical engineering report and/or residential lot grading plan may be required pursuant to the criteria listed below.

A. Abbreviated Grading Plan. The city shall allow the applicant to submit an abbreviated grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards if the following criteria are met:

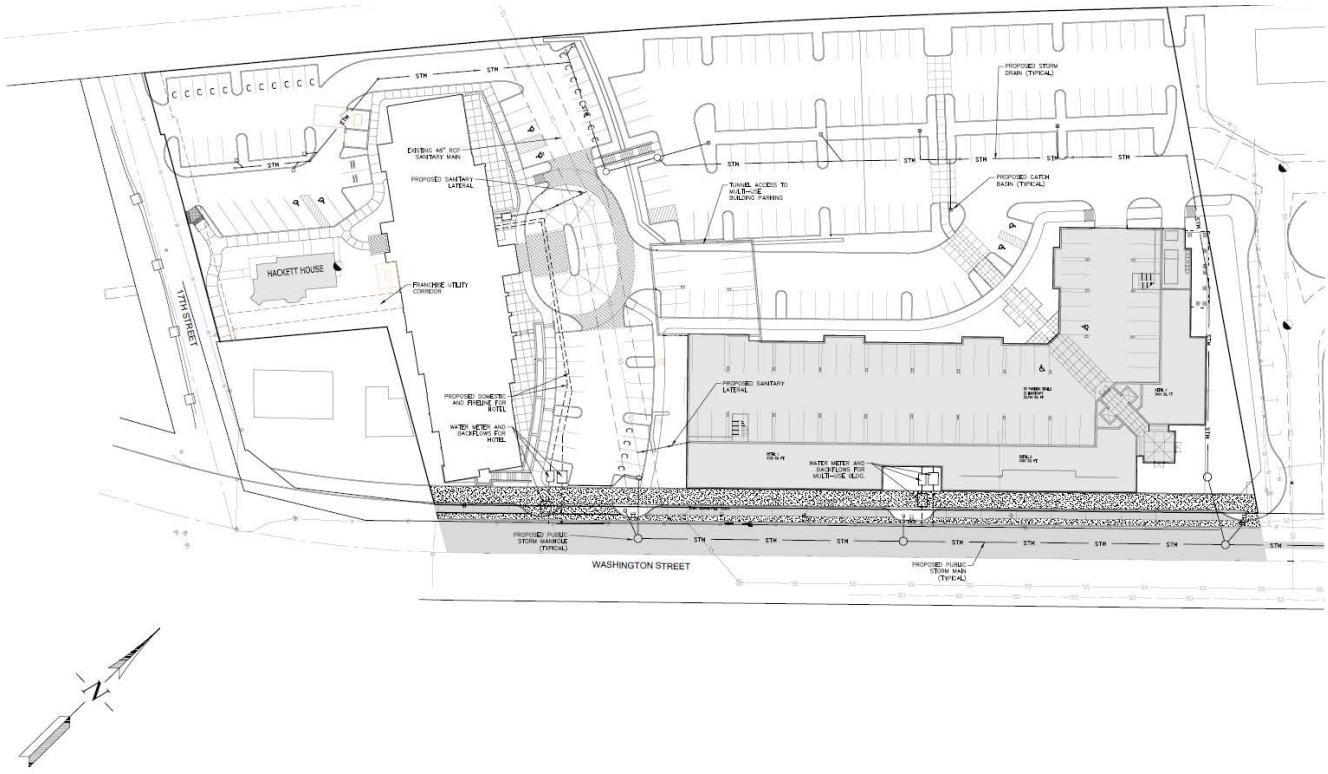
1. No portion of the proposed site is within the flood management area overlay district pursuant to Chapter 17.42, the unstable soils and hillside constraints overlay district pursuant to Chapter 17.44, or a water quality resource area pursuant to Chapter 17.49; and

2. The proposed filling or grading activity does not involve more than fifty cubic yards of earth.

B. Engineered Grading Plan. The city shall require an engineered grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer if the proposed activities do not qualify for abbreviated grading plan.
C. Geotechnical Engineering Report. The city shall require a geotechnical engineering report in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer who specializes in geotechnical work when any of the following site conditions may exist in the development area:
1. When any publicly maintained facility (structure, street, pond, utility, park, etc.) will be supported by any engineered fill;
2. When an embankment for a stormwater pond is created by the placement of fill;
3. When, by excavation, the soils remaining in place are greater than three feet high and less than twenty feet wide.
D. Residential Lot Grading Plan. The city shall require a residential lot grading plan in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer for all land divisions creating new residential building lots or where a public improvement project is required to provide access to an existing residential lot.
Finding: Complies with Conditions. The proposed development does not qualify for an abbreviated grading plan. An engineered grading plan and geotechnical report are required, and the applicant has submitted preliminary materials. A condition will be applied to ensure complete materials are submitted and approved and that site grading will not commence until all necessary permits have been obtained. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**



GDP Drawing PP2 - Preliminary Grading Plan



GDP Drawing PP1 – Preliminary Utility Plan

CHAPTER 17.47 - EROSION AND SEDIMENT CONTROL

17.47.070 Erosion and sediment control plans.

A. An application for an erosion and sediment control permit shall include an erosion and sediment control plan, which contains methods and interim measures to be used during and following construction to prevent or control erosion prepared in compliance with City of Oregon City public works standards for erosion and sediment control. These standards are incorporated herein and made a part of this title and are on file in the office of the city recorder.

Finding: Complies with condition. The applicant has submitted a preliminary erosion control plan with this application which demonstrates compliance. As the disturbance area will exceed one acre, the applicant shall also obtain a 1200-C permit from Oregon Department of Environmental Quality. Both permits shall be obtained prior to commencement of construction activities. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**

CHAPTER 17.41 - TREE PROTECTION STANDARDS

17.41.020 - Tree protection—Applicability.

1. Applications for development subject to Chapters 16.08 or 16.12 (Subdivision or Minor Partition) or Chapter 17.62 (Site Plan and Design Review) shall demonstrate compliance with these standards as part of the review proceedings for those developments.

2. For public capital improvement projects, the city engineer shall demonstrate compliance with these standards pursuant to a Type II process.

3. Tree canopy removal greater than twenty-five percent on sites greater than twenty-five percent slope, unless exempted under Section 17.41.040, shall be subject to these standards.
4. A heritage tree or grove which has been designated pursuant to the procedures of Chapter 12.08.050 shall be subject to the standards of this section.
Finding: Applicable. This application includes compliance with site plan and design review standards per the Detailed Development Plan pursuant to Chapter 17.62, therefore these standards apply.

17.41.030 - Tree protection—Conflicting code provisions.
Except as otherwise specified in this section, where these standards conflict with adopted city development codes or policies, the provision which provides the greater protection for regulated trees or groves, as defined in Section 17.04, shall govern.
Finding: Complies as proposed. The applicant indicated tree protection methods on the site clearing and demolition plan and in the submitted arborist report.

17.41.040 - Same—Exemptions.
These regulations are not intended to regulate normal cutting, pruning and maintenance of trees on private property except where trees are located on lots that are undergoing development review or are otherwise protected within the Natural Resource Overlay District (NROD) of section 17.49. These standards are not intended to regulate farm and forest practices as those practices are defined under ORS 30.930. Farm or forest resources. An applicant for development may claim exemption from compliance with these standards if the development site containing the regulated grove or trees was a designated farm or forest use, tree farm, Christmas tree plantation, or other approved timber use within one year prior to development application. "Forest practices" and "forestlands" as used in this subsection shall have the meaning as set out in ORS 30.930. The community development director has the authority to modify or waive compliance in this case.
Finding: Not applicable. The applicant applied for verification that the site is not within the NROD, and has not requested exemption from this chapter.

17.41.050 -17.41.125 Same—Compliance options.
Applicants for review shall comply with these requirements through one or a combination of the following procedures:
A. Option 1—Mitigation. Retention and removal of trees, with subsequent mitigation by replanting pursuant to Sections 17.41.060 or 17.41.070. All replanted and saved trees shall be protected by a permanent restrictive covenant or easement approved in form by the city.
B. Option 2—Dedicated Tract. Protection of trees or groves by placement in a tract within a new subdivision or partition plat pursuant to Sections 17.41.080—17.41.100; or
C. Option 3—Restrictive Covenant. Protection of trees or groves by recordation of a permanent restrictive covenant pursuant to Sections 17.41.110—17.41.120; or
D. Option 4—Cash-in-lieu of planting pursuant to Section 17.41.130.
A regulated tree that has been designated for protection pursuant to this section must be retained or permanently protected unless it has been determined by a certified arborist to be diseased or hazardous, pursuant to the following applicable provisions.
The community development director, pursuant to a Type II procedure, may allow a property owner to cut a specific number of trees within a regulated grove if preserving those trees would:
1. Preclude achieving eighty percent of minimum density with reduction of lot size; or
2. Preclude meeting minimum connectivity requirements for subdivisions.
Finding: Complies with Condition. The applicant indicated that they intend to comply with this chapter through one of the approved methods, but has not stated which one. The application includes an arborist report from Multnomah Tree Experts indicating that there are forty-one trees that are 6-inches DBH or larger at the site, and

twenty-five will be removed. Under option one, this would require the planting of 168 trees to mitigate for the tree removals. The applicant's arborist indicates that there is insufficient space to replant all of the mitigation trees on site, and therefore has recommended that there be a pre-construction meeting with the owner, contractors, and the project arborist. All trees to be removed should be verified and marked and all tree protection measures should be inspected and approved before any clearing or grading work begins. Staff concurs.

Prior to issuance of a building permit for the site, the applicant shall select one or more of the options for complying with Chapter 17.41. Compliance with these standards shall be demonstrated in a tree mitigation plan report prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arboriculture. The project arborist preparing the tree mitigation plan shall coordinate with the project landscape architect to ensure that any trees to be preserved are indicated on the revised landscaping plans for the site and that all protective measures are property installed pursuant to OCMC 17.41.130 - Regulated tree protection procedures during construction. The applicant shall record a protective covenant to be approved by the city for all protected and replanted trees prior to issuance of a certificate of occupancy for phase I or 2.
It is reasonable, practicable and likely that the applicant can meet this standard through a condition of approval.

17.41.130 *- Regulated tree protection procedures during construction.*
A. No permit for any grading or construction of public or private improvements may be released prior to verification by the community development director that regulated trees designated for protection or conservation have been protected according to the following standards. No trees designated for removal shall be removed without prior written approval from the community development director.
B. Tree protection shall be as recommended by a qualified arborist or, as a minimum, to include the following protective measures:
1. Except as otherwise determined by the community development director, all required tree protection measures set forth in this section shall be instituted prior to any development activities, including, but not limited to clearing, grading, excavation or demolition work, and such measures shall be removed only after completion of all construction activity, including necessary landscaping and irrigation installation, and any required plat, tract, conservation easement or restrictive covenant has been recorded.
2. Approved construction fencing, a minimum of four feet tall with steel posts placed no farther than ten feet apart, shall be installed at the edge of the tree protection zone or dripline, whichever is greater. An alternative may be used with the approval of the community development director.
3. Approved signs shall be attached to the fencing stating that inside the fencing is a tree protection zone, not to be disturbed unless prior approval has been obtained from the community development director.
4. No construction activity shall occur within the tree protection zone, including, but not limited to; dumping or storage of materials such as building supplies, soil, waste items; nor passage or parking of vehicles or equipment.
5. The tree protection zone shall remain free of chemically injurious materials and liquids such as paints, thinners, cleaning solutions, petroleum products, and concrete or dry wall excess, construction debris, or run-off.
6. No excavation, trenching, grading, root pruning or other activity shall occur within the tree protection zone unless directed by an arborist present on site and approved by the community development director.
7. No machinery repair or cleaning shall be performed within ten feet of the dripline of any trees identified for protection.
8. Digging a trench for placement of public or private utilities or other structure within the critical root zone of a tree to be protected is prohibited. Boring under or through the tree protection zone may be permitted if approved by the community development director and pursuant to the approved written recommendations and on-site guidance and supervision of a certified arborist.

9. The city may require that a certified arborist be present during any construction or grading activities that may affect the dripline of trees to be protected.
10. The community development director may impose conditions to avoid disturbance to tree roots from grading activities and to protect trees and other significant vegetation identified for retention from harm. Such conditions may include, if necessary, the advisory expertise of a qualified consulting arborist or horticulturist both during and after site preparation, and a special maintenance/management program to provide protection to the resource as recommended by the arborist or horticulturist.
C. Changes in soil hydrology due to soil compaction and site drainage within tree protection areas shall be avoided. Drainage and grading plans shall include provision to ensure that drainage of the site does not conflict with the standards of this section. Excessive site run-off shall be directed to appropriate storm drainage facilities and away from trees designated for conservation or protection.
Finding: Complies with Condition. The applicant indicated that they intend to comply with this chapter through one of the approved methods, but has not indicated which one. The applicant shall provide a revised arborist report indicating recommendations for tree protection procedures during construction or as a minimum show compliance with protective measures in OCMC 17.41.130 B(1-9). **It is reasonable, practicable and likely that the applicant can meet this standard through a condition of approval.**

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES

17.50.050 Preapplication Conference
A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.
B.A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.
Finding: Complies as proposed. Pre-application conferences were attended on February 8, 2017 (PA 17-02), July 6, 2016 (PA 16-30), and August 18, 2015 (PA 15-25).

17.50.055 Neighborhood Association Meeting
The purpose of the meeting with the recognized neighborhood association is to inform the affected neighborhood association about the proposed development and to receive the preliminary responses and suggestions from the neighborhood association and the member residents.
1. Applicants applying for annexations, zone change, comprehensive plan amendments, conditional use, planning commission variances, subdivision, or site plan and design review (excluding minor site plan and design review),

general development master plans or detailed development plans applications shall schedule and attend a meeting with the city-recognized neighborhood association in whose territory the application is proposed. Although not required for other projects than those identified above, a meeting with the neighborhood association is highly recommended.
2. The applicant shall send, by certified mail, return receipt requested letter to the chairperson of the neighborhood association and the citizen involvement committee describing the proposed project. Other communication methods may be used if approved by the neighborhood association.
3. A meeting shall be scheduled within thirty days of the notice. A meeting may be scheduled later than thirty days if by mutual agreement of the applicant and the neighborhood association. If the neighborhood association does not want to, or cannot meet within thirty days, the applicant shall hold their own meeting after six p.m. or on the weekend, with notice to the neighborhood association, citizen involvement committee, and all property owners within three hundred feet. If the applicant holds their own meeting, a copy of the certified letter requesting a neighborhood association meeting shall be required for a complete application. The meeting held by the applicant shall be held within the boundaries of the neighborhood association or in a city facility.
4. If the neighborhood association is not currently recognized by the city, is inactive, or does not exist, the applicant shall request a meeting with the citizen involvement committee.
5. To show compliance with this section, the applicant shall submit a sign-in sheet of meeting attendees, a summary of issues discussed, and letter from the neighborhood association or citizen involvement committee indicating that a neighborhood meeting was held. If the applicant held a separately noticed meeting, the applicant shall submit a copy of the meeting flyer, a sign in sheet of attendees and a summary of issues discussed.
Finding: Complies with Condition. A neighborhood meeting with the Two Rivers Home Owners Association occurred on January 25th, 2017. Additionally, as a courtesy, another meeting was held with the McLoughlin Home Owners association, a neighboring community, on February 2, 2017. The applicant did not include notes from the neighborhood meeting in their application packet. **The applicant shall provide the notes of the neighborhood association meetings for the Planning Commission.**

CHAPTER 17.54.100 – FENCES, HEDGES AND WALLS
Finding: Please see adjustment section under 17.65. This section allows retaining walls with fences to be a combined height of 8.5 feet in height. The applicant requested an adjustment to the permissible combined height limit for a fence on a retaining wall. All other fences proposed will comply with this section.

CHAPTER 17.49 NATURAL RESOURCE OVERLAY DISTRICT

The applicant applied for a verification that the property proposed for development in the General Development Plan is not within the Natural Resources Overlay District pursuant to Section 17.49.250. The applicant provided an "NROD Boundary Verification Report" as part of the GDP application packet. The submitted report was prepared by the firm Environmental Technology Consultants, authors John McConnaughey, PWS and Annakate Martin, and dated March 2017. Along with the report, the applicant included code responses in support of the verification.

17.49.050 Emergencies
Finding: Not applicable. No emergency has been identified.

17.49.060 Consistency and Relationship to Other Regulations
A. Where the provisions of the NROD are less restrictive or conflict with comparable provisions of the Oregon City Municipal Code, other City requirements, regional, state or federal law, the provisions that provides the greater protection of the resource shall govern.

Finding: The applicant acknowledges this provision. There are no conflicts. The NROD shall remain in place on the south side of 17th Street.

17.49.060.B. Compliance with Federal and State Requirements.

a. If the proposed development requires the approval of any other governmental agency, such as the Division of State Lands or the U.S. Army Corps of Engineers, the applicant shall make application for such approval prior to or simultaneously with the submittal of its development application to the City. The planning division shall coordinate City approvals with those of other agencies to the extent necessary and feasible. Any permit issued by the City pursuant to this chapter shall not become valid until other agency approvals have been obtained or those agencies indicate that such approvals are not required.

b. The requirements of this chapter apply only to areas within the NROD and to locally significant wetlands that may be added to the boundary during the course of development review pursuant to Section 17.49.035. If, in the course of a development review, evidence suggests that a property outside the NROD may contain a wetland or other protected water resource, the provisions of this chapter shall not be applied to that development review. However, the omission shall not excuse the applicant from satisfying any state and federal wetland requirements which are otherwise applicable. Those requirements apply in addition to, and apart from the requirements of the City's comprehensive plan and this code.

Finding: Complies with Condition. The applicant is responsible for contacting and applying for any Corps of Engineers or Department of State Land approvals necessary to undertake the project and providing such documentation to the City prior to issuance of a building permit. **It is reasonable, practicable and likely that this standard can be met through the conditions of approval.**

17.49.[0]70 - Prohibited uses.

Finding: Not applicable. Applicant did not propose a prohibited use. The applicant applied for a verification that the property proposed for development in the General Development Plan is not within the Natural Resources Overlay District pursuant to Section 17.49.250.

17.49.[0]80 –Uses allowed outright (Exempted).

Finding: Not applicable. The applicant did not propose an exempt use. The applicant applied for a verification that the property proposed for development in the General Development Plan is not within the Natural Resources Overlay District pursuant to Section 17.49.250-255.

17.49.090 Uses Allowed Under Prescribed Conditions

Finding: Not applicable. The applicant has not proposed a use under prescribed conditions. The applicant applied for a verification that the property proposed for development in the General Development Plan is not within the Natural Resources Overlay District pursuant to Section 17.49.250.

17.49.250 Verification of NROD Boundary

The NROD boundary may have to be verified occasionally to determine the true location of a resource and its functional values on a site. This may through a site specific environmental survey or, in those cases where existing information demonstrates that the NROD significance rating does not apply to a site-specific area. Applications for development on a site located in the NROD area may request a determination that the subject site is not in an NROD area and therefore is not subject to the standards of Section 17.49.100. Verifications shall be processed as either a Type I or Type II process.

Finding: Applies. The applicant has applied for a verification that the property proposed for development in the General Development Plan is not within the Natural Resources Overlay District pursuant to this section.

17.49.255 Type I Verification

A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220, as applicable.
B. Alternatively, an applicant may request a Type I Verification determination by the community development director by making an application therefore and paying to the city a fee as set by resolution of the city commission. Such requests may be approved provided that there is evidence substantiating that all the requirements of this chapter relative to the proposed use are satisfied and demonstrates that the property also satisfies the following criteria, as applicable:
1. No soil, vegetation, hydrologic features have been disturbed;
2. No hydrologic features have been changed;
3. There are no man-made drainage features, water marks, swash lines, drift lines present on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation.
4. The property does not contain a wetland as identified by the city's local wetland inventory or water quality and flood management areas map.
5. There is no evidence of a perennial or intermittent stream system or other protected water feature. This does not include established irrigation ditches currently under active farm use, canals or manmade storm or surface water runoff structures or artificial water collection devices.
6. Evidence of prior land use approvals that conform to the City's existing Water Quality Resource Area Overlay District.
There is an existing physical barrier between the site and a protected water feature, including:
a. Streets, driveways, alleys, parking lots or other approved impervious areas wider than fifteen feet and which includes drainage improvements that are connected to the city storm sewer system, as approved by the city.
b. Walls, buildings, drainages, culverts or other structures and which form a physical barrier between the site and the protected water features, as approved by the city.
C. If a the city is not able to clearly determine, through the Type I verification process that the applicable criteria subsection B.1.—B.6. above are met the verification application shall be denied. An applicant may then opt to apply for an verification through the Type II process defined below.
Finding: Complies as proposed. The applicant submitted a report by Environmental Technology Consultants with code responses comply with this section. According to the submitted report, no wetlands or streams were found within the project boundaries. No soil, vegetation, hydrologic features have been disturbed. No hydrologic features have been changed. There are no man-made drainage features, water marks, swash lines, drift lines present on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation on the site. The property does not contain a wetland as identified by the city's local wetland inventory or water quality and flood management areas map. There is no evidence of a perennial or intermittent stream system or other protected water feature on the site. There are no established irrigation ditches currently under active farm use, or canals. Manmade storm and surface water runoff structures and artificial water collection devices do exist on site, though there are not protected resources and will be modified with the development. There is no evidence of prior land use approvals that conform to the City's existing Water Quality Resource Area Overlay District for the subject property. A prior water resource exemption for the PGE substation site at 306 18th Street just to the north of the property was approved by planning staff in 2015 (Planning File NR-15-0007). The field data sheets for that approved verification refer to the same barrier of 17th Street as with this application: a 40-foot wide Right-of-Way and 24 feet of pavement is a physical barrier between the protected feature and the property. Due to this barrier, the vegetative corridor is confined to the bank of Abernethy Creek and does not project onto the subject properties. 17th Street constitutes a physical barrier wider than 15 feet and includes a drainage system that is connected to the City's stormwater system. In the case of the wetland area identified to the North, which was constructed and improved as part of the mitigation by the City for the I-205 Jughandle project, the wetland buffers per table 17.49.110 fall about 150' from the project. Therefore the site is not within the NROD.

17.49.260. Type II Verification

Verifications of the NROD which cannot be determined pursuant to the standards of Section 17.49.255 may be processed under the Type II permit procedure.
A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220 as applicable.
B. Such requests may be approved provided that there is evidence that demonstrates in an environmental report prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry, that a resource function(s) and/or land feature(s) does not apply to a site-specific area.
C. Verification to remove a recently developed area from the NROD shall show that all of the following have been met:
1. All approved development in the NROD has been completed;
2. All mitigation required for the approved development, located within the NROD, has been successful; and
3. The previously identified resources and functional values on the developed site no longer exist or have been subject to a significant detrimental impact.
Finding: Not applicable. The applicant submitted a verification pursuant to section 17.49.255 above.

Based on the above, the project as proposed is not subject to further review under Chapter 17.49.

CHAPTER 17.42 - FLOOD MANAGEMENT OVERLAY DISTRICT
17.42.020 - Applicability.
A. This chapter shall apply to development in the flood management overlay district, which may also be referred to as the "floodplain overlay district" in this code. The flood management overlay district includes all areas of special flood hazards and all flood management areas within the city. The overlay district restricts the uses that are allowed in the base zone by right, with limitations, or as provisional uses.
B. The flood management areas which have been mapped include the following locations:
1. Land contained within the one hundred-year floodplain, flood area and floodway as shown on the Federal Emergency Management Agency flood insurance maps dated June 17, 2008, including areas of special flood hazard pursuant to Section 17.42.040 and the area of inundation for the February 1996 flood; and
2. Lands that have physical or documented evidence of flooding within recorded history based on aerial photographs of the 1996 flooding and/or the water quality and flood management areas maps.
C. The standards that apply to the flood management areas apply in addition to state or federal restrictions governing floodplains or flood management areas.
Finding: Applicable. The subject site is within the Flood Management Overlay District; compliance is required. The development application included a letter from Atalia Raskin, registered Engineer from Cardno which identified floodplain calculations for Phase 1 and Phase 2 of the development. As the applicant has not proposed to construct Phase 2 with this application, the scope of this Flood Management Overlay District review is limited to Phase 1.

17.42.040 - Compliance.
No structure or land shall hereafter be constructed, located, extended, converted or altered without full compliance with the terms of these floodplain regulations and other applicable regulations. Violations of the provisions of this Chapter by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a civil infraction. Any person who violates this Chapter or fails to comply with any of its requirements shall be subject to the enforcement procedures of this code per OCMC 1.20 Civil Infractions and 1.24 Code Enforcement. Nothing herein contained shall prevent the city from taking such other lawful action as is necessary to prevent or remedy.
Finding: Applicable. The subject site is within the 100 year floodplain and the 1996 flood inundation. Compliance with this Chapter is required.

17.42.040.A Development Permit.

1. A development permit shall be obtained before construction or development begins within any portion of the flood management overlay district. The permit shall be for all structures, including manufactured homes and all other development, including fill and other activities, as set forth in Chapter 17.04 (Definitions).

2. Application for a development permit shall be made on forms furnished by the community development department. Requirements may include, but are not limited to: plans in duplicate drawn to scale showing the nature, location, dimensions and elevations of the area in question; existing or proposed structures, fill, storage materials, drainage facilities; and the location of the foregoing.

3. The following information is specifically required:

a. Elevation in relation to mean sea level of the lowest floor (including basement) of all structures;

b. Elevation in relation to mean sea level to which any structure has been floodproofed;

c. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in Section 17.42.170E.5.; and

d. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

Finding: Applicable. The subject site is within the 100 year floodplain and the 1996 flood inundation. The applicant submitted this application to determine compliance with this chapter.

17.42.110 - Information to be obtained and maintained.

The building official shall:

A. Where base flood elevation data is provided through the flood insurance study, FIRM or required as in Section 17.42.100, obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement.

B. For all new or substantially improved floodproofed structures where base flood elevation data is provided through the flood insurance study, FIRM, or as required in Section 17.42.080:

1. Verify and record the actual elevation (in relation to mean sea level); and

2. Maintain the floodproofing certifications required in Section 17.42.080C.3.;

3. Maintain for public inspection all records pertinent to the provisions of this Chapter.

Finding: Complies with condition. Prior to issuance of permits, the applicant shall submit adequate documentation to the building official to comply with OCMC 17.42.110.

Staff has determined that it is reasonable, practicable and likely that the applicant can meet this standard through the Conditions of Approval.

17.42.120 - Alteration of watercourses.

A. Notify adjacent communities and the department of land conservation and development prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.

B. Require that maintenance is provided within the altered or relocated portion of the watercourse so that the flood-carrying capacity is not diminished.

Finding: Not Applicable. The applicant has not proposed to alter a watercourse with this development.

17.42.130 - Map administration.

Finding: Not applicable. The applicant has not proposed a map correction with this development application.

17.42.140 - Appeals and variance procedure.

Finding: Not applicable. The applicant has not proposed an appeal or variance.

17.42.150 - Conditions for variances.

Finding: Not applicable. The applicant has not proposed a variance to the floodplain regulations.

17.42.160.A - Flood management area standards.
Uses Permitted Outright:
1. Excavation and fill required to plant any new trees or vegetation.
2. Restoration or enhancement of floodplains, riparian areas, wetland, upland and streams that meet federal and state standards provided that any restoration project which encroaches on the floodway complies with the requirements of Section 17.42.190 (Floodways).
Finding: Not applicable. The applicant proposed grading and construction of structures within the floodplain. The development is not permitted outright.

17.42.160.B Provisional Uses.
1. All uses allowed in the base zone or existing flood hazard overlay zone are allowed in the flood management overlay district subject to compliance with the development standards of this section.
Finding: Complies as proposed. The applicant proposed uses permitted in the Mixed Use Downtown zone which are permitted within the flood plain subject to these standards.

17.42.160.C Prohibited Uses.
1. Any use prohibited in the base zone;
2. Uncontained areas of hazardous materials as defined by the Department of Environmental Quality.
Finding: Not applicable. The applicant did not propose prohibited uses.

17.42.160.D.1 *Site Development Standards.*
All development in the floodplain shall conform to the following balanced cut and fill standards:
This subsection does not apply to work necessary to protect, repair, maintain or replace existing structures, utility facilities, roadways, driveways, accessory uses and exterior improvements in response to emergencies provided that, after the emergency has passed, adverse impacts are mitigated in accordance with applicable standards.
17.42.160.D.2 *No net fill in any floodplain is allowed.*
All fill placed in a floodplain shall be balanced with at least an equal amount of soil material removed. For the purpose of calculating net fill, fill shall include any structure below the design flood elevation that has been floodproofed pursuant to subsection (E)(5) of this section.
17.42.160.D.3
Any excavation below bankfull stage shall not count toward compensating for fill.
17.42.160.D.4
Excavation to balance a fill shall be located on the same parcel as the fill unless it is not practicable to do so. In such cases, the excavation shall be located in the same Oregon City floodplain, so long as the proposed excavation and fill will not increase flood impacts for surrounding properties as determined through hydrologic and hydraulic analysis.
17.42.160.D.5
For excavated areas identified by the city to remain dry in the summer, such as parks or mowed areas, the lowest elevation of the excavated area shall be at least six inches above the winter "low water" elevation, and sloped at a minimum of two percent towards the protected water feature pursuant to Chapter 17.49. One percent slopes will be allowed in smaller areas.
17.42.160.D.6
For excavated areas identified by the city to remain wet in the summer, such as a constructed wetland, the grade shall be designed not to drain into the protected water feature pursuant to Chapter 17.49.
17.42.160.D.7

Parking areas in the floodplain shall be accompanied by signs that inform the public that the parking area is located in a flood management area and that care should be taken when the potential for flooding exists.

17.42.160.D.8

Temporary fills permitted during construction shall be removed at the end of construction, thirty days after subdivision acceptance or completion of the final inspection.

17.42.160.D.9

New culverts, stream crossings and transportation projects shall be designed as balanced cut and fill projects or designed not to significantly raise the design flood elevation. Such projects shall be designed to minimize the area of fill in flood management areas and to minimize erosive velocities. Stream crossings shall be as close to perpendicular to the stream as practicable. Bridges shall be used instead of culverts wherever practicable.

17.42.160.D.10

Excavation and fill required for the construction of detention facilities or structures, and other facilities, such as levees, specifically shall be designed to reduce or mitigate flood impacts and improve water quality. Levees shall not be used to create vacant buildable lands.

Finding: Complies with Conditions. The applicant proposed development of Phase 1 of the General Development Plan. Compliance with this chapter is not exempt. The applicant is required to provide calculations from a registered engineer demonstrate that all fill placed in a floodplain shall be balanced with at least an equal amount of soil material removed prior to development onsite as well as prior to issuance of a certificate of occupancy for each phase of development. Due to the size and topography of the site the applicant is likely to comply. Prior to issuance of a permit associated with the proposed development the applicant shall submit documentation demonstrating compliance with the Flood Management Overlay District in OCMC 17.42. **It is reasonable, practicable and likely that the applicant can meet this standard through the conditions of approval.**

17.42.160.E.1 Construction Standards.

1. Anchoring.

a. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.

b. All manufactured homes must likewise be anchored to prevent flotation, collapse or lateral movements and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebooks for additional techniques).

17.42.160.E.2 Construction Materials and Methods.

a. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

b. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

c. Electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

17.42.160.E.3 Utilities.

a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.

b. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters.

c. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during

Finding: Complies with Conditions. The design of the structure can feasibly comply with the standards in this section. Prior to issuance of a permit associated with the proposed development the applicant shall submit documentation demonstrating compliance with the Flood Management Overlay District in OCMC 17.42.
It is reasonable, practicable and likely that the applicant can meet this standard through the conditions of approval.

17.42.160.E.4 Residential Construction
a. New construction and substantial improvements of any residential structure shall have the lowest floor, including basement, elevated to at least one foot above the design flood elevation.
b. Full enclosed areas below the lowest floor that are subject to flooding are prohibited unless they are designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria.
i. A minimum of two openings have a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
ii. The bottom of all openings shall be no higher than one foot above grade.
iii. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
Finding: Not applicable. The proposed Phase 1 does not include residential development.

17.42.160.E.5 Nonresidential Construction.
a. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to at least one foot above base flood elevation; or, together with attendant utility and sanitary facilities, shall:
i. Be floodproofed so that below the design flood level the structure is watertight with walls substantially impermeable to the passage of water provided that the requirements of subsection D.2. of this section are met;
ii. Have structured components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
iii. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in Section 17.42.110B.;
iv. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in subsection E.4.b. of this section; and
v. Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g., a building constructed to the design flood level will be rated as one foot below that level).
vi. Manufactured Homes. The following standards apply to all manufactured homes to be placed or substantially improved on sites within Flood Hazard Areas.
When manufactured dwellings are installed in flood hazard areas, they shall be elevated and anchored according to the Oregon Residential Specialty Code.
Finding: Complies with Conditions. The design of the structure can feasibly comply with the standards in this section. Prior to issuance of a permit associated with the proposed development the applicant shall submit documentation demonstrating compliance with the Flood Management Overlay District in OCMC 17.42.
It is reasonable, practicable and likely that the applicant can meet this standard through the conditions of approval.

17.42.160.F Recreational Vehicles.

Finding: Not applicable. The development proposal did not include placement of recreational vehicles within the floodway.

17.42.160.G Below Grade Crawlspaces.
Finding: Complies with Conditions. The design of the structure can feasibly comply with the standards in this section. Prior to issuance of a permit associated with the proposed development the applicant shall submit documentation demonstrating compliance with the Flood Management Overlay District in OCMC 17.42.
It is reasonable, practicable and likely that the applicant can meet this standard through the conditions of approval.

17.42.170 - Review of building permits.
Where elevation data is not available either through the flood insurance study, FIRM or from another authoritative source (Section 17.42.110), application for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness shall be made by the building official, considering use of historical data, high water marks, photographs of past floodings, etc., where available, and the provisions of this title. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.
Finding: Applicable. The application will be reviewed by the Building Division upon submittal of an application.

17.42.180 - Subdivision standards.
Finding: Not applicable. The applicant has not proposed a subdivision with this proposal.

17.42.190 - Floodways.
Finding: Not applicable. The applicant did not respond to this criteria. According to the FEMA Flood Insurance Rate Map #41005C0276D effective June 17, 2008 for this area the site is not within a Floodway.

GEOLOGIC HAZARDS – CHAPTER 17.44
17.44.035 - Exemptions.
The following activities, and persons engaging in same, are EXEMPT from the provisions of this chapter.
A. An excavation which is less than two feet in depth, or which involves less than twenty-five cubic yards of volume;
B. A fill which does not exceed two feet in depth or twenty-five cubic yards of volume;
C. Structural alteration of any structure of less than five hundred square feet that does not involve grading as defined in this chapter;
D. Installation, construction, reconstruction, or replacement of utility lines in city right-of-way, or public easement, not including electric substations;
E. The removal or control of noxious vegetation;
F. Emergency actions which must be undertaken immediately to prevent an imminent threat to public health or safety, or prevent imminent danger to public or private property. The person undertaking emergency action shall notify the building official on all regulated activities associated with any building permit or city engineer/public works director on all others within one working day following the commencement of the emergency activity. If the city engineer/public works director or building official determine that the action or part of the action taken is beyond the scope of allowed emergency action, enforcement action may be taken.
Finding: Complies with condition. Staff has reviewed the preliminary submittal against the geohazard overlay boundary available from the City's mapping system. There is a small area along 17th Street located within the overlay. It appears that the proposed development will meet the criteria for exemption from this chapter. However, the applicant has not shown the overlay boundary on the plans, and the two preliminary geotechnical reports did not address the geohazard overlay. To demonstrate exemption from OCMC chapter 17.44, applicant

shall provide an exhibit showing that excavation within the Geologic Hazard overlay zone is limited to excavation or fill which is less than two feet in depth, or involves less than twenty-five cubic yards of volume. However, should the applicant propose any work requiring excavation or fill which is more than two feet in depth, or which involves more than twenty-five cubic yards of volume within the Geologic Hazard overlay Zone the project will be subject to Geologic Hazard review as outlined in OCMC Chapter 17.44.

It is reasonable, practicable and likely that the applicant can meet this standard through the conditions of approval.

17.44.050 Development - Application Requirements and Review Procedures and Approvals.

Except as provided by subsection B of this section, the following requirements apply to all development proposals subject to this chapter:

A. A geological assessment and geotechnical report that specifically includes, but is not limited to:

1) Comprehensive information and data regarding the nature and distribution of underlying geology, the physical and chemical properties of existing soils and groundwater; an opinion of site geologic stability, and conclusions regarding the effect of geologic conditions on the proposed development. In addition to any field reconnaissance or subsurface investigation performed for the site, the following resources, as a minimum, shall be reviewed to obtain this information and data:

a)The State of Oregon Department of Geology and Mineral Industries (DOGAMI) in Bulletin 99, Geology and Geological Hazards of North Clackamas County, Oregon (1979), or in any subsequent DOGAMI mapping for the Oregon City area;

b)Portland State University study entitled "Environmental Assessment of Newell Creek Canyon, Oregon City, Oregon" (1992);

c) Portland State University study, "Landslides in the Portland, Oregon, Metropolitan Area Resulting from the Storm of February 1996: Inventory Map, Database and Evaluation" (Burns and others, 1998);

d)DOGAMI Open File Report O-06-27, "Map of Landslide Geomorphology of Oregon City, Oregon, and Vicinity Interpreted from LIDAR Imagery and Aerial Photographs" (Madin and Burns, 2006);

e)"Preliminary Geologic Map of the Oregon City Quadrangle, Clackamas County, Oregon" (Madin, in press);

2)Information and recommendations regarding existing local drainage, proposed permit activity impacts on local drainage, and mitigation to address adverse impacts;

3)Comprehensive information about site topography;

4)Opinion as to the adequacy of the proposed development from an engineering standpoint;

5)Opinion as to the extent that instability on adjacent properties may adversely affect the project;

6)Description of the field investigation and findings, including logs of subsurface conditions and laboratory testing results;

7)Conclusions regarding the effect of geologic conditions on the proposed development, tree removal, or grading activity;

8)Specific requirements and recommendations for plan modification, corrective grading, and special techniques and systems to facilitate a safe and stable site;

9)Recommendations and types of considerations as appropriate for the type of proposed development:

a. General earthwork considerations, including recommendations for temporary and permanent cut and fill slopes and placement of structural fill,

b. Location of residence on lot,

c. Building setbacks from slopes,

d. Erosion control techniques applicable to the site,

e. Surface drainage control to mitigate existing and potential geologic hazards,

f. Subdrainage and/or management of groundwater seepage,

g. Foundations,

h. Embedded/retaining walls,

i. Management of surface water and irrigation water, and
j. Impact of the development on the slope stability of the lot and the adjacent properties.

10) Scaled drawings that describe topography and proposed site work, including:
a. Natural physical features, topography at two or ten-foot contour intervals locations of all test excavations or borings, watercourses both perennial and intermittent, ravines and all existing and manmade structures or features all fully dimensioned, trees six- inch caliper or greater measured four feet from ground level, rock outcroppings and drainage facilities;
b. All of the features and detail required for the site plan above, but reflecting preliminary finished grades and indicating in cubic yards whether and to what extent there will be a net increase or loss of soil.
c. A cross-section diagram, indicating depth, extent and approximate volume of all excavation and fills.
11) For properties greater than 1 acre, a preliminary hydrology report, prepared by a suitably qualified and experienced hydrology expert, addressing the effect upon the watershed in which the proposed development is located; the effect upon the immediate area's stormwater drainage pattern of flow, the impact of the proposed development upon downstream areas and upon wetlands and water resources; and the effect upon the groundwater supply.

Finding: See discussion in Section 17.44.035.

17.44.050.B. Review Procedures and Approvals require the following:

1) Examination to ensure that:
a) Required application requirements are completed;
b) Geologic assessment and geotechnical report procedures and assumptions are generally accepted; and
c) All conclusions and recommendations are supported and reasonable.

17.44.050.B.2 *Conclusions and recommendations stated in an approved assessment or report shall then be directly incorporated as permit conditions or provide the basis for conditions of approval for the regulated activity.*

17.44.050.B.3 *All geologic assessments and geotechnical reports shall be reviewed by an engineer certified for expertise in geology or geologic engineering and geotechnical engineering, respectively, as determined by the City. The City will prepare a list of prequalified consultants for this purpose. The cost of review by independent review shall be paid by the applicant.*

Finding: See discussion in Section 17.44.035.

17.44.050.C*. The city engineer may waive one or more requirements of subsections A and B of this section if the city engineer determines that site conditions, size or type or development of grading requirements do not warrant such detailed information. If one or more requirements are waived, the city engineer shall, in the staff report or decision, identify the waived provision(s), explain the reasons for the waiver, and state that the waiver may be challenged on appeal and may be denied by a subsequent review authority.*

Finding: See discussion in Section 17.44.035.

17.44.060 Development Standards.

Notwithstanding any contrary dimensional or density requirements of the underlying zone, the following standards shall apply to the review of any development proposal subject to this chapter. Requirements of this chapter are in addition to other provision of the Oregon City Municipal Code. Where provision of this chapter conflict with other provision of the Oregon City Municipal Code, the provisions that are more restrictive of regulated development activity shall govern.

17.44.060.A *All developments shall be designed to avoid unnecessary disturbance of natural topography, vegetation and soils. To the maximum extent practicable as determined by the review authority, tree and ground cover removal and fill and grading for residential development on individual lots shall be confined to building footprints and driveways, to areas required for utility easements and for slope easements for road construction, and to areas of geotechnical remediation.*
Finding: See discussion in Section 17.44.035.

17.44.060B *All grading, drainage improvements, or other land disturbances shall only occur from May 1 to October 31. Erosion control measures shall be installed and functional prior to any disturbances. The City Engineer may allow grading, drainage improvements or other land disturbances to begin before May 1 (but no earlier than March 16) and end after October 31 (but no later than November 30), based upon weather conditions and in consultation with the project geotechnical engineer. The modification of dates shall be the minimum necessary, based upon the evidence provided by the applicant, to accomplish the necessary project goals. Temporary protective fencing shall be established around all trees and vegetation designed for protection prior to the commencement of grading or other soil disturbance.*
Finding: See discussion in Section 17.44.035.

17.44.060.C *Designs shall minimize the number and size of cuts and fills.*
Finding: See discussion in Section 17.44.035.

17.44.060.D *Cut and fill slopes, such as those for a street, driveway accesses, or yard area, greater than seven feet in height (as measured vertically) shall be terraced. Faces on a terraced section shall not exceed five feet. Terrace widths shall be a minimum of three feet and shall be vegetated. Total cut and fill slopes shall not exceed a vertical height of fifteen feet. Except in connection with geotechnical remediation plans approved in accordance with the chapter, cuts shall not remove the toe of any slope that contains a known landslide or is greater than twenty-five percent slope. The top of cut or fill slopes not utilizing structural retaining walls shall be located a minimum of one-half the height of the cut slope from the nearest property line.*
Finding: See discussion in Section 17.44.035.

17.44.060.E *Any structural fill shall be designed by a suitably qualified and experienced civil or geotechnical engineer licensed in Oregon in accordance with standard engineering practice. The applicant's engineer shall certify that the fill has been constructed as designed in accordance with the provisions of this chapter.*
Finding: See discussion in Section 17.44.035.

17.44.060.F *Retaining walls shall be constructed in accordance with the Oregon Structural Specialty Code adopted by the State of Oregon.*
Finding: See discussion in Section 17.44.035.

17.44.060.G *Roads shall be the minimum width necessary to provide safe vehicle and emergency access, minimize cut and fill and provide positive drainage control. The review authority may grant a variance from the City's required road standards upon findings that the variance would provide safe vehicle and emergency access and is necessary to comply with the purpose and policy of this chapter.*
Finding: See discussion in Section 17.44.035.

17.44.060.H *Density shall be determined as follows*

1)For those areas with slopes less than twenty-five percent between grade breaks, the allowed density shall be that permitted by the underlying zoning district;

2)For those areas with slopes of twenty-five to thirty-five percent between grade breaks, the density shall not exceed two dwelling units per acre except as otherwise provided in subsection I of this section;

3)For those areas with slopes over thirty-five percent between grade breaks, development shall be prohibited except as otherwise provided in subsection I 4 of this section.

Finding: See discussion in Section 17.44.035.

17.44.060.I *For properties with slopes of twenty-five to thirty-five percent between grade breaks:*

1) For those portions of the property with slopes of twenty-five to thirty-five percent, the maximum residential density shall be limited to two dwelling units per acre; provided, however, that where the entire site is less than one-half acre in size, a single dwelling shall be allowed on a lot or parcel existing as of January 1, 1994 and meeting the minimum lot size requirements of the underlying zone;

2)An individual lot or parcel with slopes between twenty-five and thirty-five percent shall have no more than fifty percent or four thousand square feet of the surface area, whichever is smaller, graded or stripped of vegetation or covered with structures or impermeable surfaces.

3)No cut into a slope of twenty-five to thirty-five percent for the placement of a housing unit shall exceed a maximum vertical height of 15 feet for the individual lot or parcel.

4)For those portions of the property with slopes over thirty-five percent between grade breaks:

a. Notwithstanding any other City land use regulation, development other than roads, utilities, public facilities and geotechnical remediation shall be prohibited; provided, however, that the review authority may allow development upon such portions of land upon demonstration by an applicant that failure to permit development would deprive the property owner of all economically beneficial use of the property. This determination shall be made considering the entire parcel in question and contiguous parcels in common ownership on or after January 1, 1994, not just the portion where development is otherwise prohibited by this chapter. Where this showing can be made on residentially zoned land, development shall be allowed and limited to one single-family residence. Any development approved under this chapter shall be subject to compliance with all other applicable City requirements as well as any applicable State, Federal or other requirements;

b. To the maximum extent practicable as determined by the review authority, the applicant shall avoid locating roads, utilities, and public facilities on or across slopes exceeding thirty-five percent.

Finding: See discussion in Section 17.44.035.

17.44.060.J *The geotechnical engineer of record shall review final grading, drainage, and foundation plans and specifications and confirm in writing that they are in conformance with the recommendations provided in their report.*

Finding: See discussion in Section 17.44.035.

17.44.060.K *At the City's discretion, peer review shall be required for the geotechnical evaluation/investigation report submitted for the development and/or lot plans. The peer reviewer shall be selected by the City. The applicant's geotechnical engineer shall respond to written comments provided by the City's peer reviewer prior to issuance of building permit.*

Finding: See discussion in Section 17.44.035.

17.44.060.L *The review authority shall determine whether the proposed methods of rendering a known or potential hazard site safe for construction, including proposed geotechnical remediation methods, are feasible and adequate to prevent landslides or damage to property and safety. The review authority shall consult with the City's geotechnical engineer in making this determination. Costs for such consultation shall be paid by the applicant. The review authority may allow development in a known or potential hazard area as provided in this chapter if specific findings are made that the specific provisions in the design of the proposed development will*

prevent landslides or damage. The review authority may impose any conditions, including limits on type or intensity of land use, which it determines are necessary to assure that landslides or property damage will not occur.
Finding: See discussion in Section 17.44.035.

17.44.070 Access to Property.

A. *Shared private driveways may be required if the city engineer or principal planner determines that their use will result in safer location of the driveway and lesser amounts of land coverage than would result if separate private driveways are used.*
B. *Innovations in driveway design and road construction shall be permitted in order to keep grading and cuts or fills to a minimum and to achieve the purpose and policy of this chapter.*
C. *Points of access to arterials and collectors shall be minimized.*
D. *The city engineer or principal planner shall verify that adequate emergency services can be provided to the site.*

Finding: See discussion in Section 17.44.035.

17.44.080 Utilities.
All new service utilities, both on-site and off-site, shall be placed underground and under roadbeds where practicable. Every effort shall be made to minimize the impact of utility construction. Underground utilities require the geologic hazards permitting and review prescribed herein.
Finding: See discussion in Section 17.44.035.

17.44.090 Stormwater Drainage.
The applicant shall submit a permanent and complete stormwater control plan. The program shall include, but not be limited to the following items as appropriate: curbs, gutters, inlets, catch basins, detention facilities and stabilized outfalls. Detention facilities shall be designed to City standards as set out in the City's drainage master plan and design standards. The review authority may impose conditions to ensure that waters are drained from the development so as to limit degradation of water quality consistent with Oregon City's Title III section of the Oregon City Municipal Code Chapter 17.49 and the Oregon City Public Works Stormwater Management Design Manual and Standards Plan or other adopted standards subsequently adopted by the City Commission. Drainage design shall be approved by the city engineer before construction, including grading or other soil disturbance, has begun.
Finding: See discussion in Section 17.44.035.

17.44.100. Construction Standards.
During construction on land subject to this chapter, the following standards shall be implemented by the developer:
17.44.100.A *All development activity shall minimize vegetation removal and soil disturbance and shall provide positive erosion prevention measures in conformance with OCMC Chapter 17.47 – Erosion and Sediment Control.*

17.44.100.B *No grading, clearing or excavation of any land shall be initiated prior to approval of the grading plan, except that the city engineer shall authorize the site access, brush to be cleared and the location of the test pit digging prior to approval of such plan to the extent needed to complete preliminary and final engineering and surveying. The grading plan shall be approved by the city engineer as part of the city's review under this chapter. The developer shall be responsible for the proper execution of the approved grading plan.*

17.44.100.C *Measures shall be taken to protect against landslides, mudflows, soil slump and erosion. Such measures shall include sediment fences, straw bales, erosion blankets, temporary sedimentation ponds,*

interceptor dikes and swales, undisturbed buffers, grooving and stair stepping, check dams, etc. The applicant shall comply with the measures described in the Oregon City Public Works Standards for Erosion and Sedimentation Control (Ordinance 99-1013).

17.44.100.D *All disturbed vegetation shall be replanted with suitable vegetation upon completion of the grading of the steep slope area.*

17.44.100.E *Existing vegetative cover shall be maintained to the maximum extent practicable. No grading, compaction or change in ground elevation, soil hydrology and/or site drainage shall be permitted within the drip line of trees designated for protection, unless approved by the City.*

17.44.100.F *Existing perennial and intermittent watercourses shall not be disturbed unless specifically authorized by the review authority. This includes physical impacts to the stream course as well as siltation and erosion impacts.*

17.44.100.G *All soil erosion and sediment control measures shall be maintained during construction and for one year after development is completed, or until soils are stabilized by revegetation or other measures to the satisfaction of the city engineer. Such maintenance shall be the responsibility of the developer. If erosion or sediment control measures are not being properly maintained or are not functioning properly due to faulty installation or neglect, the City may order work to be stopped.*

17.44.100.H *All newly created lots, either by subdivision or partition, shall contain building envelopes with a slope of 35% or less.*

17.44.100.I *The applicant's geotechnical engineer shall provide special inspection during construction to confirm that the subsurface conditions and assumptions made as part of their geotechnical evaluation/investigation are appropriate. This will allow for timely design changes if site conditions are encountered that are different from those anticipated.*
Finding:

17.44.100.J *Prior to issuing an occupancy permit, the geotechnical engineer shall prepare a summary letter stating that the soils- and foundation-related project elements were accomplished in substantial conformance with their recommendations.*

Finding: See discussion in Section 17.44.035.

CHAPTER 17.58 - LAWFUL NONCONFORMING USES, STRUCTURES AND LOTS

17.58.015 - Applicability.
The regulations of this chapter apply only to those nonconforming situations that were lawfully established or that were approved through a land use decision. All nonconforming structures, uses or lots shall have been maintained over time. These situations have lawful nonconforming status. Nonconforming situations that were not allowed when established or have not been maintained over time have no lawful right to continue.
Finding: Applies. This section applies to the existing Hackett House, which is a lawfully pre-existing non-conforming structure with respect to compliance with certain landscaping standards and orientation standards for a commercial building. The applicant has proposed to make significant upgrades to the parking lot for the Hackett House and additionally will be completely removing and bringing the public street frontage along 17th

Street up to code and in compliance with Chapter 12.04. Since the Hackett House and its grounds and landscaping is a designated historic structure and landmark minimal changes are proposed beyond the parking lot and street improvements. The house itself will remain in place.

Staff anticipates that the landscaping in front of the house may require upgrades to assure compliance with this section. See further findings below.

17.58.040 - Lawful nonconforming structure.

A structure that was lawfully established but no longer conforms to all development standards of this land use code (such as setbacks) shall be considered a lawful nonconforming structure. Notwithstanding development standard requirements in this Code, minor repairs and routing maintenance of a lawful nonconforming structure are permitted. The continuation of a lawful nonconforming structure is subject to the following:

A. Accidental Destruction. When a nonconforming structure is damaged by fire or other causes, the structure may be rebuilt using the same structure footprint.

B. Intentional Destruction. When a nonconforming structure is removed or intentionally damaged by fire or other causes within the control of the owner, the replacement structure shall comply with the development standards of this title.

C. Expansion. An expansion of a lawful nonconforming structure may be approved, conditionally approved or denied in accordance with the standards and procedures of this section.

1. *In making a determination on such applications, the decision maker shall weigh the proposal's positive and negative features and the public convenience or necessity to be served against any adverse conditions that would result from authorizing the particular development at the location proposed, and, to approve such expansion, it must be found that the criteria identified in Section 17.58.060 have either been met, can be met by observance of conditions, or are not applicable.*

Finding: Applicable. The subject site is nonconforming for a variety of reasons including use and outdoor storage for the Phase 1 and 2 locations, as well as landscaping standards and orientation standards the Hackett House. The structure is constructed in a manner which does not comply with exterior building design standards or the zoning code and in a location which is too far from the frontage to meet the commercial building orientation requirements. The applicant has proposed to make significant upgrades to the hotel site and parking lot for the Hackett House and additionally will be completely removing and bringing the public street frontage along 17th Street up to code and in compliance with Chapter 12.04. The development is likely to exceed $75,000.

2. *An expansion of a nonconforming structure with alterations that exceed the threshold of subparagraph C.2.a. below shall comply with the development standards listed in subparagraph C.2.b. The value of the alterations and improvements is based on the entire project and not individual building permits.*
    a. *Thresholds triggering compliance. The standards of subparagraph C.2.b. below shall be met when the value of the proposed exterior alterations or additions to the site, as determined by the community development director, is more then seventy-five thousand dollars. The following alterations and improvements shall not be included in the threshold calculation:*
        1. *Proposed alterations to meet approved fire and life safety agreements;*
        2. *Alterations related to the removal of existing architectural barriers, as required by the Americans with Disabilities Act, or as specified in Section 1113 of the Oregon Structural Specialty Code;*
        3. *Alterations required to meet Seismic Design Requirements; and*
        4. *Improvements to on-site stormwater management facilities in conformance with Oregon City Stormwater Design Standards.*

Finding: Complies with condition. The applicant has proposed to make significant upgrades to the hotel site and parking lot for the Hackett House and additionally will be completely removing and bringing the public street frontage along 17th Street up to code and in compliance with Chapter 12.04. The development is likely to exceed $75,000. Prior to issuance of a building permit, the applicant shall submit documentation demonstrating compliance with 17.58.040.

It is reasonable, practicable and likely that the applicant can meet this standard through the conditions of approval.

b. Standards that shall be met. Developments not complying with the development standards listed below shall be brought into conformance.
   1. Pedestrian circulation systems, as set out in the pedestrian standards that apply to the sites;
   2. Minimum perimeter parking lot landscaping;
   3. Minimum interior parking lot landscaping;
   4. Minimum site landscaping requirements;
   5. Bicycle parking by upgrading existing racks and providing additional spaces in order to comply with Chapter 17.52—Off-Street Parking and Loading;
   6. Screening; and
   7. Paving of surface parking and exterior storage and display areas.

Finding: Complies with Condition. The applicant did not respond to this code section. The applicant has proposed to redevelop a majority of the site with the exception of land near the Hackett House. Prior to issuance of a building permit, the applicant shall submit documentation demonstrating compliance with 17.58.040.
It is reasonable, practicable and likely that the applicant can meet this standard through the conditions of approval.

c. Area of required improvements.
   1. Generally. Except as provided in C.2.c.2. below, required improvements shall be made for the entire site.
   2. Exception for sites with ground leases. Required improvements may be limited to a smaller area if there is a ground lease for the portion of the site where the alterations are proposed. If all of the following are met, the area of the ground lease will be considered as a separate site for purposes of required improvements.

Finding: Complies with Condition. The applicant did not respond to this code section. The applicant has proposed to redevelop a majority of the site with the exception of land near the Hackett House. Prior to issuance of a building permit, the applicant shall submit documentation demonstrating compliance with 17.58.040.
It is reasonable, practicable and likely that the applicant can meet this standard through the conditions of approval.

III. CONCLUSION AND RECOMMENDATION

Based on the analysis and findings as described above, Staff concludes that the proposed General Development Plan, and Phase I Detailed Development Plan for a hotel on the site located at 415 17th Street + no address on Washington Street, and identified as Clackamas County Assessor's Map number 2-2E-29CA, Tax Lots 601, 900, 1000, 1100, 1200, 1300, and 1301, can meet the requirements as described in the Oregon City Municipal Code by complying with the recommended Conditions of Approval provided in this report.

Therefore, the Community Development Director recommends approval of Files CP-17-0002, DP-17-0003 and NR-17-0004 with conditions, based upon the findings and exhibits contained in this staff report.

EXHIBITS:

1. Vicinity Map
2. Application
   a. General Development Plan Application, Narrative and Plans
   b. Detailed Development Plan Application, Narrative and Plans
   c. Transportation Impact Study
   d. Geotechnical Study
3. Washington Street Elevation Architectural Analysis

4. Building Height Calculation Schematic.
5. Façade Articulation Measurements.
6. Clackamas Heritage Partner's letter of support.
7. Confederated Tribes of the Grande Ronde comments, February 27, 2017.
8. State Historic Preservation Office comments, July 14, 2016.
9. Two River's Neighborhood Association comments, January 25, 2017.
10. Replinger and Associates review of Transportation Impact Study.
11. Oregon Department of Transportation Comments, July 14th, 2017.
12. FEMA Flood Plain Map 41005C0276D
13. HR-17-02 Staff Report

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

LAND USE APPLICATION FORM

Type I (OCMC 17.50.030.A)	Type II (OCMC 17.50.030.B)	Type III / IV (OCMC 17.50.030.C)
☐ Compatibility Review	☐ Extension	☐ Annexation
☐ Lot Line Adjustment	☐ Detailed Development Review	☐ Code Interpretation / Similar Use
☐ Non-Conforming Use Review	☐ Geotechnical Hazards	☒ Concept Development Plan GDP
☒ Natural Resource (NROD) Verification	☐ Minor Partition (<4 lots)	☐ Conditional Use
☐ Site Plan and Design Review	☐ Minor Site Plan & Design Review	☐ Comprehensive Plan Amendment (Text/Map)
	☐ Non-Conforming Use Review	☐ Detailed Development Plan
	☐ Site Plan and Design Review	☐ Historic Review
	☐ Subdivision (4+ lots)	☐ Municipal Code Amendment
	☐ Minor Variance	☐ Variance
	☐ Natural Resource (NROD) Review	☐ Zone Change

File Number(s): PA 17-02 & PA 16-30 **CP-17-0002**

Proposed Land Use or Activity: GDP FOR MIXED USE INCLUDING HOTEL, MULTI-FAMILY RETAIL/COMMERCIAL, & OFFICE

Project Name: ABERNETHY PLACE Number of Lots Proposed (If Applicable): N/A

Physical Address of Site: 415 17th ST +/(NO ADDRESS) ON WASHINGTON ST.

Clackamas County Map and Tax Lot Number(s): MAP 2S-2E-29CA, Lot 601, 900, 1000, 1100, 1200, 1300, 1301

Applicant(s):

Applicant(s) Signature:

Applicant(s) Name Printed: HILL ARCHITECTS Date: 4/14/2017

Mailing Address: 1750 BLANKENSHIP RD., SUITE 400, WEST LINN, OR 97068

Phone (503) 305-8033 Fax (503) 305-8034 Email: lloyd.hill@hillarchitects.com

Property Owner(s):

Property Owner(s) Signature: Historic Properties LLC by Mark E. Farley member/manager

Property Owner(s) Name Printed: HISTORIC PROPERTIES, LLC Date: 4/14/2017

Mailing Address: 1300 ADAMS ST., OREGON CITY, OR, 97045

Phone (503) 655-1455 Fax: Email: dan@abernethycenter.com

PROPERTY OWNER

~~**Representative(s):**~~

Representative(s) Signature: D.B. Dozier 4/14/17

Representative (s) Name Printed: HACKETT HOSPITALITY GROUP, LLC Date: 4/14/2017

Mailing Address: 419 W. MAIN ST., BATTLEGROUND, WA 98604

Phone: (360) 524-3101 Fax: Email: jlkesh@tripodj.com

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

ABERNETHY PLACE
Oregon City, Oregon

An Application for:

General Development Plan (GDP)

Natural Resource Overlay District Review

Submitted:

14 April 2017

Owner:

Historic Properties, LLC
1300 John Adams Street
Oregon City, Oregon 97045
(503) 665-1455

-and-

Hackett Hospitality Group, LLC
1419 W. Main Street
Battleground, WA
(360) 666-5551

Applicant:

Hill Architects
1750 Blankenship Road
West Linn, Oregon
(503) 305-8033

Oregon City Planning Project Number **PA 17-02**
PA 16-30
PA-15-25
Hill Architects Project **# 13647**

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Applicant's Submittal
Date

APPLICANT: Hill Architects
1750 Blankenship Road, Suite 400
West Linn, OR 97068

OWNER: Hackett Hospitality Group, LLC
1419 W. Main Street
Battleground, WA
(360) 666-5551

Historic Properties, LLC
1300 Adams Street
Oregon City, OR
(503)655-1455

REQUEST: GDP for hotel + mixed use project
DDP for hotel

LOCATION: 415 17th Street + no address on Washington Street
map number 2-2E-29CA, tax lots 601, 900, 1000, 1100, 1200, 1300, 1301

I. BACKGROUND :

1. **Existing Conditions**
See various drawings and exhibits included with this submittal for additional information.

Abernethy Place General Development Plan area consists of approximately 4 acres of privately owned land bounded on the south by 17th Street, Washington Street on the east, the Oregon City Trail Station on the north, and the railroad right-of-way on the west. All parcels within the GDP are zoned MUD and are within the Downtown Parking Overlay District. (See "Taxlot Reports", Exhibit C). Taxlot parcels 1200 & 1301 abutting 17th Street are within the Geologic Hazard and Natural Resources Overlay Districts.

Abernethy Creek is located across 17th Street and the End of the Oregon Trail Interpretive Center is located across Washington Street from the GDP area. (See "Surrounding Uses", drawing 1.4).

The historic Hackett House is located within the GDP and fronts 17th Street. Currently the Hackett House functions as an office building. The remainder of the GDP area contains a mix of uses including commercial, retail, storage, and vacant land. (See "Existing Uses", drawing 1.5).

Vehicular access is available from Washington Street, 17th Street, and the Train Station. No curbs, sidewalks, or on-street parking exists along GDP frontage. Existing uses have multiple driveways fronting Washington Street.

Topography of the GDP area is relatively flat with the exception of a 8-12 foot change in grade located roughly along the north edge of taxlot 1200. The majority of the site is located below the flood elevation.

2. Project Description

Abernethy Place is planned as a phased mixed-use development including a variety of complementary uses including hotel, retail, office, and multi-family.

The historic Hackett House fronts 17th street and will remain anchoring the south end of project. Currently an office use, the Hackett House could remain as such, or be converted to restaurant or retail use. Phase 1 of the GDP includes development of a hotel located adjacent to the north side of the Hackett House. Phase 2 includes a mixed use building with street level retail/commercial fronting Washington Street and parking facing the interior of the site, with multi-family residential above.

Primary entrances to the hotel and mixed use buildings will be located on Washington Street. The Hackett House primary entrance is on 17th Street. Street sidewalk improvements will provide connectivity to neighborhoods, while on-site pedestrian walkways will provide connectivity between on-site uses and connection to the Amtrak station. (See "Pedestrian Circulation", drawing 2.3).

Pedestrian and bicycle access to a future mass transit stop on main street could be provided by either an at grade railroad crossing on 17th street, or a possible future bicycle & pedestrian pathway along Abernethy Creek with a connection including a connection under the railroad tracks.

Primary vehicular access to the new buildings will be from Washington Street between the hotel and mixed-use buildings. Secondary vehicular access and primary vehicular access to the Hackett House will be provided from 17th Street adjacent to the Hackett House, and at the east end of the site from the public access adjacent to the Amtrak station.

Directly across from the End of the Oregon Trail Interpretive Center, the Washington Street frontage will be improved with right-of-way dedication, relocation of utilities underground, on-street parking, curbs, gutters, sidewalks, and street trees. In addition to public improvements, on-site amenities including entry plazas at regular intervals along street level retail/commercial spaces are designed to enhance the pedestrian experience.

Vehicle parking is primarily located behind the mixed-use building, with additional parking to the west of the Hackett House, along the hotel porte cochere access drive, and below the mixed-use building. Parking spaces provided are designed to meet the demands of hotel franchise and multi-family market and significantly exceed Oregon City code requirements for number of spaces.

PHASE 1

Phase 1 includes a 5 story hotel of approximately 99 rooms located adjacent to the Hackett House. The building location is constrained to the north by the existing Tri-Cities sewer easement. These on-site conditions as well as the owner's desire to protect and retain the Hackett House restrict the hotel building orientation and footprint size. As a result, an adjustment is requested in conjubction with the Phase 1 DDP to exceed the allowable height and maintain a viable hotel project with a franchise minimum acceptable number of rooms.

The lobby floor of the hotel will be elevated above Washington Street at elevation 51.7 feet in order to keep the floor above the flood elevation of 50.7 feet.

PHASE 2

Phase 2 includes a 5 story mixed use building with street level retail/commercial fronting Washington Street and parking facing the interior of the site, with multi-family residential above.

The primary entrance and lobby for the multi-family portion will be located at the corner of the building adjacent to the entrance to the Amtrak station. Multiple entrances to the street level retail/commercial will be located along Washington Street at regular intervals in support of the neighborhood character and small size of the spaces.

II. RESPONSES TO THE OREGON CITY MUNICIPAL CODE :

CHAPTER 12.04 - STREETS SIDEWALKS AND PUBLIC PLACES

12.04.003 - Applicability.
A. Compliance with this chapter is required for all land divisions, site plan and design review, master plan, detailed development plan and conditional use applications and all public improvements.
B. Compliance with this chapter is also required for new construction or additions which exceed fifty percent of the existing square footage, of all single and two-family dwellings. All applicable single and two-family dwellings shall provide any necessary dedications, easements or agreements as identified in the transportation system plan and this chapter. In addition, the frontage of the site shall comply with the following prioritized standards identified in this chapter:
1. Improve street pavement, construct curbs, gutters, sidewalks and planter strips; and
2. Plant street trees.
The cost of compliance with the standards identified in 12.04.003.B.1 and 12.04.003.B.2 is limited to ten percent of the total construction costs. The value of the alterations and improvements as determined by the community development director is based on the entire project and not individual building permits. It is the responsibility of the applicant to submit to the community development director the value of the required improvements. Additional costs may be required to comply with other applicable requirements associated with the proposal such as access or landscaping requirements.
Applicant's Response: It is expected that public street and sidewalk improvements required by the City will not exceed 10% of the total development costs and therefore these required improvements are applicable to the proposed developments.

12.04.005 - Jurisdiction and management of the public rights-of-way.
A. The city has jurisdiction and exercises regulatory management over all public rights-of-way within the city under authority of the City Charter and state law by issuing separate public works right-of-way permits or permits as part of issued public infrastructure construction plans. No work in the public right-of-way shall be done without the proper permit. Some public rights-of-way within the city are regulated by the State of Oregon Department of Transportation (ODOT) or Clackamas County and as such, any work in these streets shall conform to their respective permitting requirements.
B. Public rights-of-way include, but are not limited to, streets, roads, highways, bridges, alleys, sidewalks, trails, paths, public easements and all other public ways or areas, including the subsurface under and air space over these areas.
C. The city has jurisdiction and exercises regulatory management over each public right-of-way whether the city has a fee, easement, or other legal interest in the right-of-way. The city has jurisdiction and regulatory management of each right-of-way whether the legal interest in the right-of-way was obtained by grant, dedication, prescription, reservation, condemnation, annexation, foreclosure or other means.
D. No person may occupy or encroach on a public right-of-way without the permission of the city. The city grants permission to use rights-of-way by franchises, licenses and permits.
E. The exercise of jurisdiction and regulatory management of a public right-of-way by the city is not official acceptance of the right-of-way, and does not obligate the city to maintain or repair any part of the right-of-way.
Applicant's Response: To the best of the applicant's knowledge the City of Oregon City has sole jurisdiction and management of adjacent public street rights-of-way adjacent to the site.

12.04.007 - Modifications.

The review body may consider modification of this standard resulting from constitutional limitations restricting the city's ability to require the dedication of property or for any other reason, based upon the criteria listed below and other criteria identified in the standard to be modified. All modifications shall be processed through a Type II Land Use application and may require additional evidence from a transportation engineer or others to verify compliance. Compliance with the following criteria is required:

A. The modification meets the intent of the standard;

B. The modification provides safe and efficient movement of pedestrians, motor vehicles, bicyclists and freight;

C. The modification is consistent with an adopted plan; and

D. The modification is complementary with a surrounding street design; or, in the alternative;

E. If a modification is requested for constitutional reasons, the applicant shall demonstrate the constitutional provision or provisions to be avoided by the modification and propose a modification that complies with the state or federal constitution. The city shall be under no obligation to grant a modification in excess of that which is necessary to meet its constitutional obligations.

Applicant's Response: Modification from normal street design standards will be requested in the following areas

On Washington Street

- **Having a half street right-of-way width of 43 feet, (up to 58 feet can be requested/required under 12,04.180 for arterials.**
- **Having driveway entrance with curbed entries on radius, in combination with street water quality planter**
- **Having a 4 foot gutter pan between the on-street parking area and bike lane**
- **Having a parking stall area that slopes towards the gutter pan and away from the curbline**
- **Having a 6 foot wide through pedestrian way on the sidewalk and a 4 foot street tree area, rather than the standard 5 foot through way and 5 foot street tree area (street tree wells would be 4'x6' rather than 5'x5')**
- **Having a standard curb, instead of curb and gutter along the on-street parking area, as the street is proposed to drain back towards the gutter pan instead of to the curb.**

On 17th Street

- **Having a 24 feet wide street section, as can be fitted without extending street pavement towards Abernethy Creek**
- **Stopping the sidewalk short of the railroad right-of-way, and allowing for a mid-block ramp that could be utilized for a possible future pedestrian extension under the railroad trestle.**
- **Having a 7 foot sidewalk rather than the required 5 foot sidewalk.**
- **In order to save a large tree near the Hackett House, routing the public sidewalk around the tree onto a public sidewalk easement on private property.**

12.04.195 Spacing Standards

- **Because of the narrow depth between Washington Street and the railroad right-of-way, it is requested that no public street or public pedestrian connection be imposed on the development as the railroad right-of-way blocks any through connection to Main St.**

The modification requests are intended to meet the of the standards. All would allow for safe and efficient movement of pedestrians, motor vehicles, bicycles and freight and would hopefully reduce conflicts of such. The proposed changes are generally consistent with the adopted plan and together provide a complimentary package to make the streetscape work better for pedestrians and drainage while still allowing vehicular traffic to use a visually better defined through street area with the extended landscape area marking the through street area from the parking area. We also note the proposed driveway entrance / planter extensions and radiuses would match that already in place for the Amtrak Station.

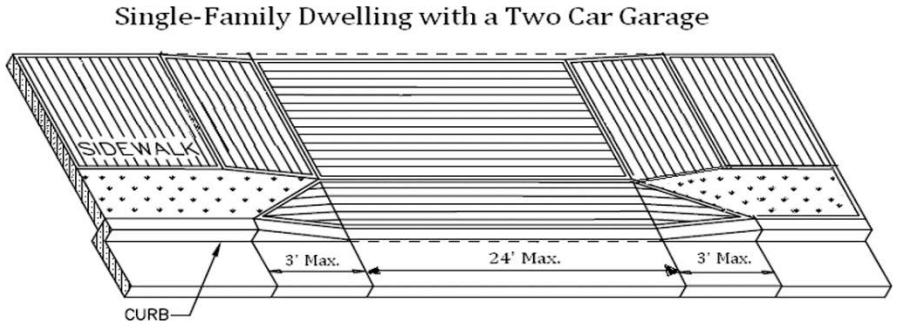
12.04.010 - Construction specifications—Improved streets.
All sidewalks hereafter constructed in the city on improved streets shall be constructed to city standards and widths required in the Oregon City Transportation System Plan. The curb shall be constructed at the same time as the construction of the sidewalk and shall be located as provided in the ordinance authorizing the improvement of said street next proceeding unless otherwise ordered by the city commission. Both sidewalks and curbs are to be constructed according to plans and specifications provided by the city engineer.
Applicant's Response: Construction to City standards would be the intent except as noted in the modification requests under Chapter 12.04.007

12.04.020 - Construction specifications—Unimproved streets.
Sidewalks constructed on unimproved streets shall be constructed of concrete according to lines and grades established by the city engineer and approved by the city commission. On unimproved streets curbs do not have to be constructed at the same time as the sidewalk.
Applicant's Response: Both street frontages are proposed to be improved so this section is not applicable.

12.04.025 - Street design—Driveway curb cuts.
A. One driveway shall be allowed per frontage. In no case shall more than two driveways be allowed on any single or two-family residential property with multiple frontages.
B. With the exception of the limitations identified in 12.04.025.C, all driveway curb cuts shall be limited to the following dimensions.

Property Use	*Minimum Driveway Width at sidewalk or property line*	*Maximum Driveway Width at sidewalk or property line*
Single or two-family dwelling with one car garage/parking space	*10 feet*	*12 feet*
Single or two-family dwelling with two car garage/parking space	*12 feet*	*24 feet*
Single or two-family dwelling with three or more car garages/parking space	*18 feet*	*30 feet*
Nonresidential or multi-family residential driveway access	*15 feet*	*40 feet*

The driveway width abutting the street pavement may be extended three feet on either side of the driveway to accommodate turn movements. Driveways may be widened onsite in locations other than where the driveway meets sidewalk or property line (for example between the property line and the entrance to a garage).
Figure 12.04.025: Example Driveway Curb Cut



Applicant's Response: The proposed driveways will all be between 15 and 40 feet wide as permitted for non-residential or multi-family residential.

C. The decision maker shall be authorized through a Type II process, unless another procedure applicable to the proposal applies, to minimize the number and size of curb cuts (including driveways) as far as practicable for any of the following purposes:
1. To provide adequate space for on-street parking;
2. To facilitate street tree planting requirements;
3. To assure pedestrian and vehicular safety by limiting vehicular access points; and
4. To assure that adequate sight distance requirements are met.
a. Where the decision maker determines any of these situations exist or may occur due to the approval of a proposed development for non-residential uses or attached or multi-family housing, a shared driveway shall be required and limited to twenty-four feet in width adjacent to the sidewalk or property line and may extend to a maximum of thirty feet abutting the street pavement to facilitate turning movements.
b. Where the decision maker determines any of these situations exist or may occur due to approval of a proposed development for detached housing within the "R-5" Single-Family Dwelling District or "R-3.5" Dwelling District, driveway curb cuts shall be limited to twelve feet in width adjacent to the sidewalk or property line and may extend to a maximum of eighteen feet abutting the street pavement to facilitate turning movements.
Applicant's Response: This is not applicable to this application.

D. For all driveways, the following standards apply.
1. Each new or redeveloped curb cut shall have an approved concrete approach or asphalted street connection where there is no concrete curb and a minimum hard surface for at least ten feet and preferably twenty feet back into the lot as measured from the current edge of street pavement to provide for controlling gravel tracking onto the public street. The hard surface may be concrete, asphalt, or other surface approved by the city engineer.
2. Driving vehicles, trailers, boats, or other wheeled objects across a sidewalk or roadside planter strip at a location other than an approved permanent or city-approved temporary driveway approach is prohibited. Damages caused by such action shall be corrected by the adjoining property owner.
3. Placing soil, gravel, wood, or other material in the gutter or space next to the curb of a public street with the intention of using it as a permanent or temporary driveway is prohibited. Damages caused by such action shall be corrected by the adjoining property owner.
4. Any driveway built within public street or alley right-of-way shall be built and permitted per city requirements as approved by the city engineer.
Applicant's Response: The proposed would meet the City standards, except for the modification requested to allow the use of radiuses for the driveway wings.

E. Exceptions. The public works director reserves the right to waive this standard, if it is determined through a Type II decision including written findings that it is in the best interest of the public to do so.
Applicant's Response: The applicant is not request waiving of the standard but is requesting certain modifications noted in 12.04.007.

12.04.030 - Maintenance and repair.
The owner of land abutting the street where a sidewalk has been constructed shall be responsible for maintaining said sidewalk and abutting curb, if any, in good repair.
Applicant's Response: Noted.

12.04.031 - Liability for sidewalk injuries.
A. The owner or occupant of real property responsible for maintaining the adjacent sidewalk shall be liable to any person injured because of negligence of such owner or occupant in failing to maintain the sidewalk in good condition.
B. If the city is required to pay damages for an injury to persons or property caused by the failure of a person to perform the duty that this ordinance imposes, the person shall compensate the city for the amount of the damages paid. The city may maintain an action in a court of competent jurisdiction to enforce this section.
Applicant's Response: Noted.

12.04.032 - Required sidewalk repair.

A. When the public works director determines that repair of a sidewalk is necessary he or she shall issue a notice to the owner of property adjacent to the sidewalk.
B. The notice shall require the owner of the property adjacent to the defective sidewalk to complete the repair of the sidewalk within ninety days after the service of notice. The notice shall also state that if the repair is not made by the owner, the city may do the work and the cost of the work shall be assessed against the property adjacent to the sidewalk.
C. The public works director shall cause a copy of the notice to be served personally upon the owner of the property adjacent to the defective sidewalk, or the notice may be served by registered or certified mail, return receipt requested. If after diligent search the owner is not discovered, the public works director shall cause a copy of the notice to be posted in a conspicuous place on the property, and such posting shall have the same effect as service of notice by mail or by personal service upon the owner of the property.
D. The person serving the notice shall file with the city recorder a statement stating the time, place and manner of service or notice.
Applicant's Response: Noted.

12.04.033 - City may do work.
If repair of the sidewalk is not completed within ninety days after the service of notice, the public works director shall carry out the needed work on the sidewalk. Upon completion of the work, the public works director shall submit an itemized statement of the cost of the work to the finance director. The city may, at its discretion, construct, repair or maintain sidewalks deemed to be in disrepair by the public works director for the health, safety and general welfare of the residents of the city.
Applicant's Response: Noted.

12.04.034 - Assessment of costs.
Upon receipt of the report, the finance director shall assess the cost of the sidewalk work against the property adjacent to the sidewalk. The assessment shall be a lien against the property and may be collected in the same manner as is provided for in the collection of street improvement assessment.
Applicant's Response: Noted.

12.04.040 - Streets—Enforcement.
Any person whose duty it is to maintain and repair any sidewalk, as provided by this chapter, and who fails to do so shall be subject to the enforcement procedures of Chapters 1.16, 1.20 and 1.24. Failure to comply with the provisions of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.
Applicant's Response: Noted.

12.04.045 - Reserved.
Editor's note— Ord. No. 13-1003, § 1, Exhibit 1, adopted July 17, 2013, repealed § 12.04.045 in its entirety. Former § 12.04.045 pertained to "Street Design—Constrained local streets and/or rights-of-way." See Prior Code Cross-Reference Table and Code Comparative Table and Disposition List for derivation.
Applicant's Response: Noted.

12.04.050 - Retaining walls—Required.
Every owner of a lot within the city, abutting upon an improved street, where the surface of the lot or tract of land is above the surface of the improved street and where the soil or earth from the lot, or tract of land is liable to, or does slide or fall into the street or upon the sidewalk, or both, shall build a retaining wall, the outer side of which shall be on the line separating the lot, or tract of land from the improved street, and the wall shall be so constructed as to prevent the soil or earth from the lot or tract of land from falling or sliding into the street or upon the sidewalk, or both, and the owner of any such property shall keep the wall in good repair.
Applicant's Response: No soil is expected to fall or slide from the proposed improvements into public street right-of-way.

12.04.060 - Retaining walls—Maintenance.

When a retaining wall is necessary to keep the earth from falling or sliding onto the sidewalk or into a public street and the property owner or person in charge of that property fails or refuses to build such a wall, such shall be deemed a nuisance. The violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Applicant's Response: Noted.

12.04.070 - Removal of sliding dirt.

It shall be the duty of the owner of any property as mentioned in Section 12.04.050, and in case the owner is a nonresident, then the agent or other person in charge of the same, to remove from the street or sidewalk or both as the case may be, any and all earth or dirt falling on or sliding into or upon the same from the property, and to build and maintain in order at all times, the retaining wall as herein required; and upon the failure, neglect or refusal of the land owner, the agent or person in charge of the same to clean away such earth or dirt, falling or sliding from the property into the street or upon the sidewalk, or both, or to build the retaining wall, shall be deemed guilty of a misdemeanor.

Applicant's Response: Noted.

12.04.080 - Excavations—Permit required.

It shall be unlawful for any person to dig up, break, excavate, disturb, dig under or undermine any public street or alley, or any part thereof or any macadam, gravel, or other street pavement or improvement without first applying for and obtaining from the engineer a written permit so to do.

Applicant's Response: Noted.

12.04.090 - Excavations—Permit restrictions.

The permit shall designate the portion of the street to be so taken up or disturbed, together with the purpose for making the excavation, the number of days in which the work shall be done, and the trench or excavation to be refilled and such other restrictions as may be deemed of public necessity or benefit.

Applicant's Response: Noted.

12.04.095 - Reserved.

Editor's note— Ord. No. 13-1003, § 1, Exhibit 1, adopted July 17, 2013, repealed § 12.04.095 in its entirety. Former § 12.04.095 pertained to "Street Design—Curb Cuts." See Prior Code Cross-Reference Table and Code Comparative Table and Disposition List for derivation.

12.04.100 - Excavations—Restoration of pavement.

Whenever any excavation shall have been made in any pavement or other street improvement on any street or alley in the city for any purpose whatsoever under the permit granted by the engineer, it shall be the duty of the person making the excavation to restore the pavement in accordance with the City of Oregon City Public Works Pavement Cut Standard in effect at the time a right-of-way permit application is filed. The city commission may adopt and modify the City of Oregon City Public Works Pavement Cut Standards by resolution as necessary to implement the requirements of this chapter.

Applicant's Response: Noted.

12.04.110 - Excavations—Nuisance—Penalty.

Any excavation in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Applicant's Response: Proposed project will comply with excavation nuisance requirements as set forth in this code.

12.04.120 - Obstructions—Permit required.

A. Permanent Obstructions. It is unlawful for any person to place, put or maintain any obstruction, other than a temporary obstruction, as defined in subsection B. of this section, in any public street or alley in the city, without obtaining approval for a right-of-way permit from the commission by passage of a resolution.

1. The city engineer shall provide applicants with an application form outlining the minimum submittal requirements.

2. The applicant shall submit at least the following information in the permitting process in order to allow the commission to adequately consider whether to allow the placement of an obstruction and whether any conditions may be attached:
a. Site plan showing right-of-way, utilities, driveways as directed by staff;
b. Sight distance per Chapter 10.32, Traffic Sight Obstructions;
c. Traffic control plan including parking per Manual on Uniform Traffic Control Devices (MUTCD);
d. Alternative routes if necessary;
e. Minimizing obstruction area; and
f. Hold harmless/maintenance agreement.
3. If the commission adopts a resolution allowing the placement of a permanent obstruction in the right-of-way, the city engineer shall issue a right-of-way permit with any conditions deemed necessary by the commission.
B. Temporary Obstructions.
1. A "temporary obstruction" is defined as an object placed in a public street, road or alley for a period of not more than sixty consecutive days. A "temporary obstruction" includes, but is not limited to, moving containers and debris dumpsters.
2. The city engineer, or designee, is authorized to grant a permit for a temporary obstruction.
3. The city engineer shall provide applicants with an application form outlining the minimum submittal requirements.
4. The applicant shall submit, and the city engineer, or designee, shall consider, at least the following items in the permitting process. Additional information may be required in the discretion of the city engineer:
a. Site plan showing right-of-way, utilities, driveways as directed by staff;
b. Sight distance per Chapter 10.32, Traffic Sight Obstructions;
c. Traffic control plan including parking per Manual on Uniform Traffic Control Devices (MUTCD);
d. Alternative routes if necessary;
e. Minimizing obstruction area; and
f. Hold harmless/maintenance agreement.
5. In determining whether to issue a right-of-way permit to allow a temporary obstruction, the city engineer may issue such a permit only after finding that the following criteria have been satisfied:
a. The obstruction will not unreasonably impair the safety of people using the right-of-way and nearby residents;
b. The obstruction will not unreasonably hinder the efficiency of traffic affected by the obstruction;
c. No alternative locations are available that would not require use of the public right-of-way; and
d. Any other factor that the city engineer deems relevant.
6. The permittee shall post a weatherproof copy of the temporary obstruction permit in plain view from the right-of-way.
C. Fees. The fee for obtaining a right-of-way permit for either a permanent obstruction or a temporary obstruction shall be set by resolution of the commission.
Applicant's Response: Proposed site design does not incorporate any permanent obstructions.

12.04.130 - Obstructions—Sidewalk sales.
A. It is unlawful for any person to use the public sidewalks of the city for the purpose of packing, unpacking or storage of goods or merchandise or for the display of goods or merchandise for sale. It is permissible to use the public sidewalks for the process of expeditiously loading and unloading goods and merchandise.
B. The city commission may, in its discretion, designate certain areas of the city to permit the display and sale of goods or merchandise on the public sidewalks under such conditions as may be provided.
Applicant's Response: Proposed project site does not propose using public sidewalks for packing, unpacking or storage of goods or merchandise, or to display merchandise for sale. Site design provides for private walks and loading unloading areas for use of tenants of the proposed structures on the proposed site.

12.04.140 - Obstructions—Nuisance—Penalty.
Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.
Applicant's Response: Project will comply with this chapter of the code.

12.04.150 - Street and alley vacations—Cost.

At the time of filing a petition for vacation of a street, alley or any part thereof, a fee as established by city commission resolution shall be paid to the city.

Applicant's Response: The proposed project does not include the vacation of any streets.

12.04.160 - Street vacations—Restrictions.

The commission, upon hearing such petition, may grant the same in whole or in part, or may deny the same in whole or in part, or may grant the same with such reservations as would appear to be for the public interest, including reservations pertaining to the maintenance and use of underground public utilities in the portion vacated.

Applicant's Response: The proposed project does not include the vacation of any streets.

12.04.170 - Street design—Purpose and general provisions.

All development shall be in conformance with the policies and design standards established by this chapter and with applicable standards in the city's public facility master plan and city design standards and specifications. In reviewing applications for development, the city engineer shall take into consideration any approved development and the remaining development potential of adjacent properties. All street, water, sanitary sewer, storm drainage and utility plans associated with any development must be reviewed and approved by the city engineer prior to construction. All streets, driveways or storm drainage connections to another jurisdiction's facility or right-of-way must be reviewed by the appropriate jurisdiction as a condition of the preliminary plat and when required by law or intergovernmental agreement shall be approved by the appropriate jurisdiction.

Applicant's Response: *Is the intent to conform with City standards, except as per the modifications as requested under Chapter 12.04.007.*

12.04.175 - Street design—Generally.

The location, width and grade of street shall be considered in relation to: existing and planned streets, topographical conditions, public convenience and safety for all modes of travel, existing and identified future transit routes and pedestrian/bicycle accessways, overlay districts, and the proposed use of land to be served by the streets. The street system shall assure an adequate traffic circulation system with intersection angles, grades, tangents and curves appropriate for the traffic to be carried considering the terrain. To the extent possible, proposed streets shall connect to all existing or approved stub streets that abut the development site. The arrangement of streets shall either:

A. Provide for the continuation or appropriate projection of existing principal streets in the surrounding area and on adjacent parcels or conform to a plan for the area approved or adopted by the city to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical;

B. Where necessary to give access to or permit a satisfactory future development of adjoining land, streets shall be extended to the boundary of the development and the resulting dead-end street (stub) may be approved with a temporary turnaround as approved by the city engineer. Notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future. Access control in accordance with [Chapter] 12.04 shall be required to preserve the objectives of street extensions.

Applicant's Response: Extension of new or existing streets is not needed for the proposed development nor for adjoining parcels, this code section is not applicable to this application.

12.04.180 - Street design.

All development regulated by this chapter shall provide street improvements in compliance with the standards in Figure 12.04.180 depending on the street classification set forth in the Transportation System Plan and the Comprehensive Plan designation of the adjacent property, unless an alternative plan has been adopted. The standards provided below are maximum design standards and may be reduced with an alternative street design which may be approved based on the modification criteria in [Section] 12.04.007. The steps for reducing the maximum design below are found in the Transportation System Plan.

Table 12.04.180 Street Design

To read the table below, select the road classification as identified in the Transportation System Plan and the Comprehensive Plan designation of the adjacent properties to find the maximum design standards for the road cross section. If the Comprehensive Plan designation on either side of the street differs, the wider right-of-way standard shall apply.

Road Classification	*Comprehensive Plan Designation*	*Right-of-Way Width*	*Pavement Width*	*Public Access*	*Sidewalk*	*Landscape Strip*	*Bike Lane*	*Street Parking*	*Travel Lanes*	*Median*
Minor Arterial	*Mixed Use, Commercial or Public/Quasi Public*	*116 ft.*	*94 ft.*	*0.5 ft.*	*10.5 ft. sidewalk including 5 ft. x 5 ft. tree wells*		*6 ft.*	*8 ft.*	*(5) 12 ft. Lanes*	*6 ft.*
	Industrial	*118 ft.*	*86 ft.*	*0.5 ft.*	*5 ft.*	*10.5 ft.*	*6 ft.*	*7 ft.*	*(5) 12 ft. Lanes*	*N/A*
	Residential	*100 ft.*	*68 ft.*	*0.5 ft.*	*5 ft.*	*10.5 ft.*	*6 ft.*	*7 ft.*	*(3) 12 ft. Lanes*	*6 ft.*

Road Classification	*Comprehensive Plan Designation*	*Right-of-Way Width*	*Pavement Width*	*Public Access*	*Sidewalk*	*Landscape Strip*	*Bike Lane*	*Street Parking*	*Travel Lanes*	*Median*
Local	*Mixed Use, Commercial or Public/Quasi Public*	*62 ft.*	*40 ft.*	*0.5 ft.*	*10.5 ft. sidewalk including 5 ft. x 5 ft. tree wells*		*N/A*	*8 ft.*	*(2) 12 ft. Lanes*	*N/A*
	Industrial	*60 ft.*	*38 ft.*	*0.5 ft.*	*5 ft.*	*5.5 ft.*	*(2) 19 ft. Shared Space*			*N/A*
	Residential	*54 ft.*	*32 ft.*	*0.5 ft.*	*5 ft.*	*5.5 ft.*	*(2) 16 ft. Shared Space*			*N/A*

1. Pavement width includes, bike lane, street parking, travel lanes and median.
2. Public access, sidewalks, landscape strips, bike lanes and on-street parking are required on both sides of the street in all designations. The right-of-way width and pavement widths identified above include the total street section.
3. A 0.5 foot curb is included in landscape strip or sidewalk width.
4. Travel lanes may be through lanes or turn lanes.
5. The 0.5 foot public access provides access to adjacent public improvements.
6. Alleys shall have a minimum right-of-way width of twenty feet and a minimum pavement width of sixteen feet. If alleys are provided, garage access shall be provided from the alley.

Applicant's Response: The applicant has proposed several modifications, as outlined in Chapter 12.04.007 to the standard street sections.

12.04.185 - Street design—Access control.
A. A street which is dedicated to end at the boundary of the development or in the case of half-streets dedicated along a boundary shall have an access control granted to the city as a city controlled plat restriction for the purposes of controlling ingress and egress to the property adjacent to the end of the dedicated street. The access control restriction shall exist until such time as a public street is created, by dedication and accepted, extending the street to the adjacent property.
B. The city may grant a permit for the adjoining owner to access through the access control.
C. The plat shall contain the following access control language or similar on the face of the map at the end of each street for which access control is required: "Access Control (See plat restrictions)."
D. Said plats shall also contain the following plat restriction note(s): "Access to (name of street or tract) from adjoining tracts (name of deed document number[s]) shall be controlled by the City of Oregon City by the recording of this plat, as shown. These access controls shall be automatically terminated upon the acceptance of a public road dedication or the recording of a plat extending the street to adjacent property that would access through those Access Controls."
Applicant's Response: This is not applicable to the proposed development.

12.04.190 - Street design—Alignment.
The centerline of streets shall be:
A. Aligned with existing streets by continuation of the centerlines; or
B. Offset from the centerline by no more than five (5) feet, provided appropriate mitigation, in the judgment of the city engineer, is provided to ensure that the offset intersection will not pose a safety hazard.
Applicant's Response: This is not applicable to the proposed development.

12.04.194 - Traffic sight obstructions.
All new streets shall comply with the Traffic Sight Obstructions in Chapter 10.32.
Applicant's Response: This not applicable as no new streets are proposed.

12.04.195 - Spacing standards.
A. All new streets shall be designed as local streets unless otherwise designated as arterials and collectors in Figure 8 in the transportation system plan. The maximum block spacing between streets is five hundred thirty feet and the minimum block spacing between streets is one hundred fifty feet as measured between the right-of-way centerlines. If the maximum block size is exceeded, pedestrian accessways must be provided every three hundred thirty feet. The spacing standards within this section do not apply to alleys.
B. All new development and redevelopment shall meet the minimum driveway spacing standards identified in Table 12.04.195.B.

Table 12.04.195.B Minimum Driveway Spacing Standards

Street Functional Classification	*Minimum Driveway Spacing Standards*	*Distance*
Major Arterial Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*175 ft.*
Minor Arterial Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*175 ft.*

Collector Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*100 ft.*
Local Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*25 ft.*

The distance from a street corner to a driveway is measured along the right-of-way from the edge of the intersection right-of-way to the nearest portion of the driveway and the distance between driveways is measured at the nearest portions of the driveway at the right-of-way.

Applicant's Response: An adjustment to the maximum block spacing between streets standard is requested due the railroad right-of-way which parallels Washington Street, and which prevents any vehicular or pedestrian connections between Washington Street and Main Street.

12.04.199 - Pedestrian and bicycle accessways.

Pedestrian/bicycle accessways are intended to provide direct, safe and convenient connections between residential areas, retail and office areas, institutional facilities, industrial parks, transit streets, neighborhood activity centers, rights-of-way, and pedestrian/bicycle accessways which minimize out-of-direction travel, and transit-orientated developments where public street connections for automobiles, bicycles and pedestrians are unavailable. Pedestrian/bicycle accessways are appropriate in areas where public street options are unavailable, impractical or inappropriate. Pedestrian and bicycle accessways are required through private property or as right-of-way connecting development to the right-of-way at intervals not exceeding three hundred thirty feet of frontage; or where the lack of street continuity creates inconvenient or out of direction travel patterns for local pedestrian or bicycle trips.

A. Entry points shall align with pedestrian crossing points along adjacent streets and with adjacent street intersections.

Applicant's Response: Pedestrian-bicycle accessway connections through the property perpendicular to Washington St, is not possible because of the railroad right-of-way that would block continuing connections to Main Street. Pedestrian-bicycle accessway connections parallel with Washington Street is not needed as the width of the parcel between Washington Street and the railroad right-of-way does not exceed 350 feet.

B. Accessways shall be free of horizontal obstructions and have a nine-foot, six-inch high vertical clearance to accommodate bicyclists. To safely accommodate both pedestrians and bicycles, accessway right-of-way widths shall be as follows:

1. Accessways shall have a fifteen-foot-wide right-of-way with a seven-foot wide paved surface between a five-foot planter strip and a three-foot planter strip.

2. If an accessway also provides secondary fire access, the right-of-way width shall be at least twenty-three feet wide with a fifteen-foot paved surface a five-foot planter strip and a three-foot planter strip.

Applicant's Response: This is not applicable as accessways are practical or needed as noted under 12.04.199A above.

C. Accessways shall be direct with at least one end point of the accessway always visible from any point along the accessway. On-street parking shall be prohibited within fifteen feet of the intersection of the accessway with public streets to preserve safe sight distance and promote safety.

Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

D. To enhance pedestrian and bicycle safety, accessways shall be lighted with pedestrian-scale lighting. Accessway lighting shall be to a minimum level of one-half-foot-candles, a one and one-half foot-candle average, and a

maximum to minimum ratio of seven-to-one and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances.
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

E. Accessways shall comply with Americans with Disabilities Act (ADA).
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

F. The planter strips on either side of the accessway shall be landscaped along adjacent property by installation of the following:
1. Within the three-foot planter strip, an evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than four feet apart on average;
2. Ground cover covering one hundred percent of the exposed ground. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees;
3. Within the five-foot planter strip, two-inch minimum caliper trees with a maximum of thirty-five feet of separation between the trees to increase the tree canopy over the accessway;
4. In satisfying the requirements of this section, evergreen plant materials that grow over forty-two inches in height shall be avoided. All plant materials shall be selected from the Oregon City Native Plant List.
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

G. Accessways shall be designed to prohibit unauthorized motorized traffic. Curbs and removable, lockable bollards are suggested mechanisms to achieve this.
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

H. Accessway surfaces shall be paved with all-weather materials as approved by the city. Pervious materials are encouraged. Accessway surfaces shall be designed to drain stormwater runoff to the side or sides of the accessway. Minimum cross slope shall be two percent.
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

I. In parks, greenways or other natural resource areas, accessways may be approved with a five-foot wide gravel path with wooden, brick or concrete edgings.
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

J. The community development director may approve an alternative accessway design due to existing site constraints through the modification process set forth in Section 12.04.007.
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

K. Ownership, liability and maintenance of accessways. To ensure that all pedestrian/bicycle accessways will be adequately maintained over time, the hearings body shall require one of the following:
1. Dedicate the accessways to the public as public right-of-way prior to the final approval of the development; or
2. The developer incorporates the accessway into a recorded easement or tract that specifically requires the property owner and future property owners to provide for the ownership, liability and maintenance of the accessway.
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

12.04.200 - Reserved.

Editor's note— Ord. No. 13-1003, § 1, Exhibit 1, adopted July 17, 2013, repealed § 12.04.200 in its entirety. Former § 12.04.200 pertained to "Street Design—Constrained local streets and/or rights-of-way." See Prior Code Cross-Reference Table and Code Comparative Table and Disposition List for derivation.

12.04.205 - Mobility standards.

Development shall demonstrate compliance with intersection mobility standards. When evaluating the performance of the transportation system, the City of Oregon City requires all intersections, except for the facilities identified in subsection D below, to be maintained at or below the following mobility standards during the two-hour peak operating conditions. The first hour has the highest weekday traffic volumes and the second hour is the next highest hour before or after the first hour. Except as provided otherwise below, this may require the installation of mobility improvements as set forth in the transportation system plan or as otherwise identified by the city transportation engineer.

A. For intersections within the regional center, the following mobility standards apply:

1. During the first hour, a maximum v/c ratio of 1.10 shall be maintained. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.

2. During the second hour, a maximum v/c ratio of 0.99 shall be maintained at signalized intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.

3. Intersections located on the Regional Center boundary shall be considered within the Regional Center.

B. For intersections outside of the Regional Center but designated on the Arterial and Throughway Network, as defined in the Regional Transportation Plan, the following mobility standards apply:

1. During the first hour, a maximum v/c ratio of 0.99 shall be maintained. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.

2. During the second hour, a maximum v/c ratio of 0.99 shall be maintained at signalized intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.

C. For intersections outside the boundaries of the Regional Center and not designated on the Arterial and Throughway Network, as defined in the Regional Transportation Plan, the following mobility standards apply:

1. For signalized intersections:

a. During the first hour, LOS "D" or better will be required for the intersection as a whole and no approach operating at worse than LOS "E" and a v/c ratio not higher than 1.0 for the sum of the critical movements.

b. During the second hour, LOS "D" or better will be required for the intersection as a whole and no approach operating at worse than LOS "E" and a v/c ratio not higher than 1.0 for the sum of the critical movements.

2. For unsignalized intersections outside of the boundaries of the Regional Center:

a. For unsignalized intersections, during the peak hour, all movements serving more than twenty vehicles shall be maintained at LOS "E" or better. LOS "F" will be tolerated at movements serving no more than twenty vehicles during the peak hour.

D. Until the city adopts new performance measures that identify alternative mobility targets, the city shall exempt proposed development that is permitted, either conditionally, outright, or through detailed development master plan approval, from compliance with the above-referenced mobility standards for the following state-owned facilities:

I-205/OR 99E Interchange

I-205/OR 213 Interchange

OR 213/Beavercreek Road

State intersections located within or on the Regional Center Boundaries

1. In the case of conceptual development approval for a master plan that impacts the above references intersections:

a. The form of mitigation will be determined at the time of the detailed development plan review for subsequent phases utilizing the Code in place at the time the detailed development plan is submitted; and

b. Only those trips approved by a detailed development plan review are vested.

2. Development which does not comply with the mobility standards for the intersections identified in [Section]

12.04.205.D shall provide for the improvements identified in the Transportation System Plan (TSP) in an effort to improve intersection mobility as necessary to offset the impact caused by development. Where required by other provisions of the Code, the applicant shall provide a traffic impact study that includes an assessment of the development's impact on the intersections identified in this exemption and shall construct the intersection improvements listed in the TSP or required by the Code.

Applicant's Response: A traffic impact study is included in this application including assessment of the development's impact on the intersections identified in this exemption.

12.04.210 - Street design—Intersection angles.

Except where topography requires a lesser angle, streets shall be laid out to intersect at angles as near as possible to right angles. In no case shall the acute angles be less than eighty degrees unless there is a special intersection design. An arterial or collector street intersecting with another street shall have at least one hundred feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least fifty feet of tangent adjacent to the intersection unless topography requires a lesser distance. All street intersections shall be provided with a minimum curb return radius of twenty-five feet for local streets. Larger radii shall be required for higher street classifications as determined by the city engineer. Additional right-of-way shall be required to accommodate curb returns and sidewalks at intersections. Ordinarily, intersections should not have more than two streets at any one point.

Applicant's Response: No new streets are proposed and thus new intersections are not proposed either.

12.04.215 - Street design—Off-site street improvements.

During consideration of the preliminary plan for a development, the decision maker shall determine whether existing streets impacted by, adjacent to, or abutting the development meet the city's applicable planned minimum design or dimensional requirements. Where such streets fail to meet these requirements, the decision-maker shall require the applicant to make proportional improvements sufficient to achieve conformance with minimum applicable design standards required to serve the proposed development.

Applicant's Response: Traffic impact study proportionality analysis indicates construction of left-turn lane serving the site access would be proportionate to the impacts of the proposed development.

12.04.220 - Street design—Half street.

Half streets, while generally not acceptable, may be approved where essential to the development, when in conformance with all other applicable requirements, and where it will not create a safety hazard. When approving half streets, the decision maker must first determine that it will be practical to require the dedication of the other half of the street when the adjoining property is divided or developed. Where the decision maker approves a half street, the applicant must construct an additional ten feet of pavement width so as to make the half street safe and usable until such time as the other half is constructed. Whenever a half street is adjacent to property capable of being divided or developed, the other half of the street shall be provided and improved when that adjacent property divides or develops. Access control may be required to preserve the objectives of half streets.

When the remainder of an existing half-street improvement is made it shall include the following items: dedication of required right-of-way, construction of the remaining portion of the street including pavement, curb and gutter, landscape strip, sidewalk, street trees, lighting and other improvements as required for that particular street. It shall also include at a minimum the pavement replacement to the centerline of the street. Any damage to the existing street shall be repaired in accordance with the city's "Moratorium Pavement Cut Standard" or as approved by the city engineer.

Applicant's Response: Half street development is not applicable to this site.

12.04.225 - Street design—Cul-de-sacs and dead-end streets.

The city discourages the use of cul-de-sacs and permanent dead-end streets except where construction of a through street is found by the decision maker to be impracticable due to topography or some significant physical constraint such as geologic hazards, wetland, natural or historic resource areas, dedicated open space, existing development patterns, arterial access restrictions or similar situation as determined by the community development director. When permitted, access from new cul-de-sacs and permanent dead-end streets shall be limited to a maximum of twenty-five dwelling units and a maximum street length of two hundred feet, as measured from the right-of-way line

of the nearest intersecting street to the back of the cul-de-sac curb face. In addition, cul-de-sacs and dead end roads shall include pedestrian/bicycle accessways as required in this chapter. This section is not intended to preclude the use of curvilinear eyebrow widening of a street where needed.
Where approved, cul-de-sacs shall have sufficient radius to provide adequate turn-around for emergency vehicles in accordance with fire district and city adopted street standards. Permanent dead-end streets other than cul-de-sacs shall provide public street right-of-way/easements sufficient to provide turn-around space with appropriate no-parking signs or markings for waste disposal, sweepers, and other long vehicles in the form of a hammerhead or other design to be approved by the decision maker. Driveways shall be encouraged off the turnaround to provide for additional on-street parking space.
Applicant's Response: No new streets are proposed nor will any existing street be extended, thus code section 12.04.225 is not applicable.

12.04.230 - Street design—Street names.
Except for extensions of existing streets, no street name shall be used which will duplicate or be confused with the name of an existing street. Street names shall conform to the established standards in the city and shall be subject to the approval of the city.
Applicant's Response: No new streets are proposed and thus code section 12.04.230 is not applicable.

12.04.235 - Street design—Grades and curves.
Grades and center line radii shall conform to the standards in the city's street design standards and specifications.
Applicant's Response: No new streets are proposed and thus code section 12.04.235 is not applicable.

12.04.240 - Street design—Development abutting arterial or collector street.
Where development abuts or contains an existing or proposed arterial or collector street, the decision maker may require: access control; screen planting or wall contained in an easement or otherwise protected by a restrictive covenant in a form acceptable to the decision maker along the rear or side property line; or such other treatment it deems necessary to adequately protect residential properties or afford separation of through and local traffic. Reverse frontage lots with suitable depth may also be considered an option for residential property that has arterial frontage. Where access for development abuts and connects for vehicular access to another jurisdiction's facility then authorization by that jurisdiction may be required.
Applicant's Response: No restrictive covenant or other form of protection is needed for the proposed developments.

12.04.245 - Street design—Pedestrian and bicycle safety.
Where deemed necessary to ensure public safety, reduce traffic hazards and promote the welfare of pedestrians, bicyclists and residents of the subject area, the decision maker may require that local streets be so designed as to discourage their use by nonlocal automobile traffic.
All crosswalks shall include a large vegetative or sidewalk area which extends into the street pavement as far as practicable to provide safer pedestrian crossing opportunities. These curb extensions can increase the visibility of pedestrians and provide a shorter crosswalk distance as well as encourage motorists to drive slower. The decision maker may approve an alternative design that achieves the same standard for constrained sites or where deemed unnecessary by the city engineer.
Applicant's Response: Washington Street is an arterial, not a local street so this code section is not applicable to Washington St. 17th Street has no sidewalk on its southerly side, however the applicant is setting up the northerly sidewalk for a mid-block crossing to allow for a future pedestrian connection under the railroad trestle in the future if approval could be obtained from the railroad.

12.04.255 - Street design—Alleys.
Public alleys shall be provided in the following districts R-5, R-3.5, R-2, MUC-1, MUC-2 and NC zones unless other permanent provisions for private access to off-street parking and loading facilities are approved by the decision maker. The corners of alley intersections shall have a radius of not less than ten feet.
Applicant's Response: The parcel is zoned MUD, and thus the code section is not applicable to the site.

12.04.260 - Street design—Transit.

Streets shall be designed and laid out in a manner that promotes pedestrian and bicycle circulation. The applicant shall coordinate with transit agencies where the application impacts transit streets as identified in [Section] 17.04.1310. Pedestrian/bicycle access ways shall be provided as necessary in Chapter 12.04 to minimize the travel distance to transit streets and stops and neighborhood activity centers. The decision maker may require provisions, including easements, for transit facilities along transit streets where a need for bus stops, bus pullouts or other transit facilities within or adjacent to the development has been identified.

Applicant's Response: Washington St., north of 17 St. is not a transit route. Therefore, this code section is not applicable.

12.04.265 - Street design—Planter strips.

All development shall include vegetative planter strips that are five feet in width or larger and located adjacent to the curb. This requirement may be waived or modified if the decision maker finds it is not practicable. The decision maker may permit constrained sites to place street trees on the abutting private property within ten feet of the public right-of-way if a covenant is recorded on the title of the property identifying the tree as a city street tree which is maintained by the property owner. Development proposed along a collector, minor arterial, or major arterial street may use tree wells with root barriers located near the curb within a wider sidewalk in lieu of a planter strip, in which case each tree shall have a protected area to ensure proper root growth and reduce potential damage to sidewalks, curbs and gutters.

To promote and maintain the community tree canopy adjacent to public streets, trees shall be selected and planted in planter strips in accordance with Chapter 12.08, Street Trees. Individual abutting lot owners shall be legally responsible for maintaining healthy and attractive trees and vegetation in the planter strip. If a homeowners' association is created as part of the development, the association may assume the maintenance obligation through a legally binding mechanism, e.g., deed restrictions, maintenance agreement, etc., which shall be reviewed and approved by the city attorney. Failure to properly maintain trees and vegetation in a planter strip shall be a violation of this code and enforceable as a civil infraction.

Applicant's Response: Tree wells are proposed, as well as landscape extensions into the on street parking areas for use as both water quality and greenery.

12.04.270 - Standard construction specifications.

The workmanship and materials for any work performed under permits issued per this chapter shall be in accordance with the edition of the "Oregon Standard Specifications for Construction" as prepared by the Oregon Department of Transportation (ODOT) and the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the city in accordance with this ordinance, in effect at the time of application. The exception to this requirement is where this chapter and the Public Works Street Design Drawings provide other design details, in which case the requirements of this chapter and the Public Works Street Design Drawings shall be complied with. In the case of work within ODOT or Clackamas County rights-of-way, work shall be in conformance with their respective construction standards.

Applicant's Response: Noted.

12.04.280 - Violation—Penalty.

Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Applicant's Response: Noted.

CHAPTER 12.08 - PUBLIC AND STREET TREES

12.08.010 - Purpose.

The purpose of this chapter is to:

A. Develop tree-lined streets to protect the living quality and beautify the city;

B. Establish physical separation between pedestrians and vehicular traffic;

C. Create opportunities for solar shading;
D. Improve air quality; and
E. Increase the community tree canopy and resource.
Applicant's Response: Duly Noted

12.08.015 - Street tree planting and maintenance requirements.
All new construction or major redevelopment shall provide street trees adjacent to all street frontages. Species of trees shall be selected based upon vision clearance requirements, but shall in all cases be selected from the Oregon City Street Tree List or be approved by a certified arborist. If a setback sidewalk has already been constructed or the Development Services determines that the forthcoming street design shall include a setback sidewalk, then all street trees shall be installed with a planting strip. If existing street design includes a curb-tight sidewalk, then all street trees shall be placed within the front yard setback, exclusive of any utility easement.
Applicant's Response: Street trees will be selected from the Oregon City Street Tree List or otherwise approved as appropriate for use along the street frontages. Street trees along Washington Street will be in tree wells, trees along 17th Street will be planted behind the curb tight sidewalk.

A. One street tree shall be planted for every thirty-five feet of property frontage. The tree spacing shall be evenly distributed throughout the total development frontage. The community development director may approve an alternative street tree plan if site or other constraints prevent meeting the placement of one street tree per thirty-five feet of property frontage.
Applicant's Response: Every attempt will be made to plant street trees at the ratio of 1 tree per 35 feet, allowing for restrictions for plantings around driveways, street lights and other utility elements, and minimal tree spacing requirements that would prevent otherwise number of street trees to be planted.

B. The following clearance distances shall be maintained when planting trees:
1. Fifteen feet from streetlights;
2. Five feet from fire hydrants;
3. Twenty feet from intersections;
4. A minimum of five feet (at mature height) below power lines.
Applicant's Response: Duly Noted

C. All trees shall be a minimum of two inches in caliper at six inches above the root crown and installed to city specifications.
Applicant's Response: All street trees will meet the standard.

D. All established trees shall be pruned tight to the trunk to a height that provides adequate clearance for street cleaning equipment and ensures ADA complaint clearance for pedestrians.
Applicant's Response: Duly Noted

12.08.020 - Street tree species selection.
The community development director may specify the species of street trees required to be planted if there is an established planting scheme adjacent to a lot frontage, if there are obstructions in the planting strip, or if overhead power lines are present.
Applicant's Response: Duly Noted

12.08.025 - General tree maintenance.
Abutting property owners shall be responsible for the maintenance of street trees and planting strips. Topping of trees is permitted only under recommendation of a certified arborist, or other qualified professional, if required by city staff. Trees shall be trimmed appropriately. Maintenance shall include trimming to remove dead branches,

dangerous limbs and to maintain a minimum seven-foot clearance above all sidewalks and ten-foot clearance above the street. Planter strips shall be kept clear of weeds, obstructing vegetation and trash.
Applicant's Response: Duly Noted

12.08.030 - Public property tree maintenance.
The city shall have the right to plant, prune, maintain and remove trees, plants and shrubs in all public rights-of-way and public grounds, as may be necessary to ensure public safety or to preserve and enhance the symmetry or other desirable characteristics of such public areas. The natural resources committee may recommend to the community development director the removal of any tree or part thereof which is in an unsafe condition, or which by reason of its nature is injurious to above or below-ground public utilities or other public improvements.
Applicant's Response: Duly Noted

12.08.035 - Public tree removal.
Existing street trees shall be retained and protected during construction unless removal is specified as part of a land use approval or in conjunction with a public facilities construction project, as approved by the community development director. A diseased or hazardous street tree, as determined by a registered arborist and verified by the City, may be removed if replaced. A non-diseased, non-hazardous street tree that is removed shall be replaced in accordance with the Table 12.08.035.
All new street trees will have a minimum two-inch caliper trunk measured six inches above the root crown. The community development director may approve off-site installation of replacement trees where necessary due to planting constraints. The community development director may additionally allow a fee in-lieu of planting the tree(s) to be placed into a city fund dedicated to planting trees in Oregon City in accordance with Oregon City Municipal Code 12.08.
Table 12.08.035

Replacement Schedule for Trees Determined to be Dead, Diseased or Hazardous by a Certified Arborist		*Replacement Schedule for Trees Not Determined to be Dead, Diseased or Hazardous by a Certified Arborist*	
Diameter of tree to be Removed (Inches of diameter at 4-ft height)	*Number of Replacement Trees to be Planted*	*Diameter of tree to be Removed (Inches of diameter at 4-ft height)*	*Number of Replacement Trees to be Planted*
Any Diameter	*1 Tree*	*Less than 6"*	*1 Tree*
		6" to 12"	*2 Trees*
		13" to 18"	*3 Trees*
		19" to 24"	*4 Trees*
		25" to 30"	*5 Trees*
		31" and over	*8 Trees*

Applicant's Response: No street trees currently exist, but care will be taken to preserve a large tree adjacent to the 17th St. ROW and near the Hackett House.

12.08.040 - Heritage Trees and Groves.
A. Purpose. Certain trees, because of their age, species, natural resource value, ecological or historical association, are of special importance to the city. These trees may live on private or public property.
1. The purpose of this chapter is to recognize, foster appreciation and provide for voluntary protection of Heritage Trees.

2. In particular, the following trees are shall be considered significant, and therefore eligible for heritage tree nomination in Oregon City, if they meet the minimum size requirements of the table below:
Tree Eligibility based on Size

Species	*Common Name*	*Size (d.b.h)*
Quercus garrayana	*Oregon white oak*	*8"*
Pseudotsuga menziesii	*Douglas-fir*	*18"*
Thuja plicata	*Western red cedar*	*12"*
Pinus ponderosa	*Ponderosa pine*	*12"*
Taxus brevifolia	*Western yew*	*6"*
Other deciduous and horticultural tree species		*20"*
Other evergreen and conifer trees		*18"*

Applicant's Response: **We are not aware of a heritage tree, but aware of the significance of the large tree (Spanish Chestnut) near the Hackett House at 17th Street. This tree will remain.**

B. Recommendation.
1. Any citizen may recommend tree(s) to be designated as a Heritage Tree or Grove. If the proposed Heritage Tree or Grove is located on property other than city property or public right-of-way under city jurisdiction, the recommendation shall be submitted by the property owner or accompanied by the property owner's written consent. If the proposed Heritage Tree or Grove is located on city property or public right-of-way under city jurisdiction, the recommendation shall be submitted to the community development director; if the recommendation is consented to by the city, the community development director shall submit the recommendation to the city commission.
2. Recommendation shall be made on such form as required by the community development director. The recommendation form shall include a narrative explaining why the tree qualifies for Heritage Tree or Grove status pursuant to the definition in subsection 1. and the written consent of the property owner as described in subsection 1., of this section.
Applicant's Response: **Duly Noted.**

C. Review Process.
1. The city commission shall review all Heritage Trees and Grove recommendations at a public meeting. Notice of the meeting shall be provided to the recommending applicant, the property owner (unless the recommended tree or grove is located on public right-of-way under city jurisdiction, in which event notice shall be given to the community development director), the chair of any recognized neighborhood association in which the tree or grove is located, and the parks and recreation advisory committee (PRAC), if applicable.
2. Staff shall prepare a report for the city commission analyzing whether the tree or grove complies with the requirements for designation.
3. After considering the staff report and any testimony by interested persons, the city commission shall vote on the recommendation.
4. Following approval by the city commission:
a. If the tree or grove is located on private property, the designation shall be complete upon the property owner's execution of a covenant running with the land suitable for recordation by the city. The covenant shall describe the subject property, generally describe the location of the heritage tree or grove, and covenant that the tree or grove is protected as a "Heritage Tree" or "Heritage Grove" by the City of Oregon City and is therefore subject to special protection as provided in this Title.

b. If the tree or grove is located on public right-of-way, the designation shall be complete upon the Staff's listing of the tree or grove on the city Heritage Tree and Grove records.
c. If the tree or grove is located on the public right-of-way, the city shall condition any future property owner-requested vacation of the public right-of-way upon the execution of a covenant in accordance with subsection a., above, which shall be recorded by the city upon the vacation of the right-of-way.
Applicant's Response: **Duly Noted.**

D. Criteria.
1. The city commission may designate a tree or grove as a Heritage Tree or Heritage Grove if the commission determines that the following criteria are met:
a. The tree or grove is of landmark importance to the City of Oregon City due to age, size, species, horticultural quality or historic importance; or
Applicant's Response: **Duly Noted.**

b. It is listed as a State Heritage Tree, as designated by the state division of forest resources; or
Applicant's Response: **Duly Noted.**

c. It is a rare species, or provides a habitat for rare species of plants, animals or birds; and
Applicant's Response: **Duly Noted.**

d. The tree is not irreparably damaged, diseased, hazardous or unsafe, or the applicant is willing to have the tree treated by an arborist and the treatment will alleviate the damage, disease or hazard;
Applicant's Response: **Duly Noted.**

E. Protection of Heritage Trees and Groves.
1. No Heritage Tree or Grove may be removed, topped, or otherwise altered unless permitted by this section.
2. An application to remove a Heritage Tree or Grove shall demonstrate that the burden imposed on the property owner, or, if the tree is located within the public right-of-way under city jurisdiction, then the burden imposed on the city by the continued presence of the tree outweighs the public benefit provided by the tree. For the purposes of making this determination, the following tree impacts shall not be considered unreasonable burdens on the property owner, or if appropriate, the city:
a. View obstruction;
b. Routine pruning, leaf raking and other maintenance activities; and
c. Infrastructure impacts or tree hazards that can be controlled or avoided by appropriate pruning or maintenance.
3. Unless the tree is permitted to be removed due to poor health or hazard pursuant to Section 12.08.042, the applicant shall be required to mitigate for the loss of the tree pursuant to Table 12.08.042.
4. Any person who removes a Heritage Tree or Grove in violation of this chapter shall be subject to the penalties provided in this chapter.
Applicant's Response: **Duly Noted.**

F. Recognition of Heritage Trees and Groves.
1. A Heritage Tree plaque may be designed and furnished by the city to the property owner, or if the tree is in the public right-of-way, to the appropriate city official, of a designated Heritage Tree or Grove. The city may charge a fee to cover the costs of the providing the plaque. The plaque shall be posted at a location at or near the tree or grove and, if feasible, visible from a public right-of-way.
2. The community development director shall maintain a list and map of designated Heritage Trees and Groves.
G. Removal of Heritage Tree or Grove Designation.
1. A Heritage Tree or Grove may be removed from designation if it dies or is removed pursuant to this chapter. If removed from private property, the city shall record a document extinguishing the covenant.
Applicant's Response: **Duly Noted.**

12.08.045 - Gifts and funding.

The City of Oregon City may accept gifts, which are specifically designated for the purpose of planting or maintaining trees within the city. the community development director may allow a fee in-lieu of planting the tree(s) to be placed into a city fund dedicated to planting trees in Oregon City. The community development director may determine the type, caliper and species of the trees purchased with the fund. The cost of each tree may be adjusted annually based upon current market prices for materials and labor as calculated by the community development director. A separate fund shall be established and maintained for revenues and expenditures created by activities specified in this chapter. The natural resources committee shall have authority on behalf of the city to seek grants and alternative funding for tree projects. Funds from such grant awards shall be administered by the city pursuant to this section.

Applicant's Response: Duly Noted.

12.08.050 - Violation—Penalty.

The violation of any provision of this chapter shall be constitute a civil infraction, subject to code enforcement procedures of Chapter 1.16 and/or Chapter 1.20.

Applicant's Response: Duly Noted.

CHAPTER 13.12 - STORMWATER CONVEYANCE, QUANTITY AND QUALITY

13.12.050 Pursuant to each of the subsections below, proposed activities may be required to meet the performance standards for stormwater conveyance, stormwater quantity or stormwater quality.

13.12.050.A. Stormwater Conveyance. The stormwater conveyance requirements of this chapter shall apply to all stormwater systems constructed with any development activity, except as follows:

1. *The conveyance facilities are located entirely on one privately owned parcel;*
2. *The conveyance facilities are privately maintained; and*
3. *The conveyance facilities receive no stormwater runoff from outside the parcel's property limits.*

Those facilities exempted from the stormwater conveyance requirements by the above subsection will remain subject to the requirements of the Oregon Uniform Plumbing Code. Those exempted facilities shall be reviewed by the building official.

Applicant's Response: Chapter 13.12 is applicable to the proposed developments.

13.12.050.B. Stormwater Quantity Control. The stormwater quantity control requirements of this chapter shall apply to the following proposed activities, uses or developments:

1. *Activities located wholly or partially within water quality resource areas pursuant to Chapter 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the WQRA or will disturb more than one thousand square feet of existing impervious surface within the WQRA as part of a commercial or industrial redevelopment project. These square footage measurements will be considered cumulative for any given seven-year period;*
2. *Activities that create more than two thousand square feet of impervious surface, cumulated over any given seven year period; or*
3. *Redevelopment of a commercial or industrial land use that will disturb more than five thousand square feet of existing impervious surface. This five thousand square foot measurement cumulates over any given seven year period;*
4. *An exemption to the stormwater quantity control requirements of this chapter will be granted in the following circumstances:*
    a. *The development site discharges to a stormwater quantity control facility approved by the city engineer to receive the developed site runoff after verification that the facility is adequately sized to receive the additional stormwater, or,*
    b. *The development site discharges to one of the following receiving bodies of water: Willamette River, Clackamas River or Abernethy Creek; and either lies within the one hundred year floodplain or is up to ten feet above the design flood elevation as defined in Chapter 17.42*

Applicant's Response: Most of the development site lies within the 100 year floodplain of the Willamette River/ Abernethy Creek floodplain and all of the subject site lies within 10 feet vertically of the design flood elevation as defined in Chapter 17.42 and therefore the site meets the exception of 13.12.050.B4(b).

13.12.050.C. Stormwater Quality Control. The stormwater quality control requirements of this chapter shall apply to the following proposed activities, uses or developments:

1. *Category A. Activities subject to general water quality requirements of this chapter:*
   a. *The construction of four or more single-family residences;*
   b. *Activities located wholly or partially within water quality resource areas pursuant to Chapter 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the WQRA or will disturb more than one thousand square feet of existing impervious surface within the WQRA as part of a commercial or industrial redevelopment project. These square footage measurements will be considered cumulative for any given seven year period; or*
   c. *Activities that create more than eight thousand square feet of new impervious surface for other than a single-family residential development. This eight thousand square foot measurement will be considered cumulative for any given seven year period;*
   d. *An exemption to the stormwater quantity control requirements of this subsection will be granted if the development site discharges to a stormwater quality control facility approved by the city engineer to receive the developed site runoff after verification that the facility is adequately sized to receive the additional stormwater.*
2. *Category B. Uses Requiring Additional Management Practices. In addition to any other applicable requirements of this chapter, the following uses are subject to additional management practices as contained in the Public Works Stormwater and Grading Design Standards:*
   a. *Fuel dispensing facilities;*
   b. *Bulk petroleum storage in multiple stationary tanks;*
   c. *Solid waste storage areas for commercial, industrial or multi-family uses;*
   d. *Loading and unloading docks for commercial or industrial uses; or*
   e. *Covered vehicle parking for commercial or industrial uses.*
3. *Category C. Clackamas River Watershed. In addition to any other applicable requirements of this chapter, any development that creates new waste discharges and whose stormwater runoff may directly or indirectly flow into the Clackamas River is subject to additional requirements associated with Oregon Administrative Rules (OAR) 340-41-470 (Thee Basin Rule).*

Applicant's Response: Chapter 13.12.050C1 is applicable to the site areas.

13.12.090 Approval criteria for engineered drainage plans and drainage report.

An engineered drainage plan and/or drainage report shall be approved only upon making the following findings:

A. The plan and report demonstrate how the proposed development and stormwater management facilities will accomplish the purpose statements of this chapter;

B. The plan and report meet the requirements of the Public Works Stormwater and Grading Design Standards adopted by resolution under Section 13.12.020

C. Unless otherwise exempted by Section 13.12.050(B), the plan and report includes adequate stormwater quantity control facilities, so that when the proposed land development activity takes place, peak rates and volumes of runoff:
   1. Do not exceed the capacity of receiving drainage conveyance facilities;
   2. Do not increase the potential for streambank erosion; and
   3. Do not add volume to an off-site closed depression without providing for mitigation.

D. Unless otherwise exempted by Section 13.12.050(C), the proposed development includes:
   1. Adequate stormwater quality control facilities, so that when the proposed land development activity takes place, the temperature and overall pollution level of stormwater runoff is no greater than the water entering. When no water enters a project, then stormwater runoff shall be compared to rain samples; and
   2. Stormwater quality control facilities which:
   a. Are in compliance with applicable National Pollutant Discharge Elimination System (NPDES) requirements;
   b. Minimize the deterioration of existing watercourses, culverts, bridges, dams and other structures; and
   c. Minimize any increase in nonpoint source pollution.

E. The storm drainage design within the proposed development includes provisions to adequately control runoff from all public and private streets and roof, footing, and area drains and ensures future extension of the current drainage system.

F. Streambank erosion protection is provided where stormwater, directly or indirectly, discharges to open channels or streams. The post-development peak stormwater discharge rate from a development site for the two year, twenty-four hour duration storm event shall not exceed fifty percent of the two year, twenty-four hour predevelopment peak runoff rate.

G. Specific operation and maintenance measures are proposed that ensure that the proposed stormwater quantity control facilities will be properly operated and maintained.

Applicant's Response: Plans for drainage improvements will be prepared in accordance with City requirements.

CHAPTER 15.48 - GRADING, FILLING AND EXCAVATING

15.48.030 Applicability—Grading permit required.

A. A city-issued grading permit shall be required before the commencement of any of the following filling or grading activities:

1. Grading activities in excess of ten cubic yards of earth;

2. Grading activities which may result in the diversion of existing drainage courses, both natural and man-made, from their natural point of entry or exit from the grading site;

3. Grading and paving activities resulting in the creation of impervious surfaces greater than two thousand square feet or more in area;

4. Any excavation beyond the limits of a basement or footing excavation, having an unsupported soil height greater than five feet after the completion of such a structure; or

5. Grading activities involving the clearing or disturbance of one-half acres (twenty-one thousand seven hundred eighty square feet) or more of land.

Applicant's Response: A grading permit will be required for the proposed improvements. Permits will be acquired prior to commencing grading activities.

15.48.090 Submittal requirements.

An engineered grading plan or an abbreviated grading plan shall be prepared in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards whenever a city approved grading permit is required. In addition, a geotechnical engineering report and/or residential lot grading plan may be required pursuant to the criteria listed below.

A. Abbreviated Grading Plan. The city shall allow the applicant to submit an abbreviated grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards if the following criteria are met:

1. No portion of the proposed site is within the flood management area overlay district pursuant to Chapter 17.42, the unstable soils and hillside constraints overlay district pursuant to Chapter 17.44, or a water quality resource area pursuant to Chapter 17.49; and

2. The proposed filling or grading activity does not involve more than fifty cubic yards of earth.

B. Engineered Grading Plan. The city shall require an engineered grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer if the proposed activities do not qualify for abbreviated grading plan.

C. Geotechnical Engineering Report. The city shall require a geotechnical engineering report in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer who specializes in geotechnical work when any of the following site conditions may exist in the development area:

1. When any publicly maintained facility (structure, street, pond, utility, park, etc.) will be supported by any engineered fill;

2. When an embankment for a stormwater pond is created by the placement of fill;

3. When, by excavation, the soils remaining in place are greater than three feet high and less than twenty feet wide.

D .Residential Lot Grading Plan. The city shall require a residential lot grading plan in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer for all land divisions creating new residential building lots or where a public improvement

project is required to provide access to an existing residential lot.

Applicant's Response: Code section 15.48.090B is applicable to this site. Grading plans will be submitted in accordance with this code.

CHAPTER 17.34 - "MUD" MIXED USE DOWNTOWN DISTRICT

17.34.020 - Permitted uses.
Permitted uses in the MUD district are defined as:
A. Any use permitted in the mixed-use corridor without a size limitation, unless otherwise restricted in Sections 17.34.020, 17.34.030 or 17.34.040;
B. Hotel and motel, commercial lodging;
C. Marinas;
D. Religious institutions;
E. Retail trade, including grocery, hardware and gift shops, bakeries, delicatessens, florists, pharmacies, specialty stores provided the maximum footprint of a freestanding building with a single store does not exceed sixty thousand square feet (a freestanding building over sixty thousand square feet is allowed as long as the building contains multiple stores);
F. Live/work units.

Applicant's Response: **Proposed project consists permitted uses including offices, hotel, retail, commercial, and multi-family residential.**

17.34.030 - Conditional uses.
The following uses are permitted in this district when authorized and in accordance with the process and standards contained in Chapter 17.56.
A. Ancillary drive-in or drive-through facilities;
B. Emergency services;
C. Hospitals;
D. Outdoor markets that do not meet the criteria of Section 17.34.020;
E. Parks, playgrounds, play fields and community or neighborhood centers;
F. Parking structures and lots not in conjunction with a primary use;
G. Retail trade, including grocery, hardware and gift shops, bakeries, delicatessens, florists, pharmacies and specialty stores in a freestanding building with a single store exceeding a foot print of sixty thousand square feet;
H. Public facilities such as sewage and water treatment plants, water towers and recycling and resource recovery centers;
I. Public utilities and services such as pump stations and sub-stations;
J. Distributing, wholesaling and warehousing;
K. Gas stations;
L. Public and or private educational or training facilities;
M. Stadiums and arenas;
N. Passenger terminals (water, auto, bus, train);
O. Recycling center and/or solid waste facility.

Applicant's Response: Proposed project does not include any of the above Conditional Uses. Project Site design consists of Permitted Uses within the Mixed Use District.

17.34.040 - Prohibited uses.
The following uses are prohibited in the MUD district:
A. Kennels;
B. Outdoor storage and sales, not including outdoor markets allowed in Section 17.34.030;
C. Self-service storage;
D. Single-Family and two-family residential units;

E. Motor vehicle and recreational vehicle repair/service;
F. Motor vehicle and recreational vehicle sales and incidental service;
G. Heavy equipment service, repair, sales, storage or rental[2] (including but not limited to construction equipment and machinery and farming equipment)
Applicant's Response: Proposed project does not include any of the above listed Prohibited Uses.

17.34.050 - Pre-existing industrial uses.
Tax lot 5400 located at Clackamas County Tax Assessors Map #22E20DD, Tax Lots 100 and two hundred located on Clackamas County Tax Assessors Map #22E30DD and Tax Lot 700 located on Clackamas County Tax Assessors Map #22E29CB have special provisions for industrial uses. These properties may maintain and expand their industrial uses on existing tax lots. A change in use is allowed as long as there is no greater impact on the area than the existing use.
Applicant's Response: Proposed project Site does not contain any of the above-mentioned Tax Lots. Therefore, this section does not apply.

17.34.060 - Mixed-use downtown dimensional standards—For properties located outside of the downtown design district.
A. Minimum lot area: None.
Applicant's Response: Proposed project site is located outside of the downtown design district, therefore no minimum lot area is required.

B. Minimum floor area ratio: 0.30.
Applicant's Response: Floor Area Ratio of the proposed project will exceed 0.30.

C. Minimum building height: Twenty-five feet or two stories except for accessory structures or buildings under one thousand square feet.
Applicant's Response: Proposed structures will exceed 25 feet or 2 stories. The existing Hackett House is a two story structure of approximately 25 feet in height.

D. Maximum building height: Seventy-five feet, except for the following locations where the maximum building height shall be forty-five feet:
1. Properties between Main Street and McLoughlin Boulevard and 11th and 16th streets;
2. Property within five hundred feet of the End of the Oregon Trail Center property; and
3. Property within one hundred feet of single-family detached or detached units.
Applicant's Response: Project property is within 500 feet of the End of the Oregon Trail Center property, therefore the maximum allowable building height is 45 feet. Building height has been measured from the flood plain elevation (see 17-02 pre-app notes – community development).

An adjustment to the maximum building height will be requested for the hotel proposed for phase 1. The remainder of the proposed project will comply with the 45 foot maximum height as measured from the flood plain elevation.

E. Minimum required setbacks, if not abutting a residential zone: None.
Applicant's Response: Proposed project does not abutt a residential zone. Therefore, there is no minimum setback requirement. ODOT recommends a 15' minimum setback from the railroad right-of-way adjoining the property to the West. Proposed project will comply with 15' minimum setback along railroad right-of-way.

F. Minimum required interior side yard and rear yard setback if abutting a residential zone: Fifteen feet, plus one additional foot in yard setback for every two feet in height over thirty-five feet.
Applicant's Response: Proposed project does not abutt a residential zone. Therefore, there the minimum required interior side yard and rear yard does not apply.

G. Maximum Allowed Setbacks.

1. Front yard: Twenty feet provided the site plan and design review requirements of Section 17.62.055 are met.
Applicant's Response: Front yard setbacks will not exceed the twenty-foot maximum.

2. Interior side yard: No maximum.
Applicant's Response: Project will comply with no maximum side yard setback requirement.

3. Corner side yard abutting street: Twenty feet provided the site plan and design review requirements of Section 17.62.055 are met.
Applicant's Response: Project does not include corner side yard abutting street, therefore this requirement does not apply.

4. Rear yard: No maximum.
Applicant's Response: Project will comply with no maximum rear yard setback requirement.

5. Rear yard abutting street: Twenty feet provided the site plan and design review requirements of Section 17.62.055 are met.
Applicant's Response: Rear yard does not abutt a street, therefor this requirement does not apply.

H. Maximum site coverage including the building and parking lot: Ninety percent.
Applicant's Response: Proposed project will not exceed ninety percent site coverage.

I. Minimum landscape requirement (including parking lot): Ten percent.
Applicant's Response: Proposed project will include a minimum of 10% of the property area as landscaping.

17.34.070 - Mixed-use downtown dimensional standards—For properties located within the downtown design district.
Applicant's Response: Project is located outside of the downtown design district; therefore, this section does not apply.

17.34.080 - Explanation of certain standards.
A Floor Area Ratio (FAR).
1. Purpose. Floor area ratios are a tool for regulating the intensity of development. Minimum FARs help to achieve more intensive forms of building development in areas appropriate for larger-scale buildings and higher residential densities.
2. Standards.
a. The minimum floor area ratios contained in sections 17.34.060 and 17.34.070apply to all non-residential and mixed-use building developments.
b. Required minimum FARs shall be calculated on a project-by-project basis and may include multiple contiguous blocks. In mixed-use developments, residential floor space will be included in the calculations of floor area ratio to determine conformance with minimum FARs.
c. An individual phase of a project shall be permitted to develop below the required minimum floor area ratio provided the applicant demonstrates, through covenants applied to the remainder of the site or project or through other binding legal mechanism, that the required density for the project will be achieved at project build out.
B. Building height.
1. Purpose.
a. The Masonic Hall is currently the tallest building in downtown Oregon City, with a height of fifty-eight feet measured from Main Street. The maximum building height limit of fifty-eight feet will ensure that no new building will be taller than the Masonic Hall.
b. A minimum two-story (twenty-five feet) building height is established for the Downtown Design District Overlay sub-district to ensure that the traditional building scale for the downtown area is maintained.

CHAPTER 17.41 - TREE PROTECTION STANDARDS

17.41.020 - Tree protection—Applicability.
1. Applications for development subject to Chapters 16.08 or 16.12 (Subdivision or Minor Partition) or Chapter 17.62 (Site Plan and Design Review) shall demonstrate compliance with these standards as part of the review proceedings for those developments.
2. For public capital improvement projects, the city engineer shall demonstrate compliance with these standards pursuant to a Type II process.
3. Tree canopy removal greater than twenty-five percent on sites greater than twenty-five percent slope, unless exempted under Section 17.41.040, shall be subject to these standards.
4. A heritage tree or grove which has been designated pursuant to the procedures of Chapter 12.08.050 shall be subject to the standards of this section.

17.41.030 - Tree protection—Conflicting code provisions.
Except as otherwise specified in this section, where these standards conflict with adopted city development codes or policies, the provision which provides the greater protection for regulated trees or groves, as defined in Section 17.04, shall govern.
Applicant's Response:
Tree protection is integral to the site clearing and demolition plan. The pre-existing industrial use of the site has compromised its overall ecological health and value. This project aims to meet or exceed the City intent to repair and reestablish ecological value to this site with the use of as many native and naturalized species as possible to suit the site's context and to meet the requirements set forth in the 17.62.050 Standards.

17.41.040 - Same—Exemptions.
These regulations are not intended to regulate normal cutting, pruning and maintenance of trees on private property except where trees are located on lots that are undergoing development review or are otherwise protected within the Natural Resource Overlay District (NROD) of section 17.49. These standards are not intended to regulate farm and forest practices as those practices are defined under ORS 30.930. Farm or forest resources. An applicant for development may claim exemption from compliance with these standards if the development site containing the regulated grove or trees was a designated farm or forest use, tree farm, Christmas tree plantation, or other approved timber use within one year prior to development application. "Forest practices" and "forestlands" as used in this subsection shall have the meaning as set out in ORS 30.930. The community development director has the authority to modify or waive compliance in this case.
Applicant's Response: The exemptions as noted above are not applicable to this site.

17.41.050 - Same—Compliance options.
Applicants for review shall comply with these requirements through one or a combination of the following procedures:
A. Option 1—Mitigation. Retention and removal of trees, with subsequent mitigation by replanting pursuant to Sections 17.41.060 or 17.41.070. All replanted and saved trees shall be protected by a permanent restrictive covenant or easement approved in form by the city.
B. Option 2—Dedicated Tract. Protection of trees or groves by placement in a tract within a new subdivision or partition plat pursuant to Sections 17.41.080—17.41.100; or
C. Option 3—Restrictive Covenant. Protection of trees or groves by recordation of a permanent restrictive covenant pursuant to Sections 17.41.110—17.41.120; or
D. Option 4—Cash-in-lieu of planting pursuant to Section 17.41.130.
A regulated tree that has been designated for protection pursuant to this section must be retained or permanently protected unless it has been determined by a certified arborist to be diseased or hazardous, pursuant to the following applicable provisions.
The community development director, pursuant to a Type II procedure, may allow a property owner to cut a specific number of trees within a regulated grove if preserving those trees would:
1. Preclude achieving eighty percent of minimum density with reduction of lot size; or
2. Preclude meeting minimum connectivity requirements for subdivisions.

Applicant's Response: The requirements for compliance will be met by one of the approved methods.

17.41.060 - Tree removal and replanting—Mitigation (Option 1).
A. Applicants for development who select this option shall ensure that all healthy trees shall be preserved outside the construction area as defined in Chapter 17.04 to the extent practicable. Compliance with these standards shall be demonstrated in a tree mitigation plan report prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arborculture. At the applicant's expense, the city may require the report to be reviewed by a consulting arborist. The number of replacement trees required on a development site shall be calculated separately from, and in addition to, any public or street trees in the public right-of-way required under Section 12.08—Community Forest and Street Trees.
B. The applicant shall determine the number of trees to be mitigated on the site by counting all of the trees six inch DBH (minimum four and one-half feet from the ground) or larger on the entire site and either:
1. Trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2; or
2. Diseased or hazardous trees, when the condition is verified by a certified arborist to be consistent with the definition in Section 17.04.1360, may be removed from the tree replacement calculation. Regulated healthy trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Regulated healthy trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2.
Table 17.41.060-1
Tree Replacement Requirements
All replacement trees shall be either:
Two-inch caliper deciduous, or
Six-foot high conifer

Size of tree removed (DBH)	*Column 1* *Number of trees to be planted. (If removed Outside of construction area)*	*Column 2* *Number of trees to be planted. (If removed Within the construction area)*
6 to 12"	*3*	*1*
13 to 18"	*6*	*2*
19 to 24"	*9*	*3*
25 to 30"	*12*	*4*
31 and over"	*15*	*5*

Steps for calculating the number of replacement trees:
1. Count all trees measuring six inches DBH (minimum four and one-half feet from the ground) or larger on the entire development site.
2. Designate (in certified arborists report) the condition and size (DBH) of all trees pursuant to accepted industry standards.
3. Document any trees that are currently diseased or hazardous.
4. Subtract the number of diseased or hazardous trees in step 3. from the total number of trees on the development site in step 1. The remaining number is the number of healthy trees on the site. Use this number to determine the number of replacement trees in steps 5. through 8.
5. Define the construction area (as defined in Chapter 17.04).

6. Determine the number and diameter of trees to be removed within the construction area. Based on the size of each tree, use Column 2 to determine the number of replacement trees required.
7. Determine the number and diameter of trees to be removed outside of the construction area. Based on the size of each tree, use Column 1 to determine the number of replacement trees required.
8. Determine the total number of replacement trees from steps 6. and 7.
Applicant's Response: Tree protection is integral to the site clearing and demolition plan. The pre-existing industrial use of the site has compromised its overall ecological health and value. This project aims to meet or exceed the City intent to repair and reestablish ecological value to this site with the use of as many native and naturalized species as possible to suit the site's context and to meet the requirements set forth in the 17.62.050 Standards.

17.41.070 - Planting area priority for mitigation (Option 1).
Development applications which opt for removal of trees with subsequent replanting pursuant to section 17.41.050A. shall be required to mitigate for tree cutting by complying with the following priority for replanting standards below:
A. First Priority. Replanting on the development site.
B. Second Priority. Off-site replacement tree planting locations. If the community development director determines that it is not practicable to plant the total number of replacement trees on-site, a suitable off-site planting location for the remainder of the trees may be approved that will reasonably satisfy the objectives of this section. Such locations may include either publicly owned or private land and must be approved by the community development director.
Applicant's Response: As much as is feasible, this project strives to meet the requirements for replanting on the development site, using a favorable variety of native or naturalized species.

17.41.075 - Alternative mitigation plan.
The community development director may, subject to a Type II procedure, approve an alternative mitigation plan that adequately protects habitat pursuant to the standards for the natural resource overlay district alternative mitigation plan, Section 17.49.190.
Applicant's Response: At this time there is no request or need for alternative landscape plan review.

17.41.080 - Tree preservation within subdivisions and partitions—Dedicated tract (Option 2).
A. Applicants for new subdivision and partition plats may delineate and show the regulated trees or groves as either a separate tract or part of a larger tract that meets the requirements of subsection D. of this section.
B. The standards for land divisions subject to this section shall apply in addition to the requirements of the city land division ordinance and zoning ordinance, provided that the minimum lot area, minimum average lot width, and minimum average lot depth standards of the base zone may be superseded in order to allow for a reduction of dimensional standards pursuant to Section 17.41100 below.
C. Prior to preliminary plat approval, the regulated tree or grove area shall be shown either as a separate tract or part of a larger tract that meets the requirements of subsection D. of this section, which shall not be a part of any parcel used for construction of a structure. The size of the tract shall be the minimum necessary as recommended by a consulting arborist to adequately encompass the dripline of the tree, protect the critical root zone and ensure long term survival of the tree or grove.
D. Prior to final plat approval, ownership of the regulated tree or grove tract shall be identified to distinguish it from lots intended for sale. The tract may be identified as any one of the following:
1. Private open space held by the owner or a homeowners association; or
2. For residential land divisions, private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or
3. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit; or
4. Any other ownership proposed by the owner and approved by the community development director.
Applicant's Response: Proposed project is not a subdivision, therefore this section does not apply.

17.41.090 - Density transfers incentive for tree protection tracts (Option 2).
A. The purpose of this section is to allow dimensional adjustments within a regulated tree protection tract to be transferred outside said tract to the remainder of the site. This provision applies on-site and density shall not be transferred beyond the boundaries of the development site.
B. Development applications for subdivisions and minor partitions that request a density transfer shall:
1. Provide a map showing the net buildable area of the tree protection tract;
2. Provide calculations justifying the requested dimensional adjustments;
3. Demonstrate that the minimum lot size requirements can be met based on an average of all lots created, including the tree protection tract created pursuant to Section 17.41.080;
4. Demonstrate that, with the exception of the tree protection tract created pursuant to Section 17.41.080, no parcels have been created which would be unbuildable in terms of minimum yard setbacks;
5. Meet all other standards of the base zone except as modified in section 17.41.100.
C. The area of land contained in a tree protection tract may be excluded from the calculations for determining compliance with minimum density requirements of the zoning code.
Applicant's Response: Proposed project is not seeking a density transfer for tree protection.

17.41.100 - Permitted modifications to dimensional standards (Option 2 only).
A. An applicant proposing to protect trees in a dedicated tract pursuant to section 17.41.080 may request, and the community development director, pursuant to a Type II procedure, may grant a reduction to, the lot size, width, depth, and setbacks of the underlying zone district in approving a subdivision or partition if necessary to retain a regulated tree or grove in a tract, as long as the calculation of average lot size, including tree protection tracts, meet the minimum lot size for the zone. The applicant may choose to make the adjustments over as many lots as required. For example, the lot reduction could be spread across all the remaining lots in the proposed subdivision or partition or could be applied to only those needed to incorporate the area of the tree tract.

Table 17.41.100 A
Lot Size Reduction

ZONE	*Min. Lot Size [sq. feet]*	*Min. Lot Width*	*Min. Lot Depth*
R-10	*5,000 sq. feet*	*50'*	*65'*
R-8	*4,000 sq. feet*	*45'*	*60'*
R-6	*3,500 sq. feet*	*35'*	*55'*
R-5	*3,000 sq. feet*	*30'*	*50'*
R-3.5	*1,800 sq. feet*	*20'*	*45'*

Table 17.41.100 B
Reduced Dimensional Standards for Detached Single-Family Residential Units

Size of Reduced Lot	*Front Yard Setback*	*Rear Yard Setback*	*Side yard Setback*	*Corner Side*	*Lot Coverage*
8,000—9,999 square feet	*15 feet*	*20 feet*	*7/9 feet*	*15 feet*	*40%*
6,000—7,999 square feet	*10 feet*	*15 feet*	*5/7 feet*	*15 feet*	*40%*

4,000—5,999 square feet	*10 feet*	*15 feet*	*5/5 feet*	*10 feet*	*40%*
1,800—3,999 square feet	*5 feet*	*15 feet*	*5/5 feet*	*10 feet*	*55%*

Table 17.41.100 C
Reduced Dimensional Standards for Single-Family Attached or Two-Family Residential Units

Size of Reduced Lot	*Front Yard Setback*	*Rear Yard Setback*	*Side yard Setback*	*Corner Side*	*Lot Coverage*
3,500—7,000 square feet	*10 feet*	*15 feet*	*5/0* feet*	*10 feet*	*40%*
1,800—3,499 square feet	*5 feet*	*15 feet*	*5/0* feet*	*10 feet*	*55%*

**0 foot setback is only allowed on single-family attached units*

Applicant's Response: Proposed project is not seeking a density transfer for tree protection under option 2, therefore this section does not apply.

17.41.110 - Tree protection by restrictive covenant (Option 3).
Any regulated tree or grove which cannot be protected in a tract pursuant to Section 17.41.080 above shall be protected with a restrictive covenant in a format to be approved by the community development director. Such covenant shall be recorded against the property deed and shall contain provisions to permanently protect the regulated tree or grove unless such tree or grove, as determined by a certified arborist and approved by the community development director, are determined to be diseased or hazardous.

Applicant's Response: Does Not Apply

17.41.120 - Permitted adjustments (Option 3 Only).
A. The community development director, pursuant to a Type II procedure, may grant an adjustment to the side, front and rear yard setback standards by up to 50 percent if necessary to retain a Regulated Tree or Grove through a restrictive covenant pursuant to this section. In no case may the side yard setback be reduced less than three feet. The adjustment shall be the minimum necessary to accomplish preservation of trees on the lot and shall not conflict with other conditions imposed on the property.
B. The community development director, pursuant to a Type II procedure, may grant an adjustment to street standards, pursuant to adopted public works standards, in order to preserve a tree. This may include flexibility to redesign sidewalk and planter strip sizes and locations and allow placement of sidewalks and planter strips in an easement within private lots.
C. The community development director, pursuant to a Type II procedure, may allow other adjustments in order to preserve any healthy tree that cannot be moved due to its size, but will contribute to the landscape character of the area and will not present a foreseeable hazard if retained.

Applicant's Response: Does Not Apply

17.41.1[25] - Cash-in-lieu of planting (tree bank/fund) (Option 4).
The applicant may choose this option in-lieu-of or in addition to Compliance Options 1 through 3. In this case, the community development director may approve the payment of cash-in-lieu into a dedicated fund for the remainder of trees that cannot be replanted in the manner described above.

A. The cash-in-lieu payment per tree shall be as listed on the adopted fee schedule and shall be adjusted annually based on the Consumer Price Index (Index). The price shall include the cost of materials, transportation and planting.
B. The amount of the cash-in-lieu payment into the tree bank shall be calculated as the difference between the value of the total number of trees an applicant is required to plant, including cost of installation and adjusted for Consumer Price Index, minus the value of the trees actually planted. The value of the trees shall be based on the adopted fee schedule.
Applicant's Response: The proposed project is not currently seeking the tree bank/fund option in this GDP. Future DDP applications may reserve the right to exercise this option.

17.41.130 - Regulated tree protection procedures during construction.
A. No permit for any grading or construction of public or private improvements may be released prior to verification by the community development director that regulated trees designated for protection or conservation have been protected according to the following standards. No trees designated for removal shall be removed without prior written approval from the community development director.
Applicant's Response: Duly Noted.

B. Tree protection shall be as recommended by a qualified arborist or, as a minimum, to include the following protective measures:
1. Except as otherwise determined by the community development director, all required tree protection measures set forth in this section shall be instituted prior to any development activities, including, but not limited to clearing, grading, excavation or demolition work, and such measures shall be removed only after completion of all construction activity, including necessary landscaping and irrigation installation, and any required plat, tract, conservation easement or restrictive covenant has been recorded.
2. Approved construction fencing, a minimum of four feet tall with steel posts placed no farther than ten feet apart, shall be installed at the edge of the tree protection zone or dripline, whichever is greater. An alternative may be used with the approval of the community development director.
3. Approved signs shall be attached to the fencing stating that inside the fencing is a tree protection zone, not to be disturbed unless prior approval has been obtained from the community development director.
4. No construction activity shall occur within the tree protection zone, including, but not limited to; dumping or storage of materials such as building supplies, soil, waste items; nor passage or parking of vehicles or equipment.
5. The tree protection zone shall remain free of chemically injurious materials and liquids such as paints, thinners, cleaning solutions, petroleum products, and concrete or dry wall excess, construction debris, or run-off.
6. No excavation, trenching, grading, root pruning or other activity shall occur within the tree protection zone unless directed by an arborist present on site and approved by the community development director.
7. No machinery repair or cleaning shall be performed within ten feet of the dripline of any trees identified for protection.
8. Digging a trench for placement of public or private utilities or other structure within the critical root zone of a tree to be protected is prohibited. Boring under or through the tree protection zone may be permitted if approved by the community development director and pursuant to the approved written recommendations and on-site guidance and supervision of a certified arborist.
9. The city may require that a certified arborist be present during any construction or grading activities that may affect the dripline of trees to be protected.
10. The community development director may impose conditions to avoid disturbance to tree roots from grading activities and to protect trees and other significant vegetation identified for retention from harm. Such conditions may include, if necessary, the advisory expertise of a qualified consulting arborist or horticulturist both during and after site preparation, and a special maintenance/management program to provide protection to the resource as recommended by the arborist or horticulturist.
Applicant's Response: An arborists report will be included with DDP submittal.

C. Changes in soil hydrology due to soil compaction and site drainage within tree protection areas shall be avoided. Drainage and grading plans shall include provision to ensure that drainage of the site does not conflict with the

standards of this section. Excessive site run-off shall be directed to appropriate storm drainage facilities and away from trees designated for conservation or protection.

Applicant's Response: An arborists report will be included with DDP submittal. Civil drainage and grading plans plans will include coordination with arborists recommendations for tree protection.

CHAPTER 17.44 - GEOLOGIC HAZARDS

17.44.035 *- Exemptions.*
The following activities, and persons engaging in same, are EXEMPT from the provisions of this chapter.
A. An excavation which is less than two feet in depth, or which involves less than twenty-five cubic yards of volume;
B. A fill which does not exceed two feet in depth or twenty-five cubic yards of volume;
C. Structural alteration of any structure of less than five hundred square feet that does not involve grading as defined in this chapter;
D. Installation, construction, reconstruction, or replacement of utility lines in city right-of-way, or public easement, not including electric substations;
E. The removal or control of noxious vegetation;
F. Emergency actions which must be undertaken immediately to prevent an imminent threat to public health or safety, or prevent imminent danger to public or private property. The person undertaking emergency action shall notify the building official on all regulated activities associated with any building permit or city engineer/public works director on all others within one working day following the commencement of the emergency activity. If the city engineer/public works director or building official determine that the action or part of the action taken is beyond the scope of allowed emergency action, enforcement action may be taken.
Applicant's Response: Geologic hazards are identified on the project property along 17th Street at the south edge of lot 1200 and 1301. Proposed development in this area is limited to utilities, sidewalks, parking, landscaping, and public street improvements. With the possible exception of excavations for utilities anticipated work within the geologic hazard area would be exempt from the provisions of this chapter. A "Geologic hazard Evaluation Report" is included with this submittal as Exhibit F.

17.44.050 *Development - Application Requirements and Review Procedures and Approvals.*
Except as provided by subsection B of this section, the following requirements apply to all development proposals subject to this chapter:
A. A geological assessment and geotechnical report that specifically includes, but is not limited to:
1) Comprehensive information and data regarding the nature and distribution of underlying geology, the physical and chemical properties of existing soils and groundwater; an opinion of site geologic stability, and conclusions regarding the effect of geologic conditions on the proposed development. In addition to any field reconnaissance or subsurface investigation performed for the site, the following resources, as a minimum, shall be reviewed to obtain this information and data:
a) The State of Oregon Department of Geology and Mineral Industries (DOGAMI) in Bulletin 99, Geology and Geological Hazards of North Clackamas County, Oregon (1979), or in any subsequent DOGAMI mapping for the Oregon City area;
b) Portland State University study entitled "Environmental Assessment of Newell Creek Canyon, Oregon City, Oregon" (1992);
c) Portland State University study, "Landslides in the Portland, Oregon, Metropolitan Area Resulting from the Storm of February 1996: Inventory Map, Database and Evaluation" (Burns and others, 1998);
d) DOGAMI Open File Report O-06-27, "Map of Landslide Geomorphology of Oregon City, Oregon, and Vicinity Interpreted from LIDAR Imagery and Aerial Photographs" (Madin and Burns, 2006);
e) "Preliminary Geologic Map of the Oregon City Quadrangle, Clackamas County, Oregon" (Madin, in press);
Applicant's Response: A preliminary geologic hazard evaluation report is included with this submittal.

2) Information and recommendations regarding existing local drainage, proposed permit activity impacts on local drainage, and mitigation to address adverse impacts;
Applicant's Response: See included preliminary geologic hazard evaluation report for information and recommendations for existing local drainage.

3) Comprehensive information about site topography;

Applicant's Response: See included preliminary geologic hazard evaluation report and civil drawings for information about site topography.

4) *Opinion as to the adequacy of the proposed development from an engineering standpoint;*

Applicant's Response: See included preliminary geologic hazard evaluation report for opinion as to the adequacy of the proposed development from an engineering standpoint.

5) *Opinion as to the extent that instability on adjacent properties may adversely affect the project;*

Applicant's Response: See included preliminary geologic hazard evaluation report for opinion concerning stability assessments.

6) *Description of the field investigation and findings, including logs of subsurface conditions and laboratory testing results;*

Applicant's Response: See included preliminary geologic hazard evaluation report for investigations, findings and lab reports.

7) *Conclusions regarding the effect of geologic conditions on the proposed development, tree removal, or grading activity;*

Applicant's Response: See included preliminary geologic hazard evaluation report for conclusory statements.

8) *Specific requirements and recommendations for plan modification, corrective grading, and special techniques and systems to facilitate a safe and stable site;*

Applicant's Response: A geotechnical report addressing requirements of this section will be provided with building permit submittals.

9) *Recommendations and types of considerations as appropriate for the type of proposed development:*
   a. *General earthwork considerations, including recommendations for temporary and permanent cut and fill slopes and placement of structural fill,*
   b. *Location of residence on lot,*
   c. *Building setbacks from slopes,*
   d. *Erosion control techniques applicable to the site,*
   e. *Surface drainage control to mitigate existing and potential geologic hazards,*
   f. *Subdrainage and/or management of groundwater seepage,*
   g. *Foundations,*
   h. *Embedded/retaining walls,*
   i. *Management of surface water and irrigation water, and*
   j. *Impact of the development on the slope stability of the lot and the adjacent properties.*

Applicant's Response: A geotechnical report addressing requirements of this section will be provided with building permit submittals.

Scaled drawings that describe topography and proposed site work, including:

   a. *Natural physical features, topography at two or ten-foot contour intervals locations of all test excavations or borings, watercourses both perennial and intermittent, ravines and all existing and manmade structures or features all fully dimensioned, trees six- inch caliper or greater measured four feet from ground level, rock outcroppings and drainage facilities;*
   b. *All of the features and detail required for the site plan above, but reflecting preliminary finished grades and indicating in cubic yards whether and to what extent there will be a net increase or loss of soil.*
   c. *A cross-section diagram, indicating depth, extent and approximate volume of all excavation and fills.*

Applicant's Response: See "Topographic Survey" for existing conditions and features. Civil drawings showing preliminary grading are included with GDP. Detailed Civil drawings addressing the remainder of this section will be provided with DDP submittals. A geotechnical report showing boring locations will be provided with building permit submittals.

11) For properties greater than 1 acre, a preliminary hydrology report, prepared by a suitably qualified and experienced hydrology expert, addressing the effect upon the watershed in which the proposed development is located; the effect upon the immediate area's stormwater drainage pattern of flow, the impact of the proposed development upon downstream areas and upon wetlands and water resources; and the effect upon the groundwater supply.

Applicant's Response: See Exhibit H included in this submittal.

17.44.050.B. *Review Procedures and Approvals require the following:*

1) *Examination to ensure that:*
   a) *Required application requirements are completed;*
   b) *Geologic assessment and geotechnical report procedures and assumptions are generally accepted; and*
   c) *All conclusions and recommendations are supported and reasonable.*

Applicant's Response: Duly Noted.

17.44.050.B.2 *Conclusions and recommendations stated in an approved assessment or report shall then be directly incorporated as permit conditions or provide the basis for conditions of approval for the regulated activity.*

Applicant's Response: Duly Noted.

17.44.050.B.3 *All geologic assessments and geotechnical reports shall be reviewed by an engineer certified for expertise in geology or geologic engineering and geotechnical engineering, respectively, as determined by the City. The City will prepare a list of prequalified consultants for this purpose. The cost of review by independent review shall be paid by the applicant.*

Applicant's Response: Duly Noted.

17.44.050.C*. The city engineer may waive one or more requirements of subsections A and B of this section if the city engineer determines that site conditions, size or type or development of grading requirements do not warrant such detailed information. If one or more requirements are waived, the city engineer shall, in the staff report or decision, identify the waived provision(s), explain the reasons for the waiver, and state that the waiver may be challenged on appeal and may be denied by a subsequent review authority.*

Applicant's Response: Duly Noted

17.44.060 *Development Standards.*

Notwithstanding any contrary dimensional or density requirements of the underlying zone, the following standards shall apply to the review of any development proposal subject to this chapter. Requirements of this chapter are in addition to other provision of the Oregon City Municipal Code. Where provision of this chapter conflict with other provision of the Oregon City Municipal Code, the provisions that are more restrictive of regulated development activity shall govern.

17.44.060.A *All developments shall be designed to avoid unnecessary disturbance of natural topography, vegetation and soils. To the maximum extent practicable as determined by the review authority, tree and ground cover removal and fill and grading for residential development on individual lots shall be confined to building footprints and driveways, to areas required for utility easements and for slope easements for road construction, and to areas of geotechnical remediation.*

Applicant's Response: The proposed development has been designed so as to minimize unnecessary disturbances as applicable.

17.44.060B *All grading, drainage improvements, or other land disturbances shall only occur from May 1 to October 31. Erosion control measures shall be installed and functional prior to any disturbances. The City Engineer may allow grading, drainage improvements or other land disturbances to begin before May 1 (but no earlier than March 16) and end after October 31 (but no later than November 30), based upon weather conditions and in consultation with the project geotechnical engineer. The modification of dates shall be the minimum necessary, based upon the evidence provided by the applicant, to accomplish the necessary project goals. Temporary protective fencing shall be established around all trees and vegetation designed for protection prior to the commencement of grading or other soil disturbance.*

Applicant's Response: Erosion control measures will be in place for construction activities between October 31 to May 1.

17.44.060.C *Designs shall minimize the number and size of cuts and fills.*
Applicant's Response: Proposed project design minimizes the use of cuts and fills while also providing for a site that is most efficient for its intended use.

17.44.060.D *Cut and fill slopes, such as those for a street, driveway accesses, or yard area, greater than seven feet in height (as measured vertically) shall be terraced. Faces on a terraced section shall not exceed five feet. Terrace widths shall be a minimum of three feet and shall be vegetated. Total cut and fill slopes shall not exceed a vertical height of fifteen feet. Except in connection with geotechnical remediation plans approved in accordance with the chapter, cuts shall not remove the toe of any slope that contains a known landslide or is greater than twenty-five percent slope. The top of cut or fill slopes not utilizing structural retaining walls shall be located a minimum of one-half the height of the cut slope from the nearest property line.*
Applicant's Response: Proposed development includes cut and fill slopes exceeding seven feet in parking area north of the hotel, however this area is not within the Geologic Hazard area.

17.44.060.E *Any structural fill shall be designed by a suitably qualified and experienced civil or geotechnical engineer licensed in Oregon in accordance with standard engineering practice. The applicant's engineer shall certify that the fill has been constructed as designed in accordance with the provisions of this chapter.*
Applicant's Response: The above requirement is Duly Noted.

17.44.060.F *Retaining walls shall be constructed in accordance with the Oregon Structural Specialty Code adopted by the State of Oregon.*
Applicant's Response: Retaining walls will be engineered with accordance with all applicable codes and regulations.

17.44.060.G *Roads shall be the minimum width necessary to provide safe vehicle and emergency access, minimize cut and fill and provide positive drainage control. The review authority may grant a variance from the City's required road standards upon findings that the variance would provide safe vehicle and emergency access and is necessary to comply with the purpose and policy of this chapter.*
Applicant's Response: There are no new roads proposed for the proposed project, therefore this Does Not Apply.

17.44.060.H *Density shall be determined as follows*

1) *For those areas with slopes less than twenty-five percent between grade breaks, the allowed density shall be that permitted by the underlying zoning district;*
2) *For those areas with slopes of twenty-five to thirty-five percent between grade breaks, the density shall not exceed two dwelling units per acre except as otherwise provided in subsection I of this section;*
3) *For those areas with slopes over thirty-five percent between grade breaks, development shall be prohibited except as otherwise provided in subsection I 4 of this section.*

Applicant's Response: The Density calculations for the proposed project are in accordance with 17.00.060.H.1, following the allowed density permitted by the zoning district.

17.44.060.I *For properties with slopes of twenty-five to thirty-five percent between grade breaks:*

1) *For those portions of the property with slopes of twenty-five to thirty-five percent, the maximum residential density shall be limited to two dwelling units per acre; provided, however, that where the entire site is less than one-half acre in size, a single dwelling shall be allowed on a lot or parcel existing as of January 1, 1994 and meeting the minimum lot size requirements of the underlying zone;*
2) *An individual lot or parcel with slopes between twenty-five and thirty-five percent shall have no more than fifty percent or four thousand square feet of the surface area, whichever is smaller, graded or stripped of vegetation or covered with structures or impermeable surfaces.*

3) *No cut into a slope of twenty-five to thirty-five percent for the placement of a housing unit shall exceed a maximum vertical height of 15 feet for the individual lot or parcel.*
4) *For those portions of the property with slopes over thirty-five percent between grade breaks:*

a. *Notwithstanding any other City land use regulation, development other than roads, utilities, public facilities and geotechnical remediation shall be prohibited; provided, however, that the review authority may allow development upon such portions of land upon demonstration by an applicant that failure to permit development would deprive the property owner of all economically beneficial use of the property. This determination shall be made considering the entire parcel in question and contiguous parcels in common ownership on or after January 1, 1994, not just the portion where development is otherwise prohibited by this chapter. Where this showing can be made on residentially zoned land, development shall be allowed and limited to one single-family residence. Any development approved under this chapter shall be subject to compliance with all other applicable City requirements as well as any applicable State, Federal or other requirements;*
b. *To the maximum extent practicable as determined by the review authority, the applicant shall avoid locating roads, utilities, and public facilities on or across slopes exceeding thirty-five percent.*

Applicant's Response: **Not applicable as individual dwelling units are not proposed.**

17.44.060.J *The geotechnical engineer of record shall review final grading, drainage, and foundation plans and specifications and confirm in writing that they are in conformance with the recommendations provided in their report.*

Applicant's Response: **The proposed project has a Geotechnical Engineer on the team, for review of final grading, drainage, and foundation plans and specifications, and they will provide written reports, confirming compliance with their recommendations.**

17.44.060.K *At the City's discretion, peer review shall be required for the geotechnical evaluation/investigation report submitted for the development and/or lot plans. The peer reviewer shall be selected by the City. The applicant's geotechnical engineer shall respond to written comments provided by the City's peer reviewer prior to issuance of building permit.*

Applicant's Response: **The above discretionary requirement is understood.**

17.44.060.L *The review authority shall determine whether the proposed methods of rendering a known or potential hazard site safe for construction, including proposed geotechnical remediation methods, are feasible and adequate to prevent landslides or damage to property and safety. The review authority shall consult with the City's geotechnical engineer in making this determination. Costs for such consultation shall be paid by the applicant. The review authority may allow development in a known or potential hazard area as provided in this chapter if specific findings are made that the specific provisions in the design of the proposed development will prevent landslides or damage. The review authority may impose any conditions, including limits on type or intensity of land use, which it determines are necessary to assure that landslides or property damage will not occur.*

Applicant's Response: **The above requirement is duly noted.**

17.44.070 *Access to Property.*

A. *Shared private driveways may be required if the city engineer or principal planner determines that their use will result in safer location of the driveway and lesser amounts of land coverage than would result if separate private driveways are used.*
B. *Innovations in driveway design and road construction shall be permitted in order to keep grading and cuts or fills to a minimum and to achieve the purpose and policy of this chapter.*
C. *Points of access to arterials and collectors shall be minimized.*
D. *The city engineer or principal planner shall verify that adequate emergency services can be provided to the site.*

Applicant's Response: **Shared access drives are included in the proposed design for this project.**

17.44.080 *Utilities.*

All new service utilities, both on-site and off-site, shall be placed underground and under roadbeds where practicable. Every effort shall be made to minimize the impact of utility construction. Underground utilities require the geologic hazards permitting and review prescribed herein.
Applicant's Response: Proposed project includes the implementation of underground utilities.

17.44.090 *Stormwater Drainage.*
The applicant shall submit a permanent and complete stormwater control plan. The program shall include, but not be limited to the following items as appropriate: curbs, gutters, inlets, catch basins, detention facilities and stabilized outfalls. Detention facilities shall be designed to City standards as set out in the City's drainage master plan and design standards. The review authority may impose conditions to ensure that waters are drained from the development so as to limit degradation of water quality consistent with Oregon City's Title III section of the Oregon City Municipal Code Chapter 17.49 and the Oregon City Public Works Stormwater Management Design Manual and Standards Plan or other adopted standards subsequently adopted by the City Commission. Drainage design shall be approved by the city engineer before construction, including grading or other soil disturbance, has begun.
Applicant's Response: The proposed project includes preliminary Stormwater plans; final plans will be submitted for review at a future date.

17.44.100. *Construction Standards.*
During construction on land subject to this chapter, the following standards shall be implemented by the developer:
17.44.100.A *All development activity shall minimize vegetation removal and soil disturbance and shall provide positive erosion prevention measures in conformance with OCMC Chapter 17.47 – Erosion and Sediment Control.*
Applicant's Response: Development activity shall minimize vegetation removal where such practices are prudent and erosion prevention measures will be in place as required.

17.44.100.B *No grading, clearing or excavation of any land shall be initiated prior to approval of the grading plan, except that the city engineer shall authorize the site access, brush to be cleared and the location of the test pit digging prior to approval of such plan to the extent needed to complete preliminary and final engineering and surveying. The grading plan shall be approved by the city engineer as part of the city's review under this chapter. The developer shall be responsible for the proper execution of the approved grading plan.*
Applicant's Response: It is understood that work shall not commence prior to approvals.

17.44.100.C *Measures shall be taken to protect against landslides, mudflows, soil slump and erosion. Such measures shall include sediment fences, straw bales, erosion blankets, temporary sedimentation ponds, interceptor dikes and swales, undisturbed buffers, grooving and stair stepping, check dams, etc. The applicant shall comply with the measures described in the Oregon City Public Works Standards for Erosion and Sedimentation Control (Ordinance 99-1013).*
Applicant's Response: Measures for prevention of landslides, mudflows, soil slump and erosion shall be implemented by the Contractor where prudent, in accordance with the Oregon City Public Works Standards for Erosion and Sedimentation Control.

17.44.100.D *All disturbed vegetation shall be replanted with suitable vegetation upon completion of the grading of the steep slope area.*
Applicant's Response: Preliminary Landscape plans are included with this submittal.

17.44.100.E *Existing vegetative cover shall be maintained to the maximum extent practicable. No grading, compaction or change in ground elevation, soil hydrology and/or site drainage shall be permitted within the drip line of trees designated for protection, unless approved by the City.*
Applicant's Response: Where possible, we have strived to keep existing trees intact, with little or no change in grade, soil hydrology, or site drainage about the drip line of existing trees to remain. An Arborists Report and Tree Removal plan are included with this submittal.

17.44.100.F *Existing perennial and intermittent watercourses shall not be disturbed unless specifically authorized by the review authority. This includes physical impacts to the stream course as well as siltation and erosion impacts.*
Applicant's Response: If it is determined that there are watercourses onsite, then they will be protected from impacts of construction.

17.44.100.G *All soil erosion and sediment control measures shall be maintained during construction and for one year after development is completed, or until soils are stabilized by revegetation or other measures to the satisfaction of the city engineer. Such maintenance shall be the responsibility of the developer. If erosion or sediment control measures are not being properly maintained or are not functioning properly due to faulty installation or neglect, the City may order work to be stopped.*
Applicant's Response: Contractor will provide soil and sediment control measures during construction.

17.44.100.H *All newly created lots, either by subdivision or partition, shall contain building envelopes with a slope of 35% or less.*
Applicant's Response: Proposed project is on existing lots, therefore this does not apply.

17.44.100.I *The applicant's geotechnical engineer shall provide special inspection during construction to confirm that the subsurface conditions and assumptions made as part of their geotechnical evaluation/investigation are appropriate. This will allow for timely design changes if site conditions are encountered that are different from those anticipated.*
Applicant's Response: Geotechical Engineer of record will be contracted to provide inspection services.

17.44.100.J *Prior to issuing an occupancy permit, the geotechnical engineer shall prepare a summary letter stating that the soils- and foundation-related project elements were accomplished in substantial conformance with their recommendations.*
Applicant's Response: Soils report for this proposed project will be submitted prior to foundation design and will be submitted along with construction permit documents.

CHAPTER 17.47 - EROSION AND SEDIMENT CONTROL

17.47.070 Erosion and sediment control plans.
A. An application for an erosion and sediment control permit shall include an erosion and sediment control plan, which contains methods and interim measures to be used during and following construction to prevent or control erosion prepared in compliance with City of Oregon City public works standards for erosion and sediment control. These standards are incorporated herein and made a part of this title and are on file in the office of the city recorder.
Applicant's Response: An erosion and sediment control plan will be submitted with DDP application.

CHAPTER 17.49 - NATURAL RESOURCE OVERLAY DISTRICT

17.49.250 Verification of NROD Boundary
The NROD boundary may have to be verified occasionally to determine the true location of a resource and its functional values on a site. This may through a site specific environmental survey or, in those cases where existing information demonstrates that the NROD significance rating does not apply to a site-specific area. Applications for development on a site located in the NROD area may request a determination that the subject site is not in an NROD area and therefore is not subject to the standards of Section 17.49.100. Verifications shall be processed as either a Type I or Type II process.

17.49.255 - Type I verification.
A. Applicants for a determination under this section shall submit a site plan meeting the requirements of Section 17.49.220, as applicable.
B. Alternatively, an applicant may request a Type I Verification determination by the community development director by making an application therefore and paying to the city a fee as set by resolution of the city commission.

Such requests may be approved provided that there is evidence substantiating that all the requirements of this chapter relative to the proposed use are satisfied and demonstrates that the property also satisfies the following criteria, as applicable:

1. No soil, vegetation, hydrologic features have been disturbed;

2. No hydrologic features have been changed;

3. There are no man-made drainage features, water marks, swash lines, drift lines present on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation.

4. The property does not contain a wetland as identified by the city's local wetland inventory or water quality and flood management areas map.

5. There is no evidence of a perennial or intermittent stream system or other protected water feature. This does not include established irrigation ditches currently under active farm use, canals or manmade storm or surface water runoff structures or artificial water collection devices.

6. Evidence of prior land use approvals that conform to the City's existing Water Quality Resource Area Overlay District.

7. There is an existing physical barrier between the site and a protected water feature, including:

a. Streets, driveways, alleys, parking lots or other approved impervious areas wider than fifteen feet and which includes drainage improvements that are connected to the city storm sewer system, as approved by the city.

b. Walls, buildings, drainages, culverts or other structures and which form a physical barrier between the site and the protected water features, as approved by the city.

C. If a the city is not able to clearly determine, through the Type I verification process that the applicable criteria subsection B.1.—B.7. above are met the verification application shall be denied. An applicant may then opt to apply for an verification through the Type II process defined below.

Applicant's Response: See Exhibit E, "NROD Boundary Verification Report" for background data and information supporting the following requested actions:

1. **Concurrence that no wetlands, waterways, other protected features exist on the subject properties.**
2. **Concurrence that NROD buffers do not project onto the subject properties. In the case of Abernethy Creek, 17th Street constitutes a physical barrier. In the case of the wetland area to the North, the wetland buffers per table 17.49.110 fall about 150FT from the project.**

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES

17.50.050 Preapplication Conference

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

B.A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

Applicant's Response: Pre Application conferences were attended on:

- **February 8, 2017 (PA 17-02)**

- **July 6, 2016 (PA 16-30)**
- **August 18, 2015 (PA 15-25)**

17.50.055 Neighborhood Association Meeting
The purpose of the meeting with the recognized neighborhood association is to inform the affected neighborhood association about the proposed development and to receive the preliminary responses and suggestions from the neighborhood association and the member residents.
1. Applicants applying for annexations, zone change, comprehensive plan amendments, conditional use, planning commission variances, subdivision, or site plan and design review (excluding minor site plan and design review), general development master plans or detailed development plans applications shall schedule and attend a meeting with the city-recognized neighborhood association in whose territory the application is proposed. Although not required for other projects than those identified above, a meeting with the neighborhood association is highly recommended.
2. The applicant shall send, by certified mail, return receipt requested letter to the chairperson of the neighborhood association and the citizen involvement committee describing the proposed project. Other communication methods may be used if approved by the neighborhood association.
3. A meeting shall be scheduled within thirty days of the notice. A meeting may be scheduled later than thirty days if by mutual agreement of the applicant and the neighborhood association. If the neighborhood association does not want to, or cannot meet within thirty days, the applicant shall hold their own meeting after six p.m. or on the weekend, with notice to the neighborhood association, citizen involvement committee, and all property owners within three hundred feet. If the applicant holds their own meeting, a copy of the certified letter requesting a neighborhood association meeting shall be required for a complete application. The meeting held by the applicant shall be held within the boundaries of the neighborhood association or in a city facility.
4. If the neighborhood association is not currently recognized by the city, is inactive, or does not exist, the applicant shall request a meeting with the citizen involvement committee.
5. To show compliance with this section, the applicant shall submit a sign-in sheet of meeting attendees, a summary of issues discussed, and letter from the neighborhood association or citizen involvement committee indicating that a neighborhood meeting was held. If the applicant held a separately noticed meeting, the applicant shall submit a copy of the meeting flyer, a sign in sheet of attendees and a summary of issues discussed.
Applicant's Response: A neighborhood meeting with the Two Rivers Home Owners Association Occurred on January 25th, 2017. Additionally, as a courtesy, another meeting was held with the McLoughlin Home Owners association, a neighboring community, on February 2, 2017.

CHAPTER 17.52 - OFF-STREET PARKING AND LOADING

17.52.010 - Applicability.
The construction of a new structure or parking lot, or alterations to the size or use of an existing structure, parking lot or property use shall require site plan review approval and compliance with this chapter. This chapter does not apply to single- and two-family residential dwellings.
Applicant's Response: Proposed project includes parking lots. Site plan review will be required as part of DDP review.

***17.52.015** - Planning commission adjustment of parking standards.*
A. Purpose: The purpose of permitting a planning commission adjustment to parking standards is to provide for flexibility in modifying parking standards in all zoning districts, without permitting an adjustment that would adversely impact the surrounding or planned neighborhood. The purpose of an adjustment is to provide flexibility to those uses which may be extraordinary, unique or to provide greater flexibility for areas that can accommodate a denser development pattern based on existing infrastructure and ability to access the site by means of walking, biking or transit. An adjustment to a minimum or maximum parking standard may be approved based on a determination by the planning commission that the adjustment is consistent with the purpose of this Code, and the approval criteria can be met.

B. Procedure: A request for a planning commission parking adjustment shall be initiated by a property owner or authorized agent by filing a land use application. The application shall be accompanied by a site plan, drawn to scale, showing the dimensions and arrangement of the proposed development and parking plan, the extent of the adjustment requested along with findings for each applicable approval criteria. A request for a parking adjustment shall be processed as a Type III application as set forth in Chapter 17.50.
C. Approval criteria for the adjustment are as follows:
1. Documentation: The applicant shall document that the individual project will require an amount of parking that is different from that required after all applicable reductions have been taken.
2. Parking analysis for surrounding uses and on-street parking availability: The applicant must show that there is a continued fifteen percent parking vacancy in the area adjacent to the use during peak parking periods and that the applicant has permission to occupy this area to serve the use pursuant to the procedures set forth by the community development director.
a. For the purposes of demonstrating the availability of on street parking as defined in [Section] 17.52.020.B.3., the applicant shall undertake a parking study during time periods specified by the community development director. The time periods shall include those during which the highest parking demand is anticipated by the proposed use. Multiple observations during multiple days shall be required. Distances are to be calculated as traversed by a pedestrian that utilizes sidewalks and legal crosswalks or an alternative manner as accepted by the community development director.
b. The onsite parking requirements may be reduced based on the parking vacancy identified in the parking study. The amount of the reduction in onsite parking shall be calculated as follows:
i. Vacant on-street parking spaces within three hundred feet of the site will reduce onsite parking requirements by 0.5 parking spaces; and
ii. Vacant on-street parking spaces between three hundred and six hundred feet of the [site] will reduce onsite parking requirements by 0.2 parking spaces.
3. Function and Use of Site: The applicant shall demonstrate that modifying the amount of required parking spaces will not significantly impact the use or function of the site and/or adjacent sites.
4. Compatibility: The proposal is compatible with the character, scale and existing or planned uses of the surrounding neighborhood.
5. Safety: The proposal does not significantly impact the safety of adjacent properties and rights-of-way.
6. Services: The proposal will not create a significant impact to public services, including fire and emergency services.
Applicant's Response: The proposed site design is intended to meet the parking standards applicable to the zone and intended uses. If adjustments to the parking standards are deemed necessary, the adjustment process will be followed as outlined in this code.

***17.52.020** - Number of automobile spaces required.*
A. The number of parking spaces shall comply with the minimum and maximum standards listed in Table 17.52.020. The parking requirements are based on spaces per one thousand square feet net leasable area unless otherwise stated.

Table 17.52.020		
LAND USE	*PARKING REQUIREMENTS*	
	MINIMUM	*MAXIMUM*
	MINIMUM	*MAXIMUM*
Multi-Family: Studio	*1.00 per unit*	*1.5 per unit*
Multi-Family: 1 bedroom	*1.25 per unit*	*2.00 per unit*
Multi-Family: 2 bedroom	*1.5 per unit*	*2.00 per unit*

Multi-Family: 3 bedroom	*1.75 per unit*	*2.50 per unit*
Hotel, Motel	*1.0 per guest room*	*1.25 per guest room*
Correctional Institution	*1 per 7 beds*	*1 per 5 beds*
Senior housing, including congregate care, residential care and assisted living facilities; nursing homes and other types of group homes	*1 per 7 beds*	*1 per 5 beds*
Hospital	*2.00*	*4.00*
Preschool Nursery/Kindergarten	*2.00*	*3.00*
Elementary/Middle School	*1 per classroom*	*1 per classroom + 1 per administrative employee + 0.25 per seat in auditorium/assembly room/stadium*
High School, College, Commercial School for Adults	*0.20 per # staff and students*	*0.30 per # staff and students*
Auditorium, Meeting Room, Stadium, Religious Assembly Building, movie theater,	*.25 per seat*	*0.5 per seat*
Retail Store, Shopping Center, Restaurants	*4.10*	*5.00*
Office	*2.70*	*3.33*
Medical or Dental Clinic	*2.70*	*3.33*
Sports Club, Recreation Facilities	*Case Specific*	*5.40*
Storage Warehouse, Freight Terminal	*0.30*	*0.40*
Manufacturing, Wholesale Establishment	*1.60*	*1.67*
Light Industrial, Industrial Park	*1.3*	*1.60*

Applicant's Response: Project is within the Downtown Parking Overlay District and qualifies for a 50% reduction in required parking spaces per 17.52.020.C. Proposed design will provide parking spaces as required by table 17.52.020 with reducations as allowed by 17.52.020.C.

1. Multiple Uses. In the event several uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of the several uses computed separately.
Applicant's Response: Required parking spaces will be calculated as the sum of required spaces for all uses.

2. Requirements for types of buildings and uses not specifically listed herein shall be determined by the community development director, based upon the requirements of comparable uses listed.
Applicant's Response: Requirements for types of buildings and uses not specifically listed herein will be as determined by the community development director.

3. Where calculation in accordance with the above list results in a fractional space, any fraction less than one-half shall be disregarded and any fraction of one-half or more shall require one space.
Applicant's Response: Total required parking spaces will be adjusted to whole numbers as required by this section.

4. The minimum required parking spaces shall be available for the parking of operable passenger automobiles of residents, customers, patrons and employees only, and shall not be used for storage of vehicles or materials or for the parking of vehicles used in conducting the business or use.
Applicant's Response: The minimum required parking spaces will be available for the parking of operable passenger automobiles of residents, customers, patrons and employees only.

5. A change in use within an existing habitable building located in the MUD Design District or the Willamette Falls Downtown District is exempt from additional parking requirements. Additions to an existing building and new construction are required to meet the minimum parking requirements for the areas as specified in Table 17.52.020 for the increased square footage.
Applicant's Response: The Existing Hackett house is currently an office use. No change in use request is included in the GDP. However, if in the future, the Hackett House use is changed, then no additional parking would be required. Additions to the Hackett House or any new construction will included parking as required by Table 17.52.020 and Section 17.52.020.C.

B. Parking requirements can be met either onsite, or offsite by meeting the following conditions:
1. Mixed Uses. If more than one type of land use occupies a single structure or parcel of land, the total requirements for off-street automobile parking shall be the sum of the requirements for all uses, unless it can be shown that the peak parking demands are actually less (e.g. the uses operate on different days or at different times of the day). In that case, the total requirements shall be reduced accordingly, up to a maximum reduction of fifty percent, as determined by the community development director.
Applicant's Response: Required parking spaces have been calculated as the sum of required spaces for all uses.

2. Shared Parking. Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that the owners or operators show that the need for parking facilities does not materially overlay (e.g., uses primarily of a daytime versus nighttime nature), that the shared parking facility is within one thousand feet of the potential uses, and provided that the right of joint use is evidenced by a recorded deed, lease, contract, or similar written instrument authorizing the joint use.
Applicant's Response: Shared parking is not proposed to meet the required parking.

3. On-Street Parking. On-street parking may be counted toward the minimum standards when it is on the street face abutting the subject land use. An on-street parking space must not obstruct a required clear vision area and it shall not violate any law or street standard. On-street parking for commercial uses shall conform to the following standards:
a. Dimensions. The following constitutes one on-street parking space:
1. Parallel parking, each [twenty-two] feet of uninterrupted and available curb;
2. [Forty-five/sixty] degree diagonal, each with [fifteen] feet of curb;
3. Ninety degree (perpendicular) parking, each with [twelve] feet of curb.
4. Public Use Required for Credit. On-street parking spaces counted toward meeting the parking requirements of a specific use may not be used exclusively by that use, but shall be available for general public use at all times. Signs or other actions that limit general public use of on-street spaces are prohibited.
Applicant's Response: 22' parallel on-street parking spaces are proposed on Washington Street abutting the project site. These spaces may be counted towards minimium required parking spaces.

C. Reduction of the Number of Automobile Spaces Required. The required number of parking stalls may be reduced in the Downtown Parking Overlay District: Fifty percent reduction in the minimum number of spaces required is allowed prior to seeking further reductions in [sub]sections 2. and 3. below:

1. Transit Oriented Development. For projects not located within the Downtown Parking Overlay District, the community development director may reduce the required number of parking stalls up to twenty-five percent when it is determined that a project in a commercial center (sixty thousand square feet or greater of retail or office use measured cumulatively within a five hundred-foot radius) or multi-family development with over eighty units, is adjacent to or within one thousand three hundred twenty feet of an existing or planned public transit street and is within one thousand three hundred twenty feet of the opposite use (commercial center or multi-family development with over eighty units).

2. Reduction in Parking for Tree Preservation. The community development director may grant an adjustment to any standard of this requirement provided that the adjustment preserves a regulated tree or grove so that the reduction in the amount of required pavement can help preserve existing healthy trees in an undisturbed, natural condition. The amount of reduction must take into consideration any unique site conditions and the impact of the reduction on parking needs for the use, and must be approved by the community development director. This reduction is discretionary.

3. Transportation Demand Management. The community development director may reduce the required number of parking stalls up to twenty-five percent when a parking-traffic study prepared by a traffic engineer demonstrates:

a. Alternative modes of transportation, including transit, bicycles, and walking, and/or special characteristics of the customer, client, employee or resident population will reduce expected vehicle use and parking space demand for this development, as compared to standard Institute of Transportation Engineers vehicle trip generation rates and further that the transportation demand management program promotes or achieves parking utilization lower than minimum city parking requirements.

b. Transportation demand management (TDM) program has been developed for approval by, and is approved by the city engineer. The plan will contain strategies for reducing vehicle use and parking demand generated by the development and will be measured annually. If, at the annual assessment, the city determines the plan is not successful, the plan may be revised. If the city determines that no good-faith effort has been made to implement the plan, the city may take enforcement actions.

Applicant's Response: Project is within the Downtown Parking Overlay District and qualifies for a 50% reduction in required parking spaces.

17.52.030 - Standards for automobile parking.

A. Access. Ingress and egress locations on public thoroughfares shall be located in the interests of public traffic safety. Groups of more than four parking spaces shall be so located and served by driveways so that their use will require no backing movements or other maneuvering within a street right-of-way other than an alley. No driveway with a slope of greater than fifteen percent shall be permitted without approval of the city engineer.

Applicant's Response: All parking stalls will be served by driveways that will not require backing movements into public rights-of-way. No driveway will exceed 15% grade.

B. Surfacing. Required off-street parking spaces and access aisles shall have paved surfaces adequately maintained. The use of pervious asphalt/concrete and alternative designs that reduce storm water runoff and improve water quality pursuant to the city's stormwater and low impact development design standards are encouraged.

Applicant's Response: All off-street parking spaces and drive aisles will have paved surfacing. Low impact development design is planned to be used, to the extent practical for parking area drainage.

C. Drainage. Drainage shall be designed in accordance with the requirements of Chapter 13.12 and the city public works stormwater and grading design standards.

Applicant's Response: Drainage will be designed in accordance of Chapter 13.12 and the City's public works stormwater and grading standards.

D. Dimensional Standards.

1. Requirements for parking developed at varying angles are according to the table included in this section. A parking space shall not be less than seven feet in height when within a building or structure, and shall have access by an all-

weather surface to a street or alley. Parking stalls in compliance with the American with Disabilities Act may vary in size in order to comply with the building division requirements. Up to thirty-five percent of the minimum required parking may be compact, while the remaining required parking stalls are designed to standard dimensions. The community development director may approve alternative dimensions for parking stalls in excess of the minimum requirement which comply with the intent of this chapter.

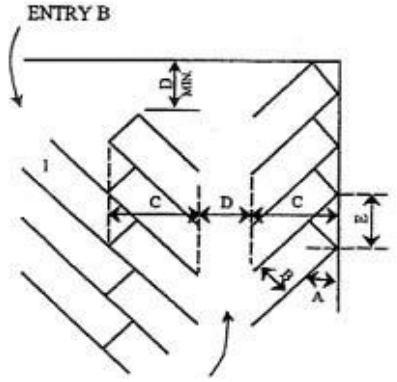
2. Alternative parking/plan. Any applicant may propose an alternative parking plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. In such situations, the community development director may approve an alternative parking lot plan with variations to parking dimensions of this section. The alternative shall be consistent with the intent of this chapter and shall create a safe space for automobiles and pedestrians while providing landscaping to the quantity and quality found within parking lot landscaping requirements.

PARKING STANDARD

PARKING ANGLE SPACE DIMENSIONS

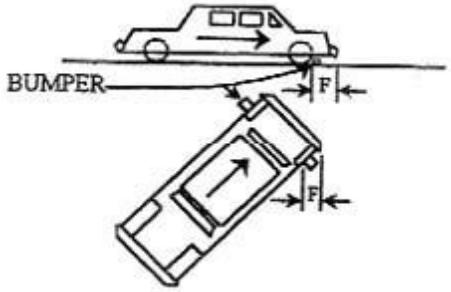
A Parking Angle		*B Stall Width*	*C Stall to Curb*	*D Aisle Width*	*E Curb Length*	*F Overhang*
0 degrees		*8.5*	*9.0*	*12*	*20*	*0*
30 degrees	*Standard* *Compact*	*9'* *8'*	*17.3'* *14.9'*	*11'* *11'*	*18'* *16'*	
45 degrees	*Standard* *Compact*	*8.5* *8.5*	*19.8'* *17.0'*	*13'* *13'*	*12.7'* *11.3'*	*1.4*
60 degrees	*Standard* *Compact*	*9'* *8'*	*21'* *17.9'*	*18'* *16'*	*10.4'* *9.2'*	*1.7*
90 degrees	*Standard* *Compact*	*9'* *8'*	*19.0'* *16.0'*	*24'* *22'*	*9'* *8'*	*1.5*

All dimensions are to the nearest tenth of a foot.



L. TYPICAL PARKING LAYOUT

M. ENTRY *A*



NOTE: SPACE 1 CONTINGENT UPON ENTRY B
OVERHANG
NOTE: Overhang dimensions are intended to indicate possible location from parking area edge for location of bumpers.

Applicant's Response: Parking will meet the dimensional standards of 17.52.030.D.

E. Carpool and Vanpool Parking. New developments with seventy-five or more parking spaces, and new hospitals, government offices, group homes, nursing and retirement homes, schools and transit park-and-ride facilities with fifty or more parking spaces, shall identify the spaces available for employee, student and commuter parking and designate at least five percent, but not fewer than two, of those spaces for exclusive carpool and vanpool parking. Carpool and vanpool parking spaces shall be located closer to the main employee, student or commuter entrance than all other employee, student or commuter parking spaces with the exception of ADA accessible parking spaces. The carpool/vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only."

Applicant's Response: Carpool and vanpool parking spaces will be provided as required by 17.52.030.E.

17.52.040 - Bicycle parking standards.
A. Purpose-Applicability. To encourage bicycle transportation to help reduce principal reliance on the automobile, and to ensure bicycle safety and security, bicycle parking shall be provided in conjunction with all uses other than single-family dwellings or duplexes.

Applicant's Response: Bicycle parking will be provided.

B. Number of Bicycle Spaces Required. For any use not specifically mentioned in Table A, the bicycle parking requirements shall be the same as the use which, as determined by the community development director, is most similar to the use not specifically mentioned. Calculation of the number of bicycle parking spaces required shall be determined in the manner established in Section 17.52.020 for determining automobile parking space requirements. Modifications to bicycle parking requirements may be made through the site plan and design, conditional use, or master plan review process.

*TABLE A Required Bicycle Parking Spaces**

Where two options for a requirement are provided, the option resulting in more bicycle parking applies. Where a calculation results in a fraction, the result is rounded up to the nearest whole number.

USE	*MINIMUM BICYCLE PARKING*	*MINIMUM BICYCLE PARKING - COVERED - The following percentage of bicycle parking is required to be covered*
Multi-family (three or more units)	*1 per 10 units (minimum of 2)*	*50% (minimum of 1)*
Institutional		
Correctional institution	*1 per 15 auto spaces (minimum of 2)*	*30% (minimum of 1)*

Nursing home or care facility	*1 per 30 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Hospital	*1 per 20 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Park-and-ride lot	*1 per 5 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Transit center	*1 per 5 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Parks and open space	*1 per 10 auto spaces (minimum of 2)*	*0%*
Public parking lots	*1 per 10 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Automobile parking structures	*1 per 10 auto spaces (minimum of 4)*	*80% (minimum of 2)*
Religious institutions, movie theater, auditorium or meeting room	*1 per 10 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Libraries, museums	*1 per 5 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Preschool, nursery, kindergarten	*2 per classroom (minimum of 2)*	*50% (minimum of 1)*
Elementary	*4 per classroom (minimum of 2)*	*50% (minimum of 1)*
Junior high and High school	*2 per classroom (minimum of 2)*	*50% (minimum of 2)*
College, business/commercial schools	*2 per classroom (minimum of 2)*	*50% (minimum of 1)*
Swimming pools, gymnasiums, ball courts	*1 per 10 auto spaces (minimum of 2)*	*30% (minimum of 1)*

Retail stores and shopping centers	*1 per 20 auto spaces (minimum of 2)*	*50% (minimum of 2)*
Retail stores handling exclusively bulky merchandise such as automobile, boat or trailer sales or rental	*1 per 40 auto spaces (minimum of 2)*	*0%*
Bank, office	*1 per 20 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Medical and dental clinic	*1 per 20 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Eating and drinking establishment	*1 per 20 auto spaces (minimum of 2)*	*0%*
Gasoline service station	*1 per 10 auto spaces (minimum of 2)*	*0%*

* *Covered bicycle parking is not required for developments with two or fewer stalls.*

Applicant's Response: Uncovered and covered bicycle parking spaces will be provided in the quantity as required by 17.52.040.B.

C. Security of Bicycle Parking. Bicycle parking facilities shall be secured. Acceptable secured bicycle parking area shall be in the form of a lockable enclosure onsite, secure room in a building onsite, a covered or uncovered rack onsite, bicycle parking within the adjacent right-of-way or another form of secure parking where the bicycle can be stored, as approved by the decision maker. All bicycle racks and lockers shall be securely anchored to the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience and, when in the right-of-way shall comply with clearance and ADA requirements.

Applicant's Response: All bicycle parking will securable as required by 17.52.040.C and will comply with clearance and ADA requirements if placed within the right of way.

D. Bicycle parking facilities shall offer security in the form of either a lockable enclosure or a stationary rack to which the bicycle can be locked. All bicycle racks and lockers shall be securely anchored to the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience.

Location of Bicycle Parking:

1. Bicycle parking shall be located on-site, in one or more convenient, secure and accessible location. The city engineer and the community development Director may permit the bicycle parking to be provided within the right-of-way provided adequate clear zone and ADA requirements are met. If sites have more than one building, bicycle parking shall be distributed as appropriate to serve all buildings. If a building has two or more main building entrances, the review authority may require bicycle parking to be distributed to serve all main building entrances, as it deems appropriate.

Applicant's Response: Bicycle parking will be located on-site, in one or more convenient, secure and accessible locations distributed as appropriate to serve all buildings.

2. Bicycle parking areas shall be clearly marked or visible from on-site buildings or the street. If a bicycle parking area is not plainly visible from the street or main building entrance, a sign must be posted indicating the location of the bicycle parking area. Indoor bicycle parking areas shall not require stairs to access the space unless approved by the community development director.

Applicant's Response: Bicycle parking will be clearly marked or visible as required by 15.52.040.D.2.

3. All bicycle parking areas shall be located to avoid conflicts with pedestrian and motor vehicle movement.
a. Bicycle parking areas shall be separated from motor vehicle parking and maneuvering areas and from arterial streets by a barrier or a minimum of five feet.
b. Bicycle parking areas shall not obstruct pedestrian walkways; provided, however, that the review authority may allow bicycle parking in the right-of-way where this does not conflict with pedestrian accessibility.

Applicant's Response: Bicycle parking will be located to avoid pedestrian and motor vehicle conflicts as required by 15.52.040.D.3.

4. Accessibility.
a. Outdoor bicycle areas shall be connected to main building entrances by pedestrian accessible walkways.
b. Outdoor bicycle parking areas shall have direct access to a right-of-way.
c. Outdoor bicycle parking should be no farther from the main building entrance than the distance to the closest vehicle space, or fifty feet, whichever is less, unless otherwise determined by the community development director, city engineer, or planning commission.

Applicant's Response: Bicycle parking will be accessible as required by 15.52.040.D.4.

17.52.060 - Parking lot landscaping.
Purpose. The purpose of this code section includes the following:
1. To enhance and soften the appearance of parking lots;
2. To limit the visual impact of parking lots from sidewalks, streets and particularly from residential areas;
3. To shade and cool parking areas;
4. To reduce air and water pollution;
5. To reduce storm water impacts and improve water quality; and
6. To establish parking lots that are more inviting to pedestrians and bicyclists.

Applicant's Response: Parking lot perimeter and interior landscaping treatments are paramount to the user's and public enjoyment of this site. Priority is given to maintaining any existing native plantings that have significant ecological value and to proposing native and naturalized species to promote the reparation, reestablish and sustain local and regional ecology. The landscape design will provide alternative species when site conditions warrant to fulfill required public safety and enjoyment goals.
Stormwater mitigation plantings will be addressed in an integrated manner to supply the required water quality mitigation.

A. Development Standards.
1. The landscaping shall be located in defined landscaped areas that are uniformly distributed throughout the parking or loading area.

Applicant's Response: Parking lot landscaping will be located and distributed as required by 17.52.060.A.1.

2. All areas in a parking lot not used for parking, maneuvering, or circulation shall be landscaped.

Applicant's Response: All areas in a parking lot not used for parking, maneuvering, or circulation will be landscaped.

3. Parking lot trees shall be a mix of deciduous shade trees and coniferous trees. The trees shall be evenly distributed throughout the parking lot as both interior and perimeter landscaping to provide shade.

Applicant's Response: Proposed Landscape design includes a mixture of deciduous shade trees and coniferous trees, see included plans.

4. Required landscaping trees shall be of a minimum two-inch minimum caliper size (though it may not be standard for some tree types to be distinguished by caliper), planted according to American Nurseryman Standards, and selected from the Oregon City Street Tree List;

Applicant's Response: Required landscaping trees will be of a minimum two-inch minimum caliper size (though it may not be standard for some tree types to be distinguished by caliper), planted according to American Nurseryman Standards, and selected from the Oregon City Street Tree List.

5. Landscaped areas shall include irrigation systems unless an alternate plan is submitted, and approved by the community development director, that can demonstrate adequate maintenance;

Applicant's Response: All landscaped areas will include irrigation systems.

6. All plant materials, including trees, shrubbery and ground cover should be selected for their appropriateness to the site, drought tolerance, year-round greenery and coverage and staggered flowering periods. Species found on the Oregon City Native Plant List are strongly encouraged and species found on the Oregon City Nuisance Plant List are prohibited.

Applicant's Response: Duly Noted.

7. The landscaping in parking areas shall not obstruct lines of sight for safe traffic operation and shall comply with all requirements of Chapter 10.32, Traffic Sight Obstructions.

Applicant's Response: Duly Noted.

8. Landscaping shall incorporate design standards in accordance with Chapter 13.12, Stormwater Management.

Applicant's Response: Landscape areas, where appropriate, will incorporate the design standards for water quality in accordance with Chapter 13.12.

B. Perimeter Parking Lot Landscaping and Parking Lot Entryway/Right-of-Way Screening. Parking lots shall include a five-foot wide landscaped buffer where the parking lot abuts the right-of-way and/or adjoining properties. In order to provide connectivity between non-single-family sites, the community development director may approve an interruption in the perimeter parking lot landscaping for a single driveway where the parking lot abuts property designated as multi-family, commercial or industrial. Shared driveways and parking aisles that straddle a lot line do not need to meet perimeter landscaping requirements.

1. The perimeter parking lot are[a] shall include:

a. Trees spaced a maximum of thirty-five feet apart (minimum of one tree on either side of the entryway is required). When the parking lot is adjacent to a public right-of-way, the parking lot trees shall be offset from the street trees;

Applicant's Response: Duly Noted.

b. Ground cover, such as wild flowers, spaced a maximum of 16-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and

Applicant's Response: Duly Noted.

c. An evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than four feet apart on average. The hedge/shrubs shall be parallel to and not nearer than two feet from the right-of-way line. The required screening shall be designed to allow for free access to the site and sidewalk by pedestrians. Visual breaks, no more than five feet in width, shall be provided every thirty feet within evergreen hedges abutting public right-of-ways.

Applicant's Response: Duly Noted.

C. Parking Area/Building Buffer. Parking areas shall be separated from the exterior wall of a structure, exclusive of pedestrian entranceways or loading areas, by one of the following:

1. Minimum five-foot wide landscaped planter strip (excluding areas for pedestrian connection) abutting either side of a parking lot sidewalk with:

Applicant's Response: Duly Noted.

a. Trees spaced a maximum of thirty-five feet apart;

Applicant's Response: **Duly Noted.**

b. Ground cover such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and
Applicant's Response: **Duly Noted.**

c. An evergreen hedge of thirty to forty-two inches or shrubs placed no more than four feet apart on average; or
Applicant's Response: **Duly Noted.**

2. Seven-foot sidewalks with shade trees spaced a maximum of thirty-five feet apart in three-foot by five-foot tree wells.
Applicant's Response: **Duly Noted.**

D. Interior Parking Lot Landscaping. Surface parking lots shall have a minimum ten percent of the interior of the gross area of the parking lot devoted to landscaping to improve the water quality, reduce storm water runoff, and provide pavement shade. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum total site landscaping required by Section 17.62.050(1) unless otherwise permitted by the dimensional standards of the underlying zone district. Pedestrian walkways or any impervious surface in the landscaped areas are not to be counted in the percentage. Interior parking lot landscaping shall include:
a. A minimum of one tree per six parking spaces.
Applicant's Response: **Duly Noted.**

b. Ground cover, such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.
Applicant's Response: **Duly Noted.**

c. Shrubs spaced no more than four feet apart on average.
Applicant's Response: **Duly Noted.**

d. No more than eight contiguous parking spaces shall be created without providing an interior landscape strip between them. Landscape strips shall be provided between rows of parking shall be a minimum of six feet in width and a minimum of ten feet in length.
Applicant's Response: **Duly Noted.**

e. Pedestrian walkways shall have shade trees spaced a maximum of every thirty-five feet in a minimum three-foot by five-foot tree wells; or

> *Trees spaced every thirty-five feet, shrubs spaced no more than four feet apart on average, and ground cover covering one hundred percent of the exposed ground. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.*

Applicant's Response: **Duly Noted.**

E. Installation.
1. All landscaping shall be installed according to accepted planting procedures, according to American Nurseryman Standards.
2. The site, soils and proposed irrigation systems shall be appropriate for the healthy and long-term maintenance of the proposed plant species.
3. Certificates of occupancy shall not be issued unless the landscaping requirements have been met or other arrangements have been made and approved by the city, such as the posting of a surety.
Applicant's Response: **Duly Noted.**

17.52.070 - Alternative landscaping plan.

Any applicant may propose an alternative landscaping plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. Alternative plans may include the use of low impact development techniques and minimized landscaping requirements. In such situations, the community development director may approve variations to the landscaping standards of section 17.52.060.

A. General Review Standard. The alternative shall be meet or exceed the intent of this chapter and shall create a safe space for automobiles and pedestrians. The alternative landscaping plan shall be prepared by a licensed landscape architect.

B. Credit for Pervious/Low Impact Development. The community development director may count up to fifty percent of the square footage of any pervious hardscaped landscape material within a parking lot that is designed and approved pursuant to the city's adopted stormwater and low impact development design standards toward minimum landscaping requirements for the site. (This includes porous pavement detention, open celled block pavers, porous asphalt, porous concrete pavement, porous turf, porous gravel, etc).

Applicant's Response: At this time there is no request or need for alternative landscape plan review.

17.52.080 - Maintenance.

The owner, tenant and their agent, if any, shall be jointly and severally responsible for the maintenance of the site including but not limited to the off-street parking and loading spaces, bicycle parking and all landscaping which shall be maintained in good condition so as to present a healthy, neat and orderly appearance and shall be kept free from refuse and debris.

All plant growth in interior landscaped areas shall be controlled by pruning, trimming, or otherwise so that:

a. It will not interfere with the maintenance or repair of any public utility;

b. It will not restrict pedestrian or vehicular access; and

c. It will not constitute a traffic hazard due to reduced visibility.

Applicant's Response: The owners and/or operators of properties within the proposed site will provide maintenance in accordance with this code.

17.52.090 - Loading areas.

A. Purpose.

1. The purpose of this section is to provide adequate loading areas for commercial, office, retail and industrial uses that do not interfere with the operation of adjacent streets.

Applicant's Response: The proposed site will provide adequate loading areas for the proposed uses as applicable.

B. Applicability.

1. Section 17.52.090 applies to uses that are expected to have service or delivery truck visits with a forty-foot or longer wheelbase, at a frequency of one or more vehicles per week. The city engineer and decision maker shall determine through site plan and design review the number, size, and location of required loading areas, if any.

Applicant's Response: The proposed site will provide, through coordination and planning, the appropriate number, size and locations for loading areas if required.

C. Standards.

1. The off-street loading space shall be large enough to accommodate the largest vehicle that is expected to serve the use without obstructing vehicles or pedestrian traffic on adjacent streets and driveways. Applicants are advised to provide complete and accurate information about the potential need for loading spaces because the city engineer or decision maker may restrict the use of other public right-of-way to ensure efficient loading areas and reduce interference with other uses.

Applicant's Response: Loading areas, if required, will be designed so as to be large enough to accommodate the largest vehicle expected to serve the use without obstruction to other vehicles and or pedestrians.

2. Where parking areas are prohibited between a building and the street, loading areas are also prohibited.

Applicant's Response: Loading areas, if required, will not be located in areas that are prohibited.

3. The city engineer and decision maker, through site plan and design review, may approve a loading area adjacent to or within a street right-of-way when all of the following loading and unloading operations conditions are met:
a. Short in duration (i.e., less than one hour);
b. Infrequent (less than three operations daily between 5:00 a.m. and 12:00 a.m. or all operations between 12:00 a.m. and 5:00 a.m. at a location that is not adjacent to a residential zone);
c. Does not obstruct traffic during peak traffic hours;
d. Does not interfere with emergency response services; and
e. Is acceptable to the applicable roadway authority.

Applicant's Response: Loading areas, if required, and if within the street right of way, shall be coordinated with and approved by the appropriate design review authority.

CHAPTER 17.54.100 – FENCES, HEDGES AND WALLS

A. Generally. Fence, hedge, or wall.

1. Fences and walls—Fences and walls over forty-two inches shall not be located in front of the front façade or within forty feet of the public right-of-way, whichever is less. All other fences (including fences along the side and rear of a property) shall not exceed six feet in total height unless as permitted [in] Section 17.54.100.B.

2. Hedges shall not be more than forty-two inches in the underlying front yard setback. Individual plants and trees taller than forty-two inches tall may be permitted provided there is at least one foot clearance between each plant.

3. Property owners shall ensure compliance with the traffic sight obstruction requirements in Chapter 10.32 of the Oregon City Municipal Code.

4. It is unlawful for any person to erect any electric fence or any fence constructed in whole or in part of barbed wire or to use barbed wire, except as erected in connection with security installations at a minimum height of six feet, providing further that prior written approval has been granted by the city manager.

Applicant's Response: In response to ODOT pre-app comments an 8 foot tall metal picket fence is proposed along the west property line abutting the railroad right-of-way. An adjustment is requested. See adjustment request in response to 17.65.070 for additional information.

B. Exception. Fence, hedge, wall, or other obstructing vegetation on retaining wall. When a fence, hedge, wall, or other obstructing vegetation is built on a retaining wall or an artificial berm that is not adjacent to or abutting a public right-of-way, the following standards shall apply:

1. When the retaining wall or artificial berm is thirty inches or less in height from the finished grade, the maximum fence or wall height on top of the retaining wall shall be six feet.

2. When the retaining wall or earth berm is greater than thirty inches in height, the combined height of the retaining wall and fence or, wall from finished grade shall not exceed eight and one-half feet.

3. Fences, hedges or walls located on top of retaining walls or earth berms in excess of eight and one-half feet in height shall be set back a minimum of two feet from the edge of the retaining wall or earth berm below and shall not exceed a combined height of eight and one-half feet.

4. An alternative height or location requirement may be approved within a land use process for all non-single-family and two-family residential properties. The fence, hedge or wall shall be compatible with the adjacent neighborhood and achieve the same intent of the zoning designation and applicable site plan and design review process. In no case may the fence, hedge or wall exceed eight feet in height without approval of a variance.

Applicant's Response: A combined guardrail + retaining wall height of 15 feet is proposed. An adjustment is requested. See adjustment request in response to 17.65.070 for additional information.

CHAPTER 17.56 - CONDITIONAL USES

Applicant's Response: The currently proposed uses are a permitted uses, therefore this section does not apply. Future DDP applications may contain conditional uses. If future conditional uses are proposed, they will be addressed in subsequent DDP submittals and comply with the requirements of Chapter 17.56.

CHAPTER 17.58 - LAWFUL NONCONFORMING USES, STRUCTURES AND LOTS

17.58.015 Applicability.
The regulations of this chapter apply only to those nonconforming situations that were lawfully established or that were approved through a land use decision. All nonconforming structures, uses or lots shall have been maintained over time. These situations have lawful nonconforming status. Nonconforming situations that were not allowed when established or have not been maintained over time have no lawful right to continue.
Applicant's Response: The historic Hackett House office building is the only existing use to remain under the proposed design. The Hackett House is not a nonconforming use or lot, However the structure is nonforming in the following:

- **17.34.060.B - Minimum FAR of 0.30.**
- **17.62.055.D.3 - Five foot maximum setback.**
- **17.62.055.F - First to second floor to floor height 14 feet minimum.**
- **17.62.055.I - Façade transparency at pedestrian level 60 percent at street façade, 30 percent at others**

Note that the structure predates existing codes and is therefore a lawful nonconforming structure.

A structure that was lawfully established but no longer conforms to all development standards of this land use code (such as setbacks) shall be considered a lawful nonconforming structure. Notwithstanding development standard requirements in this Code, minor repairs and routing maintenance of a lawful nonconforming structure are permitted. The continuation of a lawful nonconforming structure is subject to the following:
A. Accidental Destruction. When a nonconforming structure is damaged by fire or other causes, the structure may be rebuilt using the same structure footprint.
B. Intentional Destruction. When a nonconforming structure is removed or intentionally damaged by fire or other causes within the control of the owner, the replacement structure shall comply with the development standards of this title.
C. Expansion. An expansion of a lawful nonconforming structure may be approved, conditionally approved or denied in accordance with the standards and procedures of this section.
1. In making a determination on such applications, the decision maker shall weigh the proposal's positive and negative features and the public convenience or necessity to be served against any adverse conditions that would result from authorizing the particular development at the location proposed, and, to approve such expansion, it must be found that the criteria identified in Section 17.58.060 have either been met, can be met by observance of conditions, or are not applicable.
2. An expansion of a nonconforming structure with alterations that exceed the threshold of subparagraph C.2.a. below shall comply with the development standards listed in subparagraph C.2.b. The value of the alterations and improvements is based on the entire project and not individual building permits.
a. Thresholds triggering compliance. The standards of subparagraph C.2.b. below shall be met when the value of the proposed exterior alterations or additions to the site, as determined by the community development director, is more than seventy-five thousand dollars. The following alterations and improvements shall not be included in the threshold calculation:
1. Proposed alterations to meet approved fire and life safety agreements;
2. Alterations related to the removal of existing architectural barriers, as required by the Americans with Disabilities Act, or as specified in Section 1113 of the Oregon Structural Specialty Code;
3. Alterations required to meet Seismic Design Requirements; and
4. Improvements to on-site stormwater management facilities in conformance with Oregon City Stormwater Design Standards.
b. Standards that shall be met. Developments not complying with the development standards listed below shall be brought into conformance.

1. Pedestrian circulation systems, as set out in the pedestrian standards that apply to the sites;
2. Minimum perimeter parking lot landscaping;
3. Minimum interior parking lot landscaping;
4. Minimum site landscaping requirements;
5. Bicycle parking by upgrading existing racks and providing additional spaces in order to comply with Chapter 17.52—Off-Street Parking and Loading;
6. Screening; and
7. Paving of surface parking and exterior storage and display areas.
c. Area of required improvements.
1. Generally. Except as provided in C.2.c.2. below, required improvements shall be made for the entire site.
2. Exception for sites with ground leases. Required improvements may be limited to a smaller area if there is a ground lease for the portion of the site where the alterations are proposed. If all of the following are met, the area of the ground lease will be considered as a separate site for purposes of required improvements. The applicant shall meet the following:
i. The signed ground lease — or excerpts from the lease document satisfactory to the city attorney — shall be submitted to the community development director. The portions of the lease shall include the following:
•The term of the lease. In all cases, there must be at least one year remaining on the ground lease; and
•A legal description of the boundaries of the lease.
ii. The boundaries of the ground lease shall be shown on the site plan submitted with the application. The area of the lease shall include all existing and any proposed development that is required for, or is used exclusively by, those uses within the area of the lease; and
iii. Screening shall not be required along the boundaries of ground leases that are interior to the site.
d. Timing and cost of required improvements. The applicant may choose one of the two following options for making the required improvements:
1. Option 1. Required improvements may be made as part of the alteration that triggers the required improvements. The cost of the standards that shall be met, identified in subparagraph C.2.b. above, is limited to ten percent of the value of the proposed alterations. It is the responsibility of the applicant to document to the community development director the value of the required improvements. Additional costs may be required to comply with other applicable requirements associated with the proposal. When all required improvements are not being made, the priority for the improvements shall be as listed in subparagraph C.2.b. above.
2. Option 2. Required improvements may be made over several years, based on the compliance period identified in Table 17.58—1 below. However, by the end of the compliance period, the site shall be brought fully into compliance with the standards listed in subparagraph C.2.b. Where this option is chosen, the following must be met:
i. Before a building permit is issued, the applicant shall submit the following to the community development director:
•A Nonconforming Development Assessment, which identifies in writing and on a site plan, all development that does not meet the standards listed in Subparagraph C.2.b.
•A covenant, in a form approved by the city attorney, executed by the property owner that meets the requirements of 17.50.150. The covenant shall identify development on the site that does not meet the standards listed in Subparagraph C.2.b., and require the owner to bring that development fully into compliance with this title. The covenant shall also specify the date by which the owner will be in conformance. The date must be within the compliance periods set out in Table17.58 — 1.
ii. The nonconforming development identified in the Nonconforming Development Assessment shall be brought into full compliance with the requirements of this Title within the following compliance periods. The compliance period begins when a building permit is issued for alterations to the site of more than seventy-five thousand dollars. The compliance periods are based on the size of the site (see Table 17.58—1 below).
iii. By the end of the compliance period, the applicant or owner shall request that the site by certified by the community development director as in compliance. If the request is not received within that time, or if the site is not fully in conformance, no additional building permits will be issued.
iv. If the regulations referred to by subparagraph C.2.b. are amended after the Nonconforming Development Assessment is received by the community development director, and those amendments result in development on the site that was not addressed by the Assessment becoming nonconforming, the applicant shall address the new nonconforming development using Option 1 or 2. If the applicant chooses Option 2, a separate Nonconforming Development Assessment, covenant and compliance period will be required for the new nonconforming development.

Table 17.58—1
Compliance Periods for Option 2

Square footage of site	*Compliance Period*
Less than 150,000 sq. ft.	*2 years*
150,000 sq. ft. or more, up to 300,000 sq. ft.	*3 years*
300,000 sq. ft. or more, up to 500,000 sq. ft.	*4 years*
More than 500,000 sq. ft.	*5 years*

Applicant's Response: The proposed design will achieve a FAR of more than 0.30 when considered over the entire project site.

CHAPTER 17.60 - VARIANCE

17.60.030 – Variance - Grounds.

A variance may be granted only in the event that all of the following conditions exist:
A. That the variance from the requirements is not likely to cause substantial damage to adjacent properties by reducing light, air, safe access or other desirable or necessary qualities otherwise protected by this title;
Applicant's Response: The proposed project is not seeking any variances, therefore this chapter does not apply.

CHAPTER 17.65.050 – GENERAL DEVELOPMENT PLAN

17.65.050.A.1. *Narrative statement. An applicant must submit a narrative statement that describes the following:*
a. Current uses of and development on the site, including programs or services.
b. History or background information about the mission and operational characteristics of the institution that may be helpful in the evaluation of the general development plan.
Applicant's Response: See Section I. of this narrative statement for current uses & background information.

17.65.050.A.1.c*. A vicinity map showing the location of the General Development Plan boundary relative to the larger community, along with affected major transportation routes, transit, and parking facilities. At least one copy of the vicinity map must be eight and one-half inches × eleven inches in size, and black and white reproducible.*
d. Non-institutional uses that surround the development site. May also reference submitted maps, diagrams or photographs.
Applicant's Response: See "Vicinity Map", drawing 1.0 included with this application.

17.65.050.A.1.e*. Previous land use approvals within the General Development Plan boundary and related conditions of approval.*
Applicant's Response: No previous land use approvals.

17.65.050.A.1.f*. Existing utilization of the site. May also reference submitted maps, diagrams or photographs.*
Applicant's Response: See "Existing Uses", drawing 1.5 and "Project Site Aerial Photo", drawing 1.3 included with this application. Existing site utilization includes offices in the historic Hackett House fronting 17th Street, and vacant parcels, storage yards, and a mix of retail sales and services along Washington Street.

17.65.050.A.1.g*. Site description, including the following items. May also reference submitted maps, diagrams or photographs.*
1. Physical characteristics;
2. Ownership patterns;
3. Building inventory;

4. Vehicle/bicycle parking;
5. Landscaping/usable open space;
6. FAR/lot coverage;
7. Natural resources that appear on the city's adopted Goal 5 inventory;
8. Cultural/historic resources that appear on the city's adopted Goal 5 inventory; and
9. Location of existing trees six inches in diameter or greater when measured four feet above the ground. The location of single trees shall be shown. Trees within groves may be clustered together rather than shown individually.
Applicant's Response: See "Project Description" in section II of this application.

17.65.050.A.1.h. *Existing transportation analysis, including the following items. May also reference submitted maps, diagrams or photographs.*
1. Existing transportation facilities, including highways, local streets and street classifications, and pedestrian and bicycle access points and ways;
2. Transit routes, facilities and availability;
3. Alternative modes utilization, including shuttle buses and carpool programs; and
4. Baseline parking demand and supply study (may be appended to application or waived if not applicable).
Applicant's Response: See "Transportation Impact Study", Exhibit G, included with this application.

17.65.050.A.1.i. *Infrastructure facilities and capacity, including the following items.*
1.Water;
2.Sanitary sewer;
3.Stormwater management; and
4.Easements.
Applicant's Response: A 10 inch waterline currently exists in Washington Street and a 6 inch line in 17th Street, both of which are looped systems (do not deadend), thus there is adequate water capacity. The owners of the site have previously been granted permission make direct connection to the 48 inch Clackamas County sewer truck line that crosses the parcel, and therefore there is adequate service for sanitary. Stormwater will be routed to the road side ditch system along Washington Street, north of the Amtrak Station entry, which will require the extension of some public storm drain piping system to the site, but the existing ditch system does have capacity to handle runoff from the site. No additional utility easements are needed beyond those that currently exists to serve the parcel..

17.65.050.B. Proposed Development Submittal Requirements.
1. Narrative statement. An applicant shall submit a narrative statement that describes the following:
a. The proposed duration of the general development plan.
Applicant's Response: Proposed duration of the general development plan is 5 years, with up to 5 years extension to the plan provided an updated traffic impact study is provided, and identified additional impacts addressed.

17.65.050.B.1.b. *The proposed development boundary. May also reference submitted maps or diagrams.*
Applicant's Response: The extent of proposed boundary of this development is shown on "Taxlots", drawing 1.2, included with this submittal. The area is bounded on the south by 17th Street, Washington Street on the east, the Oregon City Trail Station on the north, and the railroad right-of-way on the west.

17.65.050.B.1.c. *A description, approximate location, and timing of each proposed phase of development, and a statement specifying the phase or phases for which approval is sought under the current application. May also reference submitted maps or diagrams.*
Applicant's Response: Proposed development consists of two phases. Phase 1 includes a new hotel and retention of the existing historic Hackett House on the southern part of the site. Phase 2 includes a mixed-use development on the north portion of the site, including multifamily residential uses over street level

retail/commercial and parking. A DDP for Phase 1 is being submitted concurrently with the GDP submittal with development of this phase to occur as soon as government approvals allow. Timing for Phase 2 is variable, with hoped for construction beginning prior to completion of Phase 1. See "Phasing" drawing 2.1 for additional information.

17.65.050.B.1.d. *An explanation of how the proposed development is consistent with the purposes of Section 17.65, the institutional zone, and any applicable overlay district.*
Applicant's Response: The proposed development is consistent with the purpose and intent of 17.65 to "foster the growth of major institutions and other large-scale development, while identifying and mitigating the impacts of such growth on surrounding properties and public infrastructure." The proposed project is a large scale, multi-phased project, with impacts identified, and mitigation proposed in this application.

17.65.050.B.1.e. *A statement describing the impacts of the proposed development on inventoried Goal 5 natural, historic or cultural resources within the development boundary or within two hundred fifty feet of the proposed development boundary.*
Applicant's Response: The historic Hackett House will remain in its original site location without modification. Development of a hotel serving the needs of visitors to the End of the Oregon Trail Interpretive Center across the street supports an important Oregon City resource. Redevelopment of underutilized property within the MUD zone relieves development pressure on existing open space, while protecting natural resources, conserving scenic and historic areas.

17.65.050.B.1.f. *An analysis of the impacts of the proposed development on the surrounding community and neighborhood, including:*
1. Transportation impacts as prescribed in subsection g. below;
2. Internal parking and circulation impacts and connectivity to sites adjacent to the development boundary and public right-of-ways within two hundred fifty feet of the development boundary;
3. Public facilities impacts (sanitary sewer, water and stormwater management) both within the development boundary and on city-wide systems;
4. Neighborhood livability impacts;
5. Natural, cultural and historical resource impacts within the development boundary and within two hundred fifty feet of the development boundary.
Applicant's Response:

1. **Transportaion impacts – See response under 17.65.050.B.1.g**
2. **Internal parking and circulation impacts – See "Vehicular Circulation", drawing 2.2 and "Pedestrian Circulation", drawing 2.3 illustrating proposed circulation and connectivity. Proposed development reduces the number of driveways fronting Washington Street, improves on-site vehicular circulation, and provides new on-street parking opportunities. Improvement of Washington Street and construction of on-site pedestrian walkways will enhance pedestrian access to the project site and neighborhood connectivity to the End of the Oregon Trail and the Oregon City Train Station.**
3. **Public facilities impacts Adequate public sanitary sewer and domestic water is available in Washington Street to serve the hotel development. Stormwater facilities for water quality will be created both on-site and in the public right-of-way improvement areas to serve street runoff. There is adequate downstream storm facilities to serve the site. Specifics about the stormwater is address in the stormwater report, included with the application materials.**
4. **Neighborhood livability impacts – Proposed project will increase neighborhood livability by creating new employment and housing opportunities, adding street level retail/commercial space, and improving pedestrian and vehicular connectivity.**
5. **Natural, cultural and historical resource impacts – Proposed project protects and enhances existing natural, cultural, and historical resources within the development boundary and within two hundred fifty feet of the development boundary. The historic Hackett House will remain in its original site location without modification. Development of a hotel serving the needs of visitors to the End of the**

Oregon Trail Interpretive Center across the street supports an important Oregon City resource. Redevelopment of underutilized property within the MUD zone relieves development pressure on existing open space, while protecting natural resources, conserving scenic and historic areas.

17.65.050.B.1.g. *A summary statement describing the anticipated transportation impacts of the proposed development. This summary shall include a general description of the impact of the entire development on the local street and road network, and shall specify the maximum projected average daily trips, projected AM and PM peak hour traffic and the maximum parking demand associated with build-out each phase of the master plan.*

17.65.050.B.1.h. *In addition to the summary statement of anticipated transportation impacts, an applicant shall provide a traffic impact study as specified by city requirements. The transportation impact study shall either:*
1. Address the impacts of the development of the site consistent with all phases of the general development plan; or
2. Address the impacts of specific phases if the city engineer determines that the traffic impacts of the full development can be adequately evaluated without specifically addressing subsequent phases.

17.65.050.B.1.i. *If an applicant chooses to pursue option h.1., the applicant may choose among three options for implementing required transportation capacity and safety improvements:*
1. The General Development Plan may include a phasing plan for the proposed interior circulation system and for all on-site and off-site transportation capacity and safety improvements required on the existing street system as a result of fully implementing the plan. If this option is selected, the transportation phasing plan shall be binding on the applicant.
2. The applicant may choose to immediately implement all required transportation safety and capacity improvements associated with the fully executed general development plan. If this option is selected, no further transportation improvements will be required from the applicant. However, if a general development plan is later amended in a manner so as to cause the projected average daily trips, the projected AM or PM peak hour trips, or the peak parking demand of the development to increase over original projections, an additional transportation impact report shall be required to be submitted during the detailed development plan review process for all future phases of the development project and additional improvements may be required.
3. The applicant may defer implementation of any and all capacity and safety improvements required for any phase until that phase of the development reaches the detailed development plan stage. If this option is selected, the applicant shall submit a table linking required transportation improvements to vehicle trip thresholds for each development phase.
Applicant's Response: See "Traffic Impact Study", Exhibit G, included with this application.

17.65.050.B.1.j. *The applicant or city staff may propose objective development standards to address identified impacts that will apply within the proposed development on land that is controlled by the institution. Upon approval of the general development plan, these standards will supersede corresponding development standards found in this code. Development standards shall address at least the following:*
1. Pedestrian, bicycle and vehicle circulation and connectivity;
2. Internal vehicle and bicycle parking;
3. Building setbacks, landscaping and buffering;
4. Building design, including pedestrian orientation, height, bulk, materials, ground floor windows and other standards of Chapter 17.62; and
5. Other standards that address identified development impacts.
Applicant's Response: Adjustments to existing standards under 17.65.070 have been requested for several requirements rather than proposing alternative objective standards.

17.65.050.B.2 *Maps and diagrams. The applicant must submit, in the form of scaled maps or diagrams, as appropriate, the following information:*
a. A preliminary site circulation plan showing the approximate location of proposed vehicular, bicycle, and pedestrian access points and circulation patterns, parking and loading areas or, in the alternative, proposed criteria

for the location of such facilities to be determined during detailed development plan review.
b. The approximate location of all proposed streets, alleys, other public ways, sidewalks, bicycle and pedestrian access ways and other bicycle and pedestrian ways, transit streets and facilities, neighborhood activity centers and easements on and within two hundred fifty feet of the site. The map shall identify existing subdivisions and development and un-subdivided or unpartitioned land ownerships adjacent to the proposed development site and show how existing streets, alleys, sidewalks, bike routes, pedestrian/bicycle access ways and utilities within two hundred fifty feet may be extended to and/or through the proposed development.
c. The approximate location of all public facilities to serve the proposed development, including water, sanitary sewer, stormwater management facilities.
d. The approximate projected location, footprint and building square footage of each phase of proposed development.
e. The approximate locations of proposed parks, playgrounds or other outdoor play areas; outdoor common areas and usable open spaces; and natural, historic and cultural resource areas or features proposed for preservation. This information shall include identification of areas proposed to be dedicated or otherwise preserved for public use and those open areas to be maintained and controlled by the owners of the property and their successors in interest for private use.
Applicant's Response: Maps and diagrams are included with this submittal.

17.65.050.C. *Approval Criteria for a General Development Plan. The planning commission shall approve an application for general development plan approval only upon finding that the following approval criteria are met.*

17.65.050.C.1. *The proposed General Development Plan is consistent with the purposes of Section 17.65.*
Applicant's Response: The proposed development is consistent with the purpose and intent of 17.65 to "foster the growth of major institutions and other large-scale development,
while identifying and mitigating the impacts of such growth on surrounding properties and public infrastructure." The proposed project is a large scale, multi-phased project, with impacts identified, and mitigation proposed in this application.

17.65.050.C.2*. Development shall demonstrate compliance with Chapter 12.04, Streets, Sidewalks and Public Places.*
Applicant's Response: Narrative responses and plans submitted demonstrate compliance with Chapter 12.04.

17.65.050.C.3. *Public services for water supply, police, fire, sanitary waste disposal, and storm-water disposal are capable of serving the proposed development, or will be made capable by the time each phase of the development is completed.*
Applicant's Response: Public services for water supply, police, fire, sanitary waste disposal, and storm-water disposal are capable of serving the proposed development, or will be made capable by the time each phase of the development is completed.

17.65.050.C.4*. The proposed General Development Plan protects any inventoried Goal 5 natural, historic or cultural resources within the proposed development boundary consistent with the provisions of applicable overlay districts.*
Applicant's Response: The proposed project protects Goal 5 resources. The historic Hackett House will remain in its original site location without modification. Development of a hotel serving the needs of visitors to the End of the Oregon Trail Interpretive Center across the street supports an important Oregon City resource. Redevelopment of underutilized property within the MUD zone relieves development pressure on existing open space, while protecting natural resources, conserving scenic and historic areas.

17.65.050.C.5. *The proposed General Development Plan, including development standards and impact mitigation thresholds and improvements adequately mitigates identified impacts from each phase of development. For needed housing, as defined in ORS 197.303(1), the development standards and mitigation thresholds shall contain clear and objective standards.*

Applicant's Response: The proposed General Development Plan, including impact mitigation thresholds and improvements as documented in this application adequately mitigates identified impacts from each phase of development.

17.65.050.C.6. *The proposed general development plan is consistent with the Oregon City Comprehensive Plan and its ancillary documents. NOTE EXCERPT GOALS AND POLICIES FROM THE COMPREHENSIVE PLAN ARE PROVIDED. PLEASE REVIEW THE DOCUMENT AND INCLUDE ALL APPLICABLE.*

Applicant's Response: The proposed development strives to be consistent with the Oregon City Comprehensive Plan as noted below; applicable portions are included for this narrative.

Section 1: Citizen Involvement

Goal 1.1 Citizen Involvement Program Implement a Citizen Involvement Program that will provide an active and systematic process for citizen participation in all phases of the land-use decision making process to enable citizens to consider and act upon a broad range of issues affecting the livability, community sustainability, and quality of neighborhoods and the community as a whole.

Policy 1.1.1 - Utilize neighborhood associations as the vehicle for neighborhood-based input to meet the requirements of the Land Conservation and Development Commission (LCDC) Statewide Planning Goal 1, PWF Medical Center Master Plan Modification and Comprehensive Plan/Zone Change Application 20 *Citizen Involvement. The Citizen Involvement Committee (CIC) shall serve as the officially recognized citizen committee needed to meet LCDC Statewide Planning Goal 1.*

Goal 1.2 Community and Comprehensive Planning - Ensure that citizens, neighborhood groups, and affected property owners are involved in all phases of the comprehensive planning program.

Policy 1.2.1 - Encourage citizens to participate in appropriate government functions and land-use planning.

Goal 1.3 Community Education - Provide education for individuals, groups, and communities to ensure effective participation in decision-making processes that affect the livability of neighborhoods.

Goal 1.4 Community Involvement - Provide complete information for individuals, groups, and communities to participate in public policy planning and implementation of policies.

Policy 1.4.1 - Notify citizens about community involvement opportunities when they occur.

Applicant's Response: Citizen involvement has been encouraged through voluntary as well as required neighborhood meetings.

Section 2: Land Use

Goal 2.1: *Ensure that property planned for residential, commercial, office and industrial uses is used efficiently and that land is developed following principles of sustainable development.*

Policy 2.1.2

Encourage the vertical and horizontal mixing of different land-use types in selected areas of the city where compatible uses can be designed to reduce the overall need for parking, create vibrant urban areas, reduce reliance on private automobiles, create more business opportunities and achieve better places to live.

Applicant's Response: The proposed development includes horizontal and vertical mixed-use, additional parking, more business opportunities, improved neighborhood livability. Infill and redevelopment of underutilized property provides for an efficient use of the land.

Goal 2.2 Downtown Oregon City

Develop the Downtown area, which includes the Historic Downtown Area, the "north end" of the Downtown, Clackamette Cove, and the End of the Oregon Trail area, as a quality place for shopping, living, working, cultural and recreational activities, and social interaction. Provide walkways for pedestrian and bicycle traffic, preserve views of Willamette Falls and the Willamette River, and preserve the natural amenities of the area.

Applicant's Response: Proposed development provides a quality place for shopping, living, working, and social interaction in the End of the Oregon Trail area with provisions for improved pedestrian and bicycle circulation.

Goal 2.5: Retail and Neighborhood Commercial

Encourage the provision of appropriately scaled services to neighborhoods.

Policy 2.5.2

Allow and encourage the development of small retail centers in residential neighborhoods that provide goods and services for local residents and workers.

Generally, these centers should be located at the intersections of two or more streets that are classified as neighborhood collectors or higher.

Policy 2.5.4

Encourage the development of successful commercial areas organized as centers surrounded by higher density housing and office uses, rather than as commercial strips adjacent to low-density housing.

Applicant's Response: Proposed development includes appropriately scaled commercial uses under multi-family residential which forms a small commercial center with higher density housing.

Section 6: Quality of Air, Water and Land Resources

Policy 6.1.1 Promote land-use patterns that reduce the need for distance travel by single-occupancy vehicles and increase opportunities for walking, biking and/or transit to destinations such as places of employment, shopping and education.

Policy 6.1.4

Encourage the maintenance and improvement of the city's tree canopy to improve air quality.

Applicant's Response: Proposed development is located within walking and biking distance of transit streets and provides direct pedestrian connection to the adjacent Oregon City Train Station. Improvements along Washington Street will include sidewalks and street trees where none currently exist. Retention of existing large tree along 17th Street by routing public walk around tree helps to maintain the existing tree canopy.

Section 7: Natural Hazards

Protect life and reduce property loss from the destruction associated with natural hazards.

Policy 7.1.1

Limit loss of life and damage to property from natural hazards by regulating or prohibiting development in areas of known or potential hazards.

Policy 7.1.5

Minimize the risk of loss of life and damage to property from flooding by limiting development in the 100-year floodplain and by ensuring that accepted methods of flood proofing are used.

Policy 7.1.6

Encourage the use of land and design of structures that are relatively unaffected by the periodic effects of flooding, such as parking and other uses not normally occupied by humans.

Policy 7.1.7

Prohibit uses in areas subject to flooding that would exacerbate or contribute to hazards posed by flooding by introducing hazardous materials, filling or obstructing floodways, modifying drainage channels, and other detrimental actions.

Policy 7.1.8

Provide standards in City Codes for planning, reviewing, and approving development in areas of potential landslides that will prevent or minimize potential landslides while allowing appropriate development.

Applicant's Response: Proposed development is within the floodplain with appropriate measures to limit loss of life and damage to property. Building floors and site areas below the flood elevation are restricted to parking and commercial uses. Residential, hotel, and office uses are located above the flood elevation. Balanced cut and fill within the floodplain mitigates risk of modifying land within the floodplain.

Section 9: Economic Development

Goal 9.1 Improve Oregon City's Economic Health - Provide a vital, diversified, innovative economy including an adequate supply of goods and services and employment opportunities to work toward an economically reasonable, ecologically sound and socially equitable economy.

Applicant's Response: Proposed project seeks to provide diversification of uses, which should result in economically healthy growth within Oregon City.

Section 10: Housing

Goal 10.1*: Provide for the planning, development and preservation of a variety of housing types and lot sizes.*

Policy 10.1.3

Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.

Goal 10.2 *Provide and maintain an adequate supply of affordable housing.*

Applicant's Response: Proposed development includes mixed-use with multi-family residential over commercial / retail spaces, creating a balanced development.

Section 11: Public Facilities

Goal 11.1: Serve the health, safety, education, welfare and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.

Policy 11.1.2: Provide public facilities and services consistent with the goals, policies and implementing measures of the Comprehensive Plan, if feasible.

Policy 11.1.3: Confine urban public facilities and services to the city limits except where allowed for safety and health reasons in accordance with state land-use planning goals and regulations. Facilities that serve the public will be centrally located and accessible, preferably by multiple modes of transportation.

Policy 11.1.4: Support development on underdeveloped or vacant buildable land within the city where public facilities and services are available or can be provided and where land-use compatibility can be found relative to the environment, zoning, and Comprehensive Plan goals.

Policy 11.1.5: Design the extension or improvement of any major public facility and service to an area to complement other public facilities and services at uniform levels.

Policy 11.1.6: Enhance efficient use of existing public facilities and services by encouraging development at maximum levels permitted in the Comprehensive Plan, implementing minimum residential densities, and adopting an Accessory Dwelling Unit Ordinance to infill vacant land.

Policy 11.2, Wastewater, 11.3, Water Distribution, 11.4, Stormwater Management, 11.5, Solid Waste, 11.6, Transportation Infrastructure, 11.7, Private Utility Operations, 11.8, Health and Education, 11.9, Fire Protection, 11.10, Police Protection, 11.11, Civic Facilities and 11.12, Library

Applicant's Response: Adequate facilities are present to serve the proposed site redevelopment. Washington Street frontage will be improved to bring it up to City arterial standards, the location of the proposed development next to the Amtrak train station, near bus stops at 17th and Washington and close to two freeway interchanges all will mean the proposed development will be will connected various transportation and transit facilities. Infill and redevelopment of the property located between the train station and the End of the Oregon Trail is consistent with the policies of this section.

Section 12: Transportation

Goal 12.1 Land Use-Transportation Connection

Ensure that the mutually supportive nature of land use and transportation is recognized in planning for the future of Oregon City.

Policy 12.1.1 Maintain and enhance citywide transportation functionality by emphasizing multi-modal travel options for all types of land uses.

Policy 12.1.2 Continue to develop corridor plans for the major arterials in Oregon City, and provide for appropriate land uses in and adjacent to those corridors to optimize the land use-transportation connection.

Policy 12.1.3 Support mixed uses with higher residential densities in transportation corridors and include a consideration of financial and regulatory incentives to upgrade existing buildings and transportation systems.

Policy 12.1.4 Provide walkable neighborhoods. They are desirable places to live, work, learn and play, and therefore a key component of smart growth.
Goal 12.5 Safety Develop and maintain a transportation system that is safe.
Policy 12.5.1 Identify improvements that are needed to increase the safety of the transportation system for all users.
Policy 12.5.2 Identify and implement ways to minimize conflict points between different modes of travel.
Policy 12.5.3 Improve the safety of vehicular, rail, bicycle, and pedestrian crossings.
Goal 12.6 Capacity Develop and maintain a transportation system that has enough capacity to meet users' needs.
Policy 12.6.1 Provide a transportation system that serves existing and projected travel demand.
Policy 12.6.2 Identify transportation system improvements that mitigate existing and projected areas of congestion.
Policy 12.6.3 Ensure the adequacy of travel mode options and travel routes (parallel systems) in areas of congestion.
Policy 12.6.4 Identify and prioritize improved connectivity throughout the city street system.

Applicant's Response: Transportation Goals are addressed by providing features that meet or exceed the standards of this code; items such as bicycle parking, walking paths, improved sidewalks, safety, multi-modal transportation, and more, have design features or amenities proposed that are provided to enhance transportation to, from, and through the site, while also providing a connective fabric to the surrounding community.

Section 13: Energy Conservation

Goal 13.1 Conserve energy in all forms through efficient land-use patterns, public transportation, building siting and construction standards, and city programs, facilities, and activities.
Policy 13.2.1- Promote mixed-use development, increased densities near activity centers, and home-based occupations (where appropriate).

Applicant's Response: Proposed development is multi-story, mixed-use, adding efficient increased density in close proximity to the End of the Oregon Trail and public transportation at the train station.

Section 14: Urbanization

Goal 14.2: *Orderly Redevelopment of Existing City Areas- Reduce the need to develop land within the Urban Growth Boundary by encouraging redevelopment of underdeveloped or blighted areas within the existing city limits.*
Policy 14.2.1 - Maximize public investment in existing public facilities and services by encouraging redevelopment as appropriate.
Policy 14.2.2 - Encourage redevelopment of city areas currently served by public facilities through regulatory and financial incentives.
Policy 14.3.1 - Maximize new public facilities and services by encouraging new development within the Urban Growth Boundary at maximum densities allowed by the Comprehensive Plan.

Applicant's Response: Proposed development includes infill and redevelopment of multiple underutilized properties. The development will significantly improve the density of the area, while also reducing a blighted area within the city limits.

D. Duration of General Development Plan. A general development plan shall involve a planning period of at least five years and up to twenty years. An approved general development plan shall remain in effect until development allowed by the plan has been completed through the detailed development plan process, the plan is amended or superseded, or the plan expires under its stated expiration date.

Applicant's Response: Proposed duration of the general development plan is 5 years, with up to 5 years extension to the plan provided an updated traffic impact study is provided, and identified additional impacts addressed.

CHAPTER 17.65.070 - ADJUSTMENTS TO DEVELOPMENT STANDARDS.

A. Purpose. In order to implement the purpose of the City's master plan process, which is to foster the growth of major institutions and other large-scale development, while identifying and mitigating their impacts on surrounding properties and public infrastructure, an applicant may request one or more adjustments to the applicable development regulations as part of the master planning process. These include, but are not limited to, items such as: dimensional standards of the of the underlying zone, Site Plan and Design Review criteria, residential design standards, and standards for land division approval.

B. Procedure. Requests for adjustments shall be processed concurrently with a General Development Plan. An adjustment request at the detailed development plan review shall cause the detailed development plan to be reviewed as a Type III application.

Applicant's Response: The following adjustments are requested :

1. **12.04.195.A – Maximum block spacing between streets 530 feet, pedestrian accessways every 330 feet if block length is exceeded. Requested adjustment : Maximum block spacing between streets NOT REQUIRED, pedestrian accessways NOT REQUIRED.**
2. **17.62.055.F – First floor to second floor height 14 feet minimum. Requested adjustment : first floor to second floor height 12 feet minimum.**
3. **1754.100.A.1 – Fence height 6' maximum. Requested adjustment : Fence height along railroad right-of-way, 8 feet maximum.**
4. **17.54.100.B.4 – Fence & retaining wall combined height 8.5' : Requested adjustment : Guardrail + retaining wall combined height 15 feet maximum.**
5. **17.62.057.I.3 Diversity of unit types - Developments of seventy-slx units and above must provide four unit types representing a minimum of ten percent of the total units per unit type. Requested adjustment : Developments of seventy-slx units and above WHERE ALL UNITS ARE ACCESSIBLE BY ELEVATOR must provide THREE unit types representing a minimum of ten percent of the total units per unit type. UNITS SHALL BE THREE OF THE FOLLOWING TYPES (STUDIO, ONE-BEDROOM, TWO-BEDROOM, THREE-BEDROOM).**
6. **17.62.057.L.2 Window design - All windows on all elevations shall recess or project individual windows at least two inches from the facade and incorporate window trim at least four inches in width that features color that contrasts with the base building color. Requested adjustment : EXCEPTION: WOOD FRAMED WALLS WITH EXTERIOR WALL FINISHES PROJECTING LESS THAN 3-1/2" FROM FACE OF WALL SHEATHING SHALL NOT BE REQUIRED TO RECESS OR PROJECT WINDOWS FROM FAÇADE.**

C. Regulations That May Not be Adjusted. Adjustments are prohibited for the following items:
1. To allow a primary or accessory use that is not allowed by the regulations;
2. To any regulation that contains the word "prohibited";
3. As an exception to a threshold review, such as a Type III review process; and
4. Any exception to allow a use not identified as a permitted or conditional use in the underlying zone.

Applicant's Response: Requested adjustments are not included in the prohibited items listed in this section.

D. Approval Criteria. A request for an adjustment to one or more applicable development regulations under this section shall be approved if the review body finds that the applicant has shown the following criteria to be met.

1. Granting the adjustment will equally or better meet the purpose of the regulation to be modified;

Applicant's Response:

1. **12.04.195.A – Maximum block spacing between streets 530 feet, pedestrian accessways every 330 feet if block length is exceeded. Requested adjustment : Maximum block spacing between streets NOT REQUIRED, pedestrian accessways NOT REQUIRED.**

   The railroad right-of-way which parallels Washington Street and abuts the westerly edge of the property, prevents any vehicular or pedestrian connections between Washington Street and Main Street.

Pedestrian-bicycle accessway connections parallel with Washington Street is are needed as the width of the parcel between Washington Street and the railroad right-of-way does not exceed 330 feet.

2. **17.62.055.F – First floor to second floor height 14 feet minimum. Requested adjustment : first floor to second floor height 12 feet minimum.**

   The stated purpose of this section is to have adequate height to function efficiently for retail uses. Proposed uses include two new buildings, a hotel and a mixed-use building with ground floor retail/commercial uses and multi-family uses above. The hotel building is not likely to be repurposed to a different use, and a 12 foot floor to floor height is consistent with the franchise and industry standard for this type of hotel. The mixed-use building ground floor consists of smaller scale spaces that can be adequately served and function efficiently with a reduced floor to floor height. Additional floor to floor height would add additional unnecessary cost to the project and reduce the available building height

3. **1754.100.A.1 – Fence height 6' maximum. Requested adjustment : Fence height along railroad right-of-way, 8 feet maximum.**

   ODOT requests an 8 foot high fence along the railroad right-of-way abutting the west property line. The presence of trains present a public safety and security concern beyond typical neighboring properties. See ODOT response dated 03/17/2016 from "Pre-App Notes", Exhibit D for additional information.

4. **17.54.100.B.4 – Fence & retaining wall combined height 8.5' : Requested adjustment : Guardrail + retaining wall combined height 15 feet maximum.**

   The natural grade of the site drops significantly from south to north over the westerly half of the site. In order to balance cut & fill within the flood zone, maintain the hotel floor level above the flood elevation and allow for vehicle access to the hotel, a break in grade of approximately 11.5 feet will be required. With the addition of a 3.5 foot safety guardrail at the top the combined height required is 15 feet. The proposed wall will not be visible from either 17th Street or Washington Street.

5. **17.62.057.I.3 Diversity of unit types - Developments of seventy-slx units and above must provide four unit types representing a minimum of ten percent of the total units per unit type. Requested adjustment : Developments of seventy-slx units and above WHERE ALL UNITS ARE ACCESSIBLE BY ELEVATOR must provide THREE unit types representing a minimum of ten percent of the total units per unit type. UNITS SHALL BE THREE OF THE FOLLOWING TYPES (STUDIO, ONE-BEDROOM, TWO-BEDROOM, THREE-BEDROOM).**

   In an elevator building ALL units will be accessible type A or type B as required by code. If the unit mix is then also required to contain all four of the bedroom configurations, the project is highly restricted in its ability to respond to market demand. A project containing an elevator and 3 different bedroom configurations provides the unit diversity intended by the code, without negatively effecting the project's feasibility.

6. **17.62.057.L.2 Window design - All windows on all elevations shall recess or project individual windows at least two inches from the facade and incorporate window trim at least four inches in width that features color that contrasts with the base building color. Requested adjustment : EXCEPTION: WOOD FRAMED WALLS WITH EXTERIOR WALL FINISHES PROJECTING LESS THAN 3-1/2" FROM FACE OF WALL SHEATHING SHALL NOT BE REQUIRED TO RECESS OR PROJECT WINDOWS FROM FAÇADE.**

   Typical windows intended for wood framed construction are installed by attaching a flange or fin that is an integral part of the window frame to the face of the wall sheathing. This configuration establishes the relationship between the wall façade and the window. Installing the window in a different manner

is not a window manufacturer approved installation and creates building envelope integrity challenges and liabilities.

The amount of recess in a typical installation varies considerably depending on both the window manufacturer's frame cross-section and the type of window operation. Traditional double-hung windows often have one of the window panels in front of the attachment flange by more than an inch. Other window types may have glazing inline with or slightly behind or in front of the attachment flange. Use of typical siding materials will not result in the required projection or recess without artificially contrived detailing that is contrary to code purpose of quality construction and integration existing construction.

2. If more than one adjustment is being requested, the cumulative effect of the adjustments results in a project that is still consistent with the overall purpose of the zone;

Applicant's Response: The cumulative effect of the requested adjustments results in a project consistent with the overall purpose of the MUD zone. The adjustments enhance security, increase buildability, and promote project feasibility, allowing for a mixed use project appropriate to the MUD zone.

3. City-designated Goal 5 resources are protected to the extent otherwise required by Title 17;

Applicant's Response: The historic Hackett House will remain in its original site location without modification. Development of a hotel serving the needs of visitors to the End of the Oregon Trail Interpretive Center across the street supports an important Oregon City resource. Redevelopment of underutilized property within the MUD zone relieves development pressure on existing open space, while protecting natural resources, conserving scenic and historic areas.

4. Any impacts resulting from the adjustment are mitigated; and

Applicant's Response:

1. **12.04.195.A – Maximum block spacing between streets 530 feet, pedestrian accessways every 330 feet if block length is exceeded. Requested adjustment : Maximum block spacing between streets <u>NOT REQUIRED</u>, pedestrian accessways <u>NOT REQUIRED</u>.**

   No adverse impacts would result from this adjustment as vehicle and pedestrian-bicycle is restricted by the railroad right-of-way and block width is less than 330 feet.

2. **17.62.055.F – First floor to second floor height 14 feet minimum. Requested adjustment : first floor to second floor height <u>12</u> feet minimum.**

   As the reduced floor to floor height will not reduce the effectiveness of the spaces to function as retail/commercial, there is no impact to mitigate. These spaces are likely to remain as the uses intended as the hotel is a purpose built building and the ground floor of the mixed-use building is precluded from residential use by its location below the flood elevation. The structural system for the second floor will be concrete with approximate thickness of 12"-14". This floor assembly is substantially thinner than other possible systems, further allowing reduced floor to floor height without adversely effecting functionality.

3. **1754.100.A.1 – Fence height 6' maximum. Requested adjustment : Fence height <u>along railroad right-of-way, 8 feet maximum</u>.**

   A 5' landscape buffer along the west property line adjacent to the railroad right-of-way will reduce the visual impact of the proposed fence.

4. **17.54.100.B.4 – Fence & retaining wall combined height 8.5' : Requested adjustment : <u>Guardrail + retaining wall combined height 15 feet maximum</u>.**

The proposed wall is designed have a slightly angled face, constructed from large concrete blocks. The wall will not be visible from public streets. Planting in front of or on the wall face will further diminish the visual impact of the wall.

5. **17.62.057.I.3 Diversity of unit types - Developments of seventy-slx units and above must provide four unit types representing a minimum of ten percent of the total units per unit type. Requested adjustment : Developments of seventy-slx units and above <u>WHERE ALL UNITS ARE ACCESSIBLE BY ELEVATOR</u> must provide <u>THREE</u> unit types representing a minimum of ten percent of the total units per unit type. <u>UNITS SHALL BE THREE OF THE FOLLOWING TYPES (STUDIO, ONE-BEDROOM, TWO-BEDROOM, THREE-BEDROOM).</u>**

   In an elevator building ALL units will be accessible type A or type B as required by code. Combined with a unit mix containing 3 additional unit types, the diversity intended by the original code section is provided.

6. **17.62.057.L.2 Window design - All windows on all elevations shall recess or project individual windows at least two inches from the facade and incorporate window trim at least four inches in width that features color that contrasts with the base building color. Requested adjustment : <u>EXCEPTION: WOOD FRAMED WALLS WITH EXTERIOR WALL FINISHES PROJECTING LESS THAN 3-1/2" FROM FACE OF WALL SHEATHING SHALL NOT BE REQUIRED TO RECESS OR PROJECT WINDOWS FROM FAÇADE.</u>**

   Providing contrasting trim 4" minimum width trim along with industry standard window installation provides for quality construction, consistent with traditional wood-framed window & wall appearance.

5. If in an environmental zone, the proposal has as few significant detrimental environmental impacts on the resource and resource values as is practicable. (Ord. 03-1014, Att. B3 (part), 2003)

Applicant's Response: Property is located within the NROD per City maps. See Exhibit E, "NROD Boundary Verification Report" for background data and information supporting the following requested actions:

1. **Concurrence that no wetlands, waterways, other protected features exist on the subject properties.**
2. **Concurrence that NROD buffers do not project onto the subject properties. In the case of Abernethy Creek, 17th Street constitutes a physical barrier. In the case of the wetland area to the North, the wetland buffers per table 17.49.110 fall about 150FT from the project.**

6. The proposed adjustment is consistent with the Oregon City Comprehensive Plan and ancillary documents.

Applicant's Response: The proposed adjustments allow for a project to be developed that supports Comprehensive Plan goal 2.1 - Efficient Use of Land by promoting infill and redevelopment.

17.65.80 *Amendments to Approved Plans*

Applicant's Response: Proposed project does not include amendments to approved plans.

III. EXHIBITS :

EXHIBIT A - GDP Application

EXHIBIT B – Narrative Statement & Description

EXHIBIT C – Taxlot Reports

EXHIBIT D – Pre-App Notes

EXHIBIT E – NROD Boundary Verification Report

EXHIBIT F – Geologic Hazard Evaluation

EXHIBIT G – Traffic Impact Study

EXHIBIT H – Water Quality & Downstream Conveyance

EXHIBIT I – Drawings

ARCHITECTURAL

1.0 Vicinity Map
1.1 Neighborhood Aerial Photo
1.2 Taxlots
1.3 Project Aerial Photo
1.4 Surrounding Uses
1.5 Existing Uses
2.0 Proposed Uses
2.1 Project Phasing
2.2 Conceptual Vehicular Circulation
2.3 Conceptual Pedestrian Circulation
2.4 Conceptual Landscape Plan

CIVIL

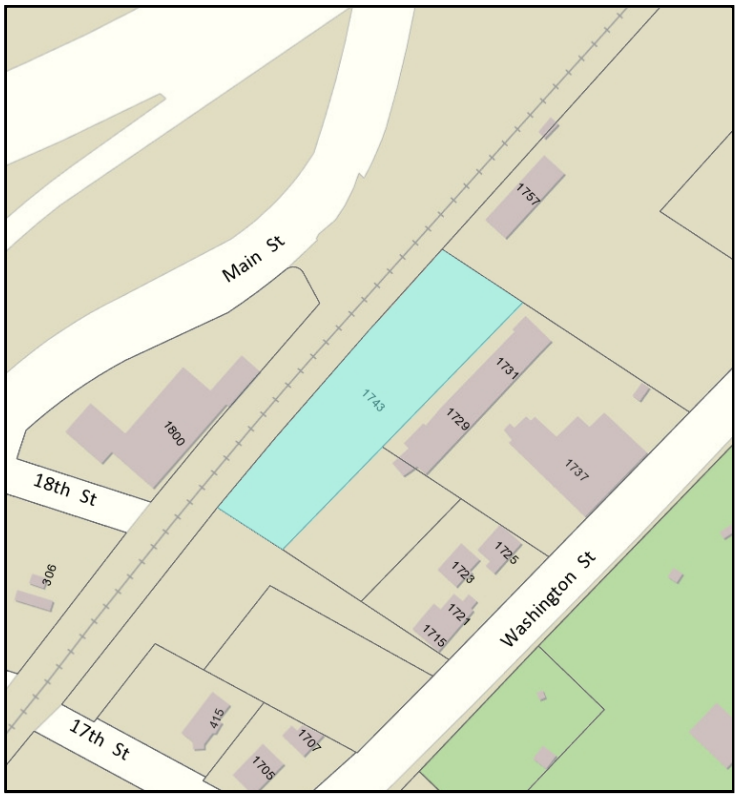
PP1 Preliminary Utility Plan
PP2 Preliminary Grading Plan

SURVEY

1 Existing Topography
2 Existing Topography

Taxlot Information

Parcel Number (APN)	2-2E-29CA-00601
Primary Situs Address	1743 WASHINGTON ST OREGON CITY, OR 97045
County	CLACKAMAS
Section	T2S R2E S29
Latitude	45.365352
Longitude	-122.596678
Approx. Elevation (ft)	39
R Number (Alt ID)	01544779
Approx. Size (acres)	0.81
USGS Quad Name	Oregon City
Within Oregon City Limits?	Y
Urban Growth Boundary (UGB)	Inside



Political Boundaries

Jurisdiction	Oregon City
Voting Precinct	2
US Congressional District	5
Oregon House District	40
Oregon Senate District	20
Metro Council District	2
Metro Councilor	Carlotta Collette
Metro Councilor Email	carlotta.collette@oregonmetro.gov

Assessment & Value Information

Taxmap	2S2E29CA
Market Values as of	1/5/2016
Land Value (Mkt)	$505,727
Building Value (Mkt)	$145,310
Exempt Amount	$0
Net Value (Mkt)	$651,037
Assessed Value	$260,524
Year Built (if known)	
Sale Date	201202
Sale Price	$175,000
Document Date	2012-02-14 00:00
Document Number	2012-009184
State General Prop. Code	201
County Tax Code	062057

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City of Oregon City
PO Box 3040
625 Center St
Oregon City, OR 97045
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Land Use and Planning

Zoning	MUD	*In Sewer Moratorium Area?*	N
Zoning Description	Mixed Use Downtown District	*In Thayer Rd Pond Fee Area?*	N
Comprehensive Plan	mud	*In Beavercreek Rd Access Area?*	N
Comprehensive Plan Description	Mixed Use - Downtown	*In Willamette River Greenway?*	N
Subdivision	NONE	*In Geologic Hazard?*	N
Subdivision Plat Number		*In High Water Table Area?*	N
PUD (if known)		*In Nat. Res. Overlay District (NROD)?*	N
Partition Plat Number	1992-164	*In 1996/FEMA 2008 100-yr Floodplain?*	Y
Neighborhood Association	Two Rivers NA		
Urban Renewal District	Downtown Urban Renewal Area	*In Barlow Trail Area?*	N
Historic District	Not in a historic district	*Watershed*	Lower Clackamas River
Historic Designated Struct.?	N	*Sub-Watershed*	Rock Creek-Clackamas River
Concept Plan Area	Not in a concept plan area	*Basin*	Willamette
Urban/Rural Reserve	Not in a reserve	*Sub-Basin*	Clackamas
Reserve Name	Not in a reserve		

Service Districts

Elementary School	Holcomb Elementary
Middle School	Ogden Middle
High School	Oregon City High
School District	Oregon City
Oregon Dept. of Ed. Dist. ID	1928
Natl. Cntr for Ed. Stats Dist. ID	4109330
Water District	Not in a water district
Park District	Not in a park district
Sewer District	Tri-City Service District
Fire District	Clackamas Fire District #1
Fire Management Zone	6498
Transit District	Tri-County Metropolitan
Garbage Hauler	Oregon City Garbage Co.
Garbage Hauler Phone	(503) 656-8403

Census Information

Census Tract	223.01
Census Block Group	2
Census Block Grp. Pop. (2010)	1331

Overlay Information

Category	Description	Acres	Percent Coverage
Parcel Statistics for: 2-2E-29CA-00601	Overall Acres	0.82	100.0%
FEMA 100 Yr Floodplain	In Floodplain (100 yr)	0.82	100.0%
Buildings	Built up % (approx)	0.00	0.0%
Geologic Hazards	In Geologic Hazard	0.00	0.0%
Steep Slopes	Slopes >= 25%	0.00	0.0%

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NROD	In NROD	0.00	0.0%
Willamette Greenway	In Willamette Greenway	0.00	0.0%
Vacant Lands (All)	In Vacant Lands	0.82	100.0%
Vacant Lands (Constrained)	In Vacant Lands (Constrained)	0.82	100.0%
Vacant Lands (Unconstrained)	In Vacant Lands (Unconstrained	0.00	0.0%

SITUS Addresses

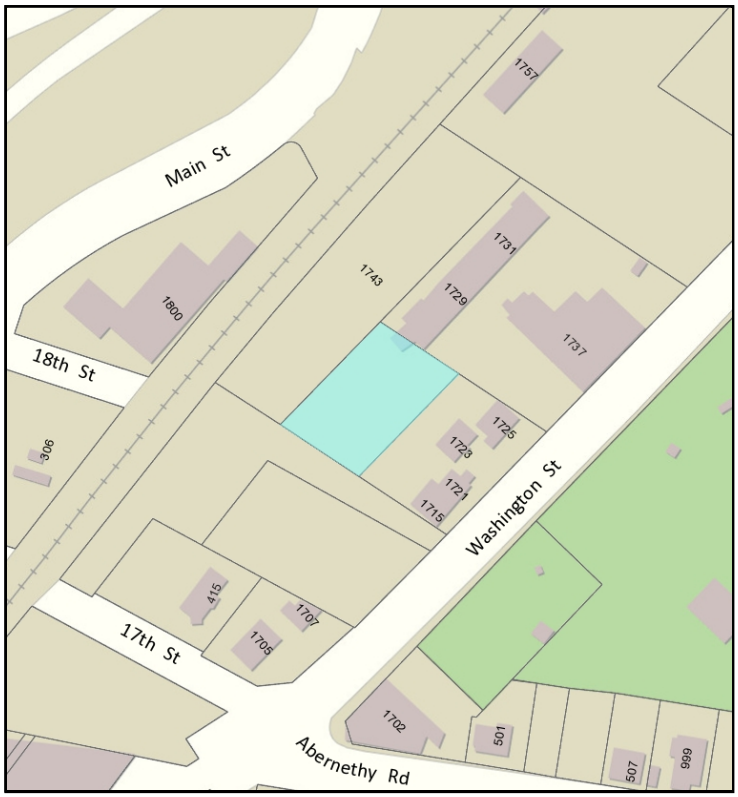
Address	Latitude	Longitude
1743 WASHINGTON ST	45.3653488	-122.596655

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Taxlot Information

Parcel Number (APN)	2-2E-29CA-00900
Primary Situs Address	NO SITUS ADDRESS
County	CLACKAMAS
Section	T2S R2E S29
Latitude	45.364972
Longitude	-122.596656
Approx. Elevation (ft)	40
R Number (Alt ID)	00560896
Approx. Size (acres)	0.36
USGS Quad Name	Oregon City
Within Oregon City Limits?	Y
Urban Growth Boundary (UGB)	Inside



Political Boundaries

Jurisdiction	Oregon City
Voting Precinct	2
US Congressional District	5
Oregon House District	40
Oregon Senate District	20
Metro Council District	2
Metro Councilor	Carlotta Collette
Metro Councilor Email	carlotta.collette@oregonmetro.gov

Assessment & Value Information

Taxmap	2S2E29CA
Market Values as of	1/5/2016
Land Value (Mkt)	$223,290
Building Value (Mkt)	$68,160
Exempt Amount	$0
Net Value (Mkt)	$291,450
Assessed Value	$73,591
Year Built (if known)	
Sale Date	200202
Sale Price	$500,000
Document Date	2002-02-05 00:00
Document Number	2002-011775
State General Prop. Code	201
County Tax Code	062057

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Land Use and Planning

Zoning	MUD
Zoning Description	Mixed Use Downtown District
Comprehensive Plan	mud
Comprehensive Plan Description	Mixed Use - Downtown
Subdivision	NONE
Subdivision Plat Number	
PUD (if known)	
Partition Plat Number	0
Neighborhood Association	Two Rivers NA
Urban Renewal District	Downtown Urban Renewal Area
Historic District	Not in a historic district
Historic Designated Struct.?	N
Concept Plan Area	Not in a concept plan area
Urban/Rural Reserve	Not in a reserve
Reserve Name	Not in a reserve

In Sewer Moratorium Area?	N
In Thayer Rd Pond Fee Area?	N
In Beavercreek Rd Access Area?	N
In Willamette River Greenway?	N
In Geologic Hazard?	N
In High Water Table Area?	N
In Nat. Res. Overlay District (NROD)?	N
In 1996/FEMA 2008 100-yr Floodplain?	Y
In Barlow Trail Area?	N
Watershed	Lower Clackamas River
Sub-Watershed	Rock Creek-Clackamas River
Basin	Willamette
Sub-Basin	Clackamas

Service Districts

Elementary School	Holcomb Elementary
Middle School	Ogden Middle
High School	Oregon City High
School District	Oregon City
Oregon Dept. of Ed. Dist. ID	1928
Natl. Cntr for Ed. Stats Dist. ID	4109330
Water District	Not in a water district
Park District	Not in a park district
Sewer District	Tri-City Service District
Fire District	Clackamas Fire District #1
Fire Management Zone	6498
Transit District	Tri-County Metropolitan
Garbage Hauler	Oregon City Garbage Co.
Garbage Hauler Phone	(503) 656-8403

Census Information

Census Tract	223.01
Census Block Group	2
Census Block Grp. Pop. (2010)	1331

Overlay Information

Category	Description	Acres	Percent Coverage
Parcel Statistics for: 2-2E-29CA-00900	Overall Acres	0.36	100.0%
FEMA 100 Yr Floodplain	In Floodplain (100 yr)	0.36	100.0%
Buildings	Built up % (approx)	0.01	1.5%
Geologic Hazards	In Geologic Hazard	0.00	0.0%
Steep Slopes	Slopes >= 25%	0.00	0.0%

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NROD	In NROD	0.00	0.0%
Willamette Greenway	In Willamette Greenway	0.00	0.0%
Vacant Lands (All)	In Vacant Lands	0.00	0.8%
Vacant Lands (Constrained)	In Vacant Lands (Constrained)	0.00	0.8%
Vacant Lands (Unconstrained)	In Vacant Lands (Unconstrained	0.00	0.0%

SITUS Addresses

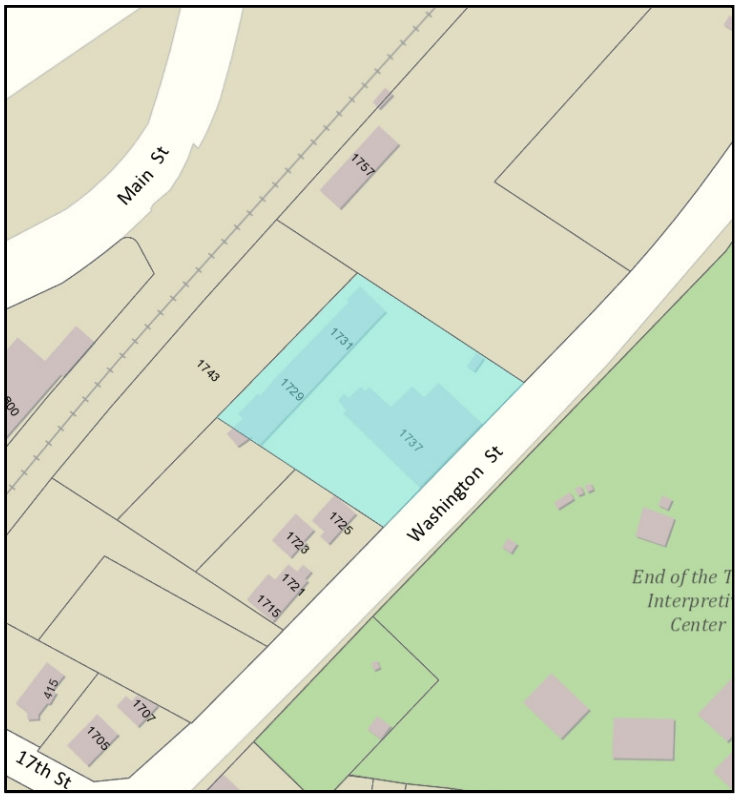
None found!		

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Taxlot Information

Parcel Number (APN)	2-2E-29CA-01000
Primary Situs Address	1729 WASHINGTON ST OREGON CITY, OR 97045
County	CLACKAMAS
Section	T2S R2E S29
Latitude	45.365268
Longitude	-122.59597
Approx. Elevation (ft)	35
R Number (Alt ID)	00560903
Approx. Size (acres)	1.07
USGS Quad Name	Oregon City
Within Oregon City Limits?	Y
Urban Growth Boundary (UGB)	Inside



Political Boundaries

Jurisdiction	Oregon City
Voting Precinct	2
US Congressional District	5
Oregon House District	40
Oregon Senate District	20
Metro Council District	2
Metro Councilor	Carlotta Collette
Metro Councilor Email	carlotta.collette@oregonmetro.gov

Assessment & Value Information

Taxmap	2S2E29CA
Market Values as of	1/5/2016
Land Value (Mkt)	$871,576
Building Value (Mkt)	$147,540
Exempt Amount	$0
Net Value (Mkt)	$1,019,116
Assessed Value	$319,126
Year Built (if known)	
Sale Date	200202
Sale Price	$500,000
Document Date	2002-02-05 00:00
Document Number	2002-011775
State General Prop. Code	201
County Tax Code	062057

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Land Use and Planning

Zoning	MUD	*In Sewer Moratorium Area?*	N
Zoning Description	Mixed Use Downtown District	*In Thayer Rd Pond Fee Area?*	N
Comprehensive Plan	mud	*In Beavercreek Rd Access Area?*	N
Comprehensive Plan Description	Mixed Use - Downtown	*In Willamette River Greenway?*	N
Subdivision	NONE	*In Geologic Hazard?*	N
Subdivision Plat Number		*In High Water Table Area?*	N
PUD (if known)		*In Nat. Res. Overlay District (NROD)?*	N
Partition Plat Number	0	*In 1996/FEMA 2008 100-yr Floodplain?*	Y
Neighborhood Association	Two Rivers NA		
Urban Renewal District	Downtown Urban Renewal Area	*In Barlow Trail Area?*	N
Historic District	Not in a historic district	*Watershed*	Lower Clackamas River
Historic Designated Struct.?	N	*Sub-Watershed*	Rock Creek-Clackamas River
Concept Plan Area	Not in a concept plan area	*Basin*	Willamette
Urban/Rural Reserve	Not in a reserve	*Sub-Basin*	Clackamas
Reserve Name	Not in a reserve		

Service Districts

Elementary School	Holcomb Elementary
Middle School	Ogden Middle
High School	Oregon City High
School District	Oregon City
Oregon Dept. of Ed. Dist. ID	1928
Natl. Cntr for Ed. Stats Dist. ID	4109330
Water District	Not in a water district
Park District	Not in a park district
Sewer District	Tri-City Service District
Fire District	Clackamas Fire District #1
Fire Management Zone	6498
Transit District	Tri-County Metropolitan
Garbage Hauler	Oregon City Garbage Co.
Garbage Hauler Phone	(503) 656-8403

Census Information

Census Tract	223.01
Census Block Group	2
Census Block Grp. Pop. (2010)	1331

Overlay Information

Category	Description	Acres	Percent Coverage
Parcel Statistics for: 2-2E-29CA-01000	Overall Acres	1.08	100.0%
FEMA 100 Yr Floodplain	In Floodplain (100 yr)	1.08	100.0%
Buildings	Built up % (approx)	0.39	36.1%
Geologic Hazards	In Geologic Hazard	0.00	0.0%
Steep Slopes	Slopes >= 25%	0.00	0.0%

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NROD	In NROD	0.00	0.0%
Willamette Greenway	In Willamette Greenway	0.00	0.0%
Vacant Lands (All)	In Vacant Lands	0.00	0.0%
Vacant Lands (Constrained)	In Vacant Lands (Constrained)	0.00	0.0%
Vacant Lands (Unconstrained)	In Vacant Lands (Unconstrained	0.00	0.0%

SITUS Addresses

Address	Latitude	Longitude
1729 WASHINGTON ST	45.3652994	-122.5962959
1731 WASHINGTON ST	45.3654542	-122.596091
1737 WASHINGTON ST	45.3651531	-122.5957907
1737 WASHINGTON ST #201	45.3652096	-122.5958504

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Taxlot Information

Parcel Number (APN)	2-2E-29CA-01100
Primary Situs Address	1715 WASHINGTON ST OREGON CITY, OR 97045
County	CLACKAMAS
Section	T2S R2E S29
Latitude	45.364814
Longitude	-122.596297
Approx. Elevation (ft)	39
R Number (Alt ID)	00560912
Approx. Size (acres)	0.4
USGS Quad Name	Oregon City
Within Oregon City Limits?	Y
Urban Growth Boundary (UGB)	Inside



Political Boundaries

Jurisdiction	Oregon City
Voting Precinct	2
US Congressional District	5
Oregon House District	40
Oregon Senate District	20
Metro Council District	2
Metro Councilor	Carlotta Collette
Metro Councilor Email	carlotta.collette@oregonmetro.gov

Assessment & Value Information

Taxmap	2S2E29CA
Market Values as of	1/5/2016
Land Value (Mkt)	$327,388
Building Value (Mkt)	$179,900
Exempt Amount	$0
Net Value (Mkt)	$507,288
Assessed Value	$145,468
Year Built (if known)	
Sale Date	199512
Sale Price	Unavailable
Document Date	1995-12-01 00:00
Document Number	1996-063646
State General Prop. Code	201
County Tax Code	062057

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Land Use and Planning

Zoning	MUD
Zoning Description	Mixed Use Downtown District
Comprehensive Plan	mud
Comprehensive Plan Description	Mixed Use - Downtown
Subdivision	NONE
Subdivision Plat Number	
PUD (if known)	
Partition Plat Number	0
Neighborhood Association	Two Rivers NA
Urban Renewal District	Downtown Urban Renewal Area
Historic District	Not in a historic district
Historic Designated Struct.?	N
Concept Plan Area	Not in a concept plan area
Urban/Rural Reserve	Not in a reserve
Reserve Name	Not in a reserve

In Sewer Moratorium Area?	N
In Thayer Rd Pond Fee Area?	N
In Beavercreek Rd Access Area?	N
In Willamette River Greenway?	N
In Geologic Hazard?	N
In High Water Table Area?	N
In Nat. Res. Overlay District (NROD)?	N
In 1996/FEMA 2008 100-yr Floodplain?	Y
In Barlow Trail Area?	N
Watershed	Lower Clackamas River
Sub-Watershed	Rock Creek-Clackamas River
Basin	Willamette
Sub-Basin	Clackamas

Service Districts

Elementary School	Holcomb Elementary
Middle School	Ogden Middle
High School	Oregon City High
School District	Oregon City
Oregon Dept. of Ed. Dist. ID	1928
Natl. Cntr for Ed. Stats Dist. ID	4109330
Water District	Not in a water district
Park District	Not in a park district
Sewer District	Tri-City Service District
Fire District	Clackamas Fire District #1
Fire Management Zone	6498
Transit District	Tri-County Metropolitan
Garbage Hauler	Oregon City Garbage Co.
Garbage Hauler Phone	(503) 656-8403

Census Information

Census Tract	223.01
Census Block Group	2
Census Block Grp. Pop. (2010)	1331

Overlay Information

Category	Description	Acres	Percent Coverage
Parcel Statistics for: 2-2E-29CA-01100	Overall Acres	0.41	100.0%
FEMA 100 Yr Floodplain	In Floodplain (100 yr)	0.41	100.0%
Buildings	Built up % (approx)	0.10	25.2%
Geologic Hazards	In Geologic Hazard	0.00	0.0%
Steep Slopes	Slopes >= 25%	0.00	0.0%

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NROD	In NROD	0.00	0.0%
Willamette Greenway	In Willamette Greenway	0.00	0.0%
Vacant Lands (All)	In Vacant Lands	0.00	0.9%
Vacant Lands (Constrained)	In Vacant Lands (Constrained)	0.00	0.9%
Vacant Lands (Unconstrained)	In Vacant Lands (Unconstrained	0.00	0.0%

SITUS Addresses

Address	Latitude	Longitude
1715 WASHINGTON ST	45.36465	-122.5963725
1721 WASHINGTON ST	45.3647151	-122.5962692
1723 WASHINGTON ST	45.3648411	-122.5962561
1725 WASHINGTON ST	45.364903	-122.5960755

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Taxlot Information

Parcel Number (APN)	2-2E-29CA-01200
Primary Situs Address	NO SITUS ADDRESS
County	CLACKAMAS
Section	T2S R2E S29
Latitude	45.364832
Longitude	-122.597145
Approx. Elevation (ft)	41
R Number (Alt ID)	00560921
Approx. Size (acres)	0.61
USGS Quad Name	Oregon City
Within Oregon City Limits?	Y
Urban Growth Boundary (UGB)	Inside



Political Boundaries

Jurisdiction	Oregon City
Voting Precinct	2
US Congressional District	5
Oregon House District	40
Oregon Senate District	20
Metro Council District	2
Metro Councilor	Carlotta Collette
Metro Councilor Email	carlotta.collette@oregonmetro.gov

Assessment & Value Information

Taxmap	2S2E29CA
Market Values as of	1/5/2016
Land Value (Mkt)	$296,150
Building Value (Mkt)	$0
Exempt Amount	$0
Net Value (Mkt)	$296,150
Assessed Value	$62,440
Year Built (if known)	
Sale Date	199512
Sale Price	Unavailable
Document Date	1995-12-01 00:00
Document Number	1996-063644
State General Prop. Code	200
County Tax Code	062057

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Land Use and Planning

Zoning	MUD	*In Sewer Moratorium Area?*	N
Zoning Description	Mixed Use Downtown District	*In Thayer Rd Pond Fee Area?*	N
Comprehensive Plan	mud	*In Beavercreek Rd Access Area?*	N
Comprehensive Plan Description	Mixed Use - Downtown	*In Willamette River Greenway?*	N
Subdivision		*In Geologic Hazard?*	Y
Subdivision Plat Number		*In High Water Table Area?*	N
PUD (if known)		*In Nat. Res. Overlay District (NROD)?*	Y
Partition Plat Number	0	*In 1996/FEMA 2008 100-yr Floodplain?*	Y
Neighborhood Association	Two Rivers NA		
Urban Renewal District	Downtown Urban Renewal Area	*In Barlow Trail Area?*	N
Historic District	Not in a historic district	*Watershed*	Lower Clackamas River
Historic Designated Struct.?	N	*Sub-Watershed*	Rock Creek-Clackamas River
Concept Plan Area	Not in a concept plan area	*Basin*	Willamette
Urban/Rural Reserve	Not in a reserve	*Sub-Basin*	Clackamas
Reserve Name	Not in a reserve		

Service Districts

Elementary School	Holcomb Elementary
Middle School	Ogden Middle
High School	Oregon City High
School District	Oregon City
Oregon Dept. of Ed. Dist. ID	1928
Natl. Cntr for Ed. Stats Dist. ID	4109330
Water District	Not in a water district
Park District	Not in a park district
Sewer District	Tri-City Service District
Fire District	Clackamas Fire District #1
Fire Management Zone	6498
Transit District	Tri-County Metropolitan
Garbage Hauler	Oregon City Garbage Co.
Garbage Hauler Phone	(503) 656-8403

Census Information

Census Tract	223.01
Census Block Group	2
Census Block Grp. Pop. (2010)	1331

Overlay Information

Category	Description	Acres	Percent Coverage
Parcel Statistics for: 2-2E-29CA-01200	Overall Acres	0.61	100.0%
FEMA 100 Yr Floodplain	In Floodplain (100 yr)	0.48	77.7%
Buildings	Built up % (approx)	0.00	0.0%
Geologic Hazards	In Geologic Hazard	0.01	1.3%
Steep Slopes	Slopes >= 25%	0.00	0.0%

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NROD	In NROD	0.21	33.9%
Willamette Greenway	In Willamette Greenway	0.00	0.0%
Vacant Lands (All)	In Vacant Lands	0.61	99.5%
Vacant Lands (Constrained)	In Vacant Lands (Constrained)	0.61	99.5%
Vacant Lands (Unconstrained)	In Vacant Lands (Unconstrained	0.00	0.0%

SITUS Addresses

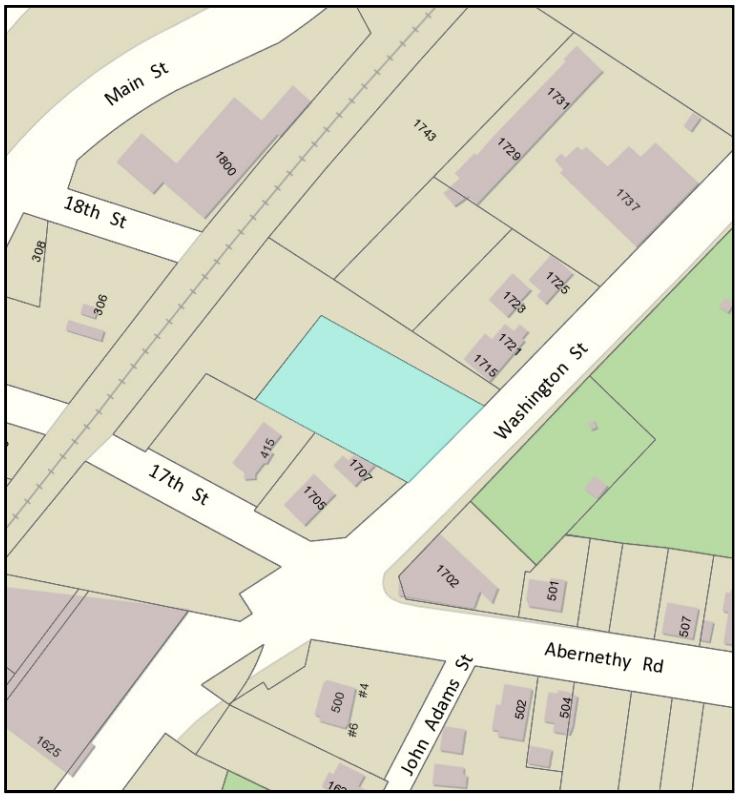
None found!		

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Taxlot Information

Parcel Number (APN)	2-2E-29CA-01300
Primary Situs Address	NO SITUS ADDRESS
County	CLACKAMAS
Section	T2S R2E S29
Latitude	45.36453
Longitude	-122.596876
Approx. Elevation (ft)	40
R Number (Alt ID)	00560930
Approx. Size (acres)	0.51
USGS Quad Name	Oregon City
Within Oregon City Limits?	Y
Urban Growth Boundary (UGB)	Inside



Political Boundaries

Jurisdiction	Oregon City
Voting Precinct	2
US Congressional District	5
Oregon House District	40
Oregon Senate District	20
Metro Council District	2
Metro Councilor	Carlotta Collette
Metro Councilor Email	carlotta.collette@oregonmetro.gov

Assessment & Value Information

Taxmap	2S2E29CA
Market Values as of	1/5/2016
Land Value (Mkt)	$299,382
Building Value (Mkt)	$21,270
Exempt Amount	$0
Net Value (Mkt)	$320,652
Assessed Value	$119,613
Year Built (if known)	
Sale Date	199512
Sale Price	Unavailable
Document Date	1995-12-01 00:00
Document Number	1996-063644
State General Prop. Code	201
County Tax Code	062057

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City of Oregon City
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625 Center St
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Land Use and Planning

Zoning	MUD	*In Sewer Moratorium Area?*	N
Zoning Description	Mixed Use Downtown District	*In Thayer Rd Pond Fee Area?*	N
Comprehensive Plan	mud	*In Beavercreek Rd Access Area?*	N
Comprehensive Plan Description	Mixed Use - Downtown	*In Willamette River Greenway?*	N
Subdivision	NONE	*In Geologic Hazard?*	N
Subdivision Plat Number		*In High Water Table Area?*	N
PUD (if known)		*In Nat. Res. Overlay District (NROD)?*	Y
Partition Plat Number	0	*In 1996/FEMA 2008 100-yr Floodplain?*	Y
Neighborhood Association	Two Rivers NA		
Urban Renewal District	Downtown Urban Renewal Area	*In Barlow Trail Area?*	N
Historic District	Not in a historic district	*Watershed*	Lower Clackamas River
Historic Designated Struct.?	N	*Sub-Watershed*	Rock Creek-Clackamas River
Concept Plan Area	Not in a concept plan area	*Basin*	Willamette
Urban/Rural Reserve	Not in a reserve	*Sub-Basin*	Clackamas
Reserve Name	Not in a reserve		

Service Districts

Elementary School	Holcomb Elementary
Middle School	Ogden Middle
High School	Oregon City High
School District	Oregon City
Oregon Dept. of Ed. Dist. ID	1928
Natl. Cntr for Ed. Stats Dist. ID	4109330
Water District	Not in a water district
Park District	Not in a park district
Sewer District	Tri-City Service District
Fire District	Clackamas Fire District #1
Fire Management Zone	6498
Transit District	Tri-County Metropolitan
Garbage Hauler	Oregon City Garbage Co.
Garbage Hauler Phone	(503) 656-8403

Census Information

Census Tract	223.01
Census Block Group	2
Census Block Grp. Pop. (2010)	1331

Overlay Information

Category	Description	Acres	Percent Coverage
Parcel Statistics for: 2-2E-29CA-01300	Overall Acres	0.52	100.0%
FEMA 100 Yr Floodplain	In Floodplain (100 yr)	0.25	47.8%
Buildings	Built up % (approx)	0.00	0.0%
Geologic Hazards	In Geologic Hazard	0.00	0.0%
Steep Slopes	Slopes >= 25%	0.00	0.0%

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NROD	In NROD	0.18	35.8%
Willamette Greenway	In Willamette Greenway	0.00	0.0%
Vacant Lands (All)	In Vacant Lands	0.52	100.0%
Vacant Lands (Constrained)	In Vacant Lands (Constrained)	0.52	100.0%
Vacant Lands (Unconstrained)	In Vacant Lands (Unconstrained	0.00	0.0%

SITUS Addresses

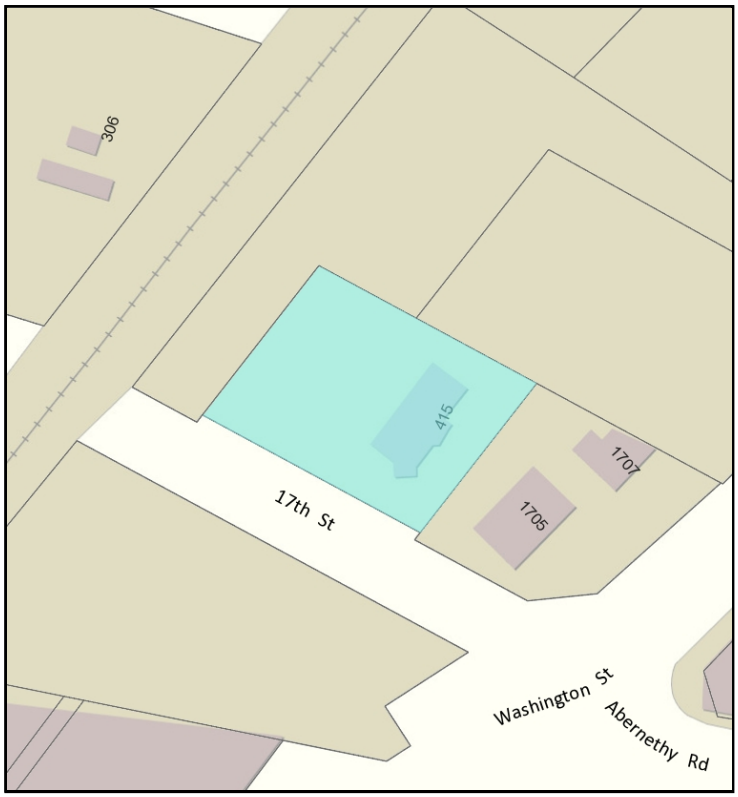
None found!		

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City of Oregon City
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Oregon City, OR 97045
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Taxlot Information

Parcel Number (APN)	2-2E-29CA-01301
Primary Situs Address	415 17TH ST OREGON CITY, OR 97045
County	CLACKAMAS
Section	T2S R2E S29
Latitude	45.3644
Longitude	-122.597447
Approx. Elevation (ft)	42
R Number (Alt ID)	00560949
Approx. Size (acres)	0.31
USGS Quad Name	Oregon City
Within Oregon City Limits?	Y
Urban Growth Boundary (UGB)	Inside



Political Boundaries

Jurisdiction	Oregon City
Voting Precinct	2
US Congressional District	5
Oregon House District	40
Oregon Senate District	20
Metro Council District	2
Metro Councilor	Carlotta Collette
Metro Councilor Email	carlotta.collette@oregonmetro.gov

Assessment & Value Information

Taxmap	2S2E29CA
Market Values as of	1/5/2016
Land Value (Mkt)	$254,640
Building Value (Mkt)	$96,680
Exempt Amount	$0
Net Value (Mkt)	$351,320
Assessed Value	$264,543
Year Built (if known)	
Sale Date	199512
Sale Price	Unavailable
Document Date	1995-12-01 00:00
Document Number	1996-063643
State General Prop. Code	201
County Tax Code	062057

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Land Use and Planning

Zoning	MUD	*In Sewer Moratorium Area?*	N
Zoning Description	Mixed Use Downtown District	*In Thayer Rd Pond Fee Area?*	N
Comprehensive Plan	mud	*In Beavercreek Rd Access Area?*	N
Comprehensive Plan Description	Mixed Use - Downtown	*In Willamette River Greenway?*	N
Subdivision	NONE	*In Geologic Hazard?*	Y
Subdivision Plat Number		*In High Water Table Area?*	N
PUD (if known)		*In Nat. Res. Overlay District (NROD)?*	Y
Partition Plat Number	0	*In 1996/FEMA 2008 100-yr Floodplain?*	Y
Neighborhood Association	Two Rivers NA		
Urban Renewal District	Downtown Urban Renewal Area	*In Barlow Trail Area?*	N
Historic District	Not in a historic district	*Watershed*	Lower Clackamas River
Historic Designated Struct.?	Y	*Sub-Watershed*	Rock Creek-Clackamas River
Concept Plan Area	Not in a concept plan area	*Basin*	Willamette
Urban/Rural Reserve	Not in a reserve	*Sub-Basin*	Clackamas
Reserve Name	Not in a reserve		

Service Districts

Elementary School	Holcomb Elementary
Middle School	Ogden Middle
High School	Oregon City High
School District	Oregon City
Oregon Dept. of Ed. Dist. ID	1928
Natl. Cntr for Ed. Stats Dist. ID	4109330
Water District	Not in a water district
Park District	Not in a park district
Sewer District	Tri-City Service District
Fire District	Clackamas Fire District #1
Fire Management Zone	6498
Transit District	Tri-County Metropolitan
Garbage Hauler	Oregon City Garbage Co.
Garbage Hauler Phone	(503) 656-8403

Census Information

Census Tract	223.01
Census Block Group	2
Census Block Grp. Pop. (2010)	1331

Overlay Information

Category	Description	Acres	Percent Coverage
Parcel Statistics for: 2-2E-29CA-01301	Overall Acres	0.32	100.0%
FEMA 100 Yr Floodplain	In Floodplain (100 yr)	0.06	19.1%
Buildings	Built up % (approx)	0.04	11.2%
Geologic Hazards	In Geologic Hazard	0.06	19.6%
Steep Slopes	Slopes >= 25%	0.00	0.0%

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NROD	In NROD	0.32	100.0%
Willamette Greenway	In Willamette Greenway	0.00	0.0%
Vacant Lands (All)	In Vacant Lands	0.00	0.0%
Vacant Lands (Constrained)	In Vacant Lands (Constrained)	0.00	0.0%
Vacant Lands (Unconstrained)	In Vacant Lands (Unconstrained	0.00	0.0%

SITUS Addresses

Address	Latitude	Longitude
415 17TH ST #1	45.3643347	-122.5974141
415 17TH ST #2	45.3643651	-122.5973824
415 17TH ST #3	45.3643899	-122.5973536
415 17TH ST #4	45.3644214	-122.5973203
415 17TH ST #5	45.3643179	-122.5973779
415 17TH ST #6	45.3643494	-122.5973447
415 17TH ST #7	45.3643753	-122.5973159
415 17TH ST #8	45.364408	-122.5972811

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OREGON CITY

Community Development Department

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

Project Number:	PA 15-25
Project Name:	Abernethy Place Hotel
Project Location:	Washington St & 17th St, 2E-29CA-01200 and 01300
Meeting Date:	August 18, 2015
City Staff Present:	Pete Walter, AICP, Associate Planner, pwalter@orcity.org
	Wendy Marshall, P.E., Dev. Project Manager, wmarshall@orcity.org
	Matthew Palmer, EIT, Dev. Engineering Associate, mpalmer@orcity.org
Applicant:	Dan Fowler and Mark Foley
Applicant's Rep:	Lloyd Hill, AIA

Neighborhood Association Meeting:

Prior to application pursuant to OCMC 17.50.055 - Neighborhood association meeting., the applicant shall contact and schedule a meeting with the Two Rivers Neighborhood Association to present the application and get feedback from the neighborhood association.

http://www.orcity.org/community/two-rivers-neighborhood-association

Chair: Bryon Boyce, bryony@birdlink.net

Secretary: Margie Hughes, margiehughes1@aol.com

CIC Representative: Bryon Boyce, bryony@birdlink.net

CIC Representative: Vacant

Meetings: April 22, 2015, July 22, 2015 and October 21, 2015

Rivershore Bar & Grill, 1900 Clackamas Drive, Oregon City 7:00PM

2. The applicant shall send, by certified mail, return receipt requested letter to the chairperson of the neighborhood association and the citizen involvement committee describing the proposed project. Other communication methods may be used if approved by the neighborhood association.

3. A meeting shall be scheduled within thirty days of the notice. A meeting may be scheduled later than thirty days if by mutual agreement of the applicant and the neighborhood association. **If the neighborhood association does not want to, or cannot meet within thirty days, the applicant shall hold their own meeting after six p.m. or on the weekend, with notice to the neighborhood association, citizen involvement committee, and all property owners within three hundred feet. If the applicant holds their own meeting, a copy of the certified letter requesting a neighborhood association meeting shall be required for a complete application. The meeting held by the applicant shall be held within the boundaries of the neighborhood association or in a city facility.**

Planning Staff responses to Applicant questions:

1) Please confirm that the proposed use is permitted outright.

Hotels are a permitted use in the MUD district per OCMC 17.34.020(B).

2) Please confirm that there are no offsite or frontage improvements required for this development?

See Engineering Comments.

3) Please confirm that the proposed access is acceptable.

This will need to be confirmed by the applicant in the required Transportation Impact Analysis. Washington Street is classified as a Minor Arterial street, and a Transit Street, in the Oregon City Transportation System Plan and the driveway intersection spacing requirement is 175' as specified in OCMC 12.04.0.195. See comments of John Replinger, City Transportation Consultant.

4) Are any right-of-way dedications required? If so, please describe.

See Engineering Comments.

5) Is there a minimum separation required between the Hotel and the Hackett House if all lots are consolidated into a single lot. What if the Hackett house is on a separate lot?

Please contact Christina Robertson-Gardiner, our historic review board planning specialist.

6) Are there other considerations regarding development of the hotel adjacent to the Hackett House?

Please contact Christina Robertson-Gardiner, our historic review board planning specialist.

7) Which Design regulations will apply to the design of the building or site?

All general standards will apply in OCMC 17.62.050, and the Commercial Building standards in 17.62.055, and the special development standards for transit streets in 17.62.080.

Development review code sections are listed below:

Chapter 17.34 - "MUD"—MIXED-USE DOWNTOWN DISTRICT

Chapter 17.40 - HISTORIC OVERLAY DISTRICT

Chapter 17.41 - TREE PROTECTION STANDARDS

Chapter 17.42 - FLOOD MANAGEMENT OVERLAY DISTRICT

Chapter 17.44 - US—GEOLOGIC HAZARDS

Chapter 17.47 - EROSION AND SEDIMENT CONTROL

Chapter 17.49 - NATURAL RESOURCE OVERLAY DISTRICT

Chapter 17.50 - ADMINISTRATION AND PROCEDURES

Type III Decision – Planning Commission

Chapter 17.52 - OFF-STREET PARKING AND LOADING

Chapter 17.54 - SUPPLEMENTAL ZONING REGULATIONS AND EXCEPTIONS

Fences, allowable projections etc.

Chapter 17.60 - VARIANCES

Chapter 17.62 - SITE PLAN AND DESIGN REVIEW

17.62.010 - Purpose.

17.62.015 - Modifications that will better meet design review requirements.

17.62.020 - Preapplication conference.

17.62.030 - When required.

17.62.040 - Plans required.

17.62.050 - Standards.

17.62.055 - Institutional and commercial building standards.

17.62.065 - Outdoor lighting.

17.62.080 - Special development standards along transit streets.

17.62.085 - Refuse and recycling standards for commercial, industrial, and multi-family developments.

Please Note: per code 17.62.055.C.2 "***2. A standardized prototype or franchise design shall be modified if necessary to meet the provisions of this section."***

The submitted information sheet from the applicant is a hotel prototype. Clearly, modifications to the prototype design are likely going to be necessary in order to meet the site plan and design review code, and receive staff support.

8) How is building height measured for a flat roof building with un-occupied mechanical penthouse?

It would be measured to the point indicated by the arrow below, since this would be considered the street facing elevation, as well as the front elevation since it faces the public street.



Elevation

9) What would the permitting fees / system development charges be for the proposed development based on 100 rooms in the hotel.

Planning Review Fees: See 2015 Planning Fee Schedule (Effective 1/1/2015)

*The SDC fees to be paid for non-residential development projects require the applicant to complete the **SDCs Request Form** and submit to the City with the Building Permit Application for the proposed development.*

10) Please let us know if any other land use applications / permits would be necessary.

1. *Site Plan and Design Review w/ Transportation Impact Analysis (TIA)*
2. *Historic Review – New Construction*
3. *Variance*
4. *Natural Resources Overlay District*
5. *Geologic Hazard Overlay District*
6. *Lot Line abandonment*

11) Please let us know if there are any other issues or site constraints that you are aware of.

Variances – applicant may need to request additional variances besides height. Staff is only authorized to approve certain site plan and design review modifications if they better meet the intent of the design standard. However, no elevations other than the eastern Porte Cochere elevation have been submitted, so we don't know what is proposed. Additional pre-application conference will be required once these items are known.

Floodplain – What is proposed for floodplain level – parking? Base Flood Elevation is 50.7', so Design Flood Elevation for finished floor is BFE +1' = 51.7' . Parking areas may be located within flood level if building code is met – See comments of Building Official.

Geologic Hazard Review – portion of development falls within Geologic Hazard Overlay District.

12) Please discuss the appropriate methodology for FAR calculations and the minimum and maximum FAR for the project.

Minimum FAR is .3. There is no max.

https://www.municode.com/library/or/oregon_city/codes/code_of_ordinances?nodeId=TIT17ZO_CH17.34MUIXEDODI_17.34.080EXCEST

13) Does this site qualify for reduced parking below the city parking standard. If the hotel provides more parking than is required, and some of the parking is located in a shared lot on nearby property would this need to be factored into the FAR calculations?

See 17.52.020. If the nearby property is part of the site plan it could be factored into the FAR calc. Otherwise not.

14) Please confirm the setbacks. Are the setbacks as shown on the site plan acceptable?

See MUD zone district dimensional requirements. There are no setbacks shown on the submitted conceptual site plan, so staff cannot determine compliance.

15) Please discuss the minimum landscaping requirements Are there any additional open space requirements? Are there any required features or improvements needed in the landscaping?

No open space requirements. General Landscaping requirements are in OCMC 17.62.050 .

Landscaping Requirements specific to the parking lot are in OCMC 17.52.060 - Parking lot landscaping.

16) Please provide input on the site plan with respect to other applicable review criteria, including especially pedestrian oriented siting, building height, entrances, setbacks, etc. Are there any potential issues?

Height limit is limited to 45 feet within 500' of the EOT, so the project will require a variance on the height limit. Variances require not only demonstration that the standard cannot be met, but that the variance is off-set by some exemplary design aspects. Applicant shall demonstrate how the variance meets otherwise meets code and how the variance is off-set through mitigation.

In simplest terms, how will the height variance be approved if the other design aspects are not met.? What is the entrance treatment on Washington? What building modification and pedestrian amenities are provided that go above and beyond the code requirements? How do the elevations interact with the street, the Hackett House, and the EOT across the street? Is the intent of the Mixed Use Downtown zone met? Is the design complementary to or do they detract from these features.

17) What are the conditions of approval that are likely to be included for the project?

Unknown at this time. Depends on adequacy of application.

18) Is a traffic study or other similar traffic documentation required?

Yes. See comments from John Replinger, City transportation consultant.

19) Please let us know if any additional fire hydrants would be required.

See Fire District comments.

20) Please verify the storm water detention requirements for the site.

See Engineering Comments.

21) If a geotechnical report is required, at what point will it be required?

Geotech report is required with Building Permit. See comments from Building Official.

Geologic Hazard Review is required for portion of development within the Geologic Hazard Overlay district.

22) Please confirm if there are environmental issues or setbacks from the creek that apply to this property.

Abernethy Creek is an anadromous fish-bearing stream with a 200' vegetative corridor width requirement. The development will be required to provide an NROD report meeting the applicable requirements of OCMC 17.49 showing how the proposed impacts within the buffer area are mitigated.

OREGON CITY

Public Works – Development Services

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

DEVELOPMENT SERVICES

PRE-APPLICATION MEETING NOTES

Date: 7-6-2016

These are preliminary notes based on the application and documents submitted

Planning Project Number:	PA 16-30
Address:	415 17th Street, Oregon City, OR 97045
Map Number(s):	2-2E-29CA
Tax Lot(s):	601, 900, 1000, 1100, 1200, 1300, 1301
Project Name:	Hackett Hospitality Master Plan
Meeting Date:	July 6, 2016
Reviewer(s):	Matthew Palmer, EIT

GENERAL COMMENTS

1. The Applicant is responsible for this project's compliance with Engineering Policy 00-01. The policy pertains to any land use decision requiring the Applicant to provide any public improvements.

2. The Applicant may be required to sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the Property and assessing the cost to benefited properties.

3. The Applicant shall provide an Erosion Prevention and Sedimentation Control Plan to the City for approval, as part of future development of the site.

4. All applicable System Development Charges (SDC) shall be due and payable upon building permit issuance. Applicant will need to complete a SDC request form, found on the City's website, for an estimate of fees.

ENGINEERING - UTILITIES

Streets

1. The proposed project includes frontage on Washington Street, which is functionally classified as a Minor Arterial (Mixed Use). For a mixed-use minor arterial, the code requirements include: 116-foot ROW, pavement width of 94-feet, public access strips 0.5 feet wide, sidewalks 10.5 feet wide including 5 foot by 5 foot tree wells (including curb), five 12-foot wide travel lanes, 8 feet street parking on each side of the street, 6-foot wide bike lanes on each side of the street, and a 6-foot wide median. Additional requirements include curb, gutter, street trees, and street lights.

2. Washington Street along the frontage with the proposed project has an approximate 30-foot ROW to centerline. The paved section of Washington Street along the frontage of the site

includes approximately 18 feet of pavement to centerline, with two 11-foot-wide travel lanes, a 12-foot-wide center lane, two bike lanes, and no median. A 6-foot wide, curb tight sidewalk with curb and gutter are existing. Street lighting is present but likely deficient on this portion of Washington Street.

3. The proposed project includes frontage on 17th Street, which is functionally classified as a local street (Mixed Use). For a mixed-use local street, the code requirements include: 62-foot ROW, pavement width of 40 feet, public access strips 0.5 feet wide, sidewalks 10.5 feet wide including 5 foot by 5 foot tree wells (including curb), two 12-foot wide travel lanes, and 8-foot-wide street parking on each side of the street. Additional requirements include curb, gutter, street trees, and street lights.

4. 17th Street along the frontage of the proposed project has an approximate 25-foot to 22-foot ROW to centerline. The paved section of 17th Street along the frontage of the site includes approximately 12 feet of pavement to centerline. A 4-foot-wide, curb tight sidewalk with curb is provided. There is street lighting located nearby at the intersection of 17th Street and Washington Street; however, it appears an additional streetlight may be required at the NW end of 17th Street.

5. Reduction to the standard improvements and right-of-way dedication may be requested through the modification process outlined in OCMC 12.04.007.

Stormwater

1. Future development under this Master Plan shall adhere to the requirements of the Stormwater and Grading Design Standards. The current Standards can be found online here:

http://www.orcity.org/sites/default/files/final_manual_0.pdf

2. The General Threshold(s) for Applicability of the Stormwater and Grading Design Standards:

    a. *Development activities that result in **5,000 square feet of new or replaced impervious surface**, cumulative over a 5-year period, are subject to the requirements of these standards.*

    b. *Development activities that will result in the **creation of more than 500 square feet of new impervious surface within a water quality resource area (WQRA)**, cumulative over a 5-year period, are subject to the requirements of these standards.*

3. As part of future development, the Applicant must submit a completed Site Assessment and Planning Checklist (and other attachments as described in **Section 9.1.1**) as part of the land use application process. This submittal shall constitute a preliminary drainage report and form the basis for developing the Stormwater Management Plan described in **Section 9.1.2**. Submittal of the final Stormwater Management Plan will be required prior to issuance of Public Works permits.

4. There is an existing 12-inch stormwater main on the south side of the Washington Street right-of-way. Extension of this existing 12-inch stormwater main will likely be required as part of future development on the site.

Water

1. There is an existing 10-inch cast iron water main located within Washington Street.

2. There is an existing 6-inch water main located within 17th Street. This existing 6-inch water main will need to be upsized to the City's standard 8-inch diameter ductile iron water main. A fee-in-lieu of construction of the new 8-inch water main will be considered.

3. There is an existing 24-inch water transmission main (owned by the City of West Linn) located within 17th Street.

4. Two fire hydrants are located near the subject site. New fire hydrants and other fire requirements shall be constructed/installed as directed by Clackamas Fire District No. 1.

Sanitary Sewer

1. There is an existing 48-inch Tri-City Service District (TCSD) Reinforced Concrete Pipe (RCP) on the northern edge of the property. Connection to the TCSD sanitary sewer main will not be allowed unless approval is obtained from the County for connection. If permission is obtained from the County for connection, the City must be provided all approved permits.

2. An easement will need to be granted over the 48-inch sanitary sewer transmission main. Coordinate with TCSD to determine the width of the required easement over this existing sanitary sewer transmission main.

3. If County approval cannot be obtained to make connection to the 48-inch pipe, the City will likely require extension of the 8-inch sanitary sewer main within Washington Street, to and through the site frontage(s) as needed to accommodate future upstream development. This sanitary sewer main will serve the property and then discharge into TCSD's sanitary sewer manhole located along the proposed project's Washington Street frontage.

Other

1. The proposed project is located within a Natural Resources Overlay District (NROD).

2. The proposed project is located within the 100-year floodplain area. Development in the floodplain shall create no net loss of volume and meet other requirements per OCMC 17.42.

3. The proposed project is located within the Geologic Hazards Overlay District and therefore is subject to OCMC Chapter 17.44. The applicant may demonstrate an exemption per OCMC 17.44.035, or may request a waiver from the code requirements of OCMC 17.44 through Development Services.

OREGON CITY

Public Works – Development Services

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

P:\CommunityDevelopment\2016 Permits-Projects\PA - Pre-Application Conferences\PA 16-30 Hackett Hospitality Master Plan (LT, 7.6.2016)\Engineering\20160706 Pre-App Conf Meeting Notes_DevServices_PA 16-30.docx

Oregon
Kate Brown, Governor

Department of Transportation
Region 1 Headquarters
123 NW Flanders Street
Portland, Oregon 97209
(503) 731.8200
FAX (503) 731.8259

July 14, 2016 ODOT #7238

ODOT Pre-Application Response

Project Name: Abernathy Place - 415 17th Street	**Applicant:** Historic Properties, LLC and Hackett Hospitality Group, LLC by Hill Architects
Jurisdiction: City of Oregon City	**Jurisdiction Case #:** PA16-0030
Site Address: 415 17th St, Oregon City, OR	**Legal Description:** 02S 02E 29CA **Tax Lot(s):** 00601; 00900; 01000; 01100; 01200; 01300; 01301
State Highway: I 205; OR-99E; and OR-213	**Mileposts:** 9.28, 11.89

The site of this proposed land use action in the vicinity of I-205, OR-99E, and OR-213, as well as railroad right-of-way. The Oregon Department of Transportation (ODOT) has permitting authority for these facilities and an interest in ensuring that this proposed land use is compatible with its safe and efficient operation.

To date, ODOT has reviewed two proposals at this site:

> (1) a Conceptual Site Plan (PA16-0005), dated February 17, 2016, for a four-story, two-phased hotel with approximately 128-rooms (approximately 80 rooms constructed during Phase 1 and 48 rooms constructed during Phase 2). ODOT's previous comments (DRS#6984), dated March 17, 2016 are attached (see Attachment 1); and,
>
> (2) a Conceptual Master Plan (identified as 'Abernathy Place'), dated, June 13, 2016, for a four-phased, five-building (including the historic Hackett House) mixed use development, totaling 72,000 sq. ft. (including parking structure(s), total development is approximately 122,000 sq. ft.).

The comments below build on the ODOT's previous commentary and are based on the applicant's submitted Conceptual Master Plan materials dated June 13, 2016 and the pre-application meeting held on July 6, 2016. ODOT's previous comments and the comments below, should guide the applicant and City moving forward. ODOT will provide formal comments at the time land use application is submitted. As there are many facets related to this site and proposal in ODOT's interest, ODOT recommends the applicant, the City, and ODOT work diligently together as the project moves forward. ODOT will need to review any changes made to the proposal.

Transportation

ODOT recommends that a Traffic Impact Analysis be required to assess the impacts to the state highway(s) and local street network. The analysis must be conducted by a Professional Engineer registered in Oregon. As noted, this development is in the vicinity of I-205, OR-99E, and OR-213, as well as railroad right-of-way, multiple ODOT facilities may need to be analyzed for capacity and safety. The applicant should contact the City's Transportation Engineer, John Replinger, P.E., and Avi Tayar, P.E., ODOT Development Review Engineer Lead, to identify potential local and state intersections to include in the traffic analysis (contact information is listed below).

Railroad and Public Access

In general, the City and applicant should be aware that any public, at-grade, over-, or under-crossing, of the railroad requires a Rail Crossing Order, of which, the City must be the applicant. Further, any proposed, or perceived, encroachment into the railroad right-of-way will require review, comment, and approval by ODOT Rail any other railroad stakeholders.

The proposed development is parallel to the railroad tracks. A continuous fence will be needed to separate the development from the tracks to restrict trespassing on railroad property and for the safety of the public. This includes no gates or access to the rail property. There is fencing along much of the line and a parallel trail so continuing this fencing is in the best interest of the public's safety. Please see ODOT Rail's standard fence detail for suggested fencing along the right-of-way (Attachment 2).

17th Street

Based on the applicant's narrative, a "*pedestrian and bicycle access to a future mass transit stop on Main Street could be provided by either an at grade railroad crossing on 17th Street, or a possible future bicycle and pedestrian pathway along Abernathy Creek with a connection including a connection under the railroad"* (see Abernathy Place, Project Summary, Page 2 of 3, dated June 13, 2016). Further, the applicant's Conceptual Master Plan site plan identifies this potential connection as a "people path" via 17th Street across the railroad tracks.

In 2003, per Order No. 50165, the 17th Street public crossing (No. C-756.30) was permanently closed prior to commencing passenger rail service at a stop in the City of Oregon City. Access across the railroad at 17th Street is not allowed for public or private use, including pedestrian connections and trails. In fact, the concrete crossing surface has been removed. There is an alternative, public route on 15th Street to cross under the tracks to access Main St. ODOT Rail and Public Transit Division have no plans to make the 17th Street a public or private crossing.

If the City pursued a bike/pedestrian connection via 17th Street as a public crossing—including at-grade, over-, or under-crossings—the City must be the applicant for a new Rail Crossing Order. All parties—the railroad, the City, and ODOT Rail—would have to come to an agreement to allow public access.

"People Path" to Rail Platform

The applicant's proposed Conceptual Master Plan layout shows a "people path" to the existing rail platform within the rail right-of-way. If the intent by providing the "People Path" directly to the platform is for the developer to provide dedicated parking to Amtrak patrons, the ODOT and Amtrak may be able to come to an agreement to allow the connection directly to the platform. If passenger rail patrons were permitted to park in the proposed garage area then having a direct connection between the rail station and the development would be beneficial for ease of access and promoting rail travel.

Otherwise, ODOT recommends that there be no direct access from the site to the rail platform. This will limit safety concerns and reduce potential conflicts with Amtrak operations at the platform. As discussed at the July 6, 2016 Pre-Application meeting, the applicant may elect to propose a connection between the subject property and the Amtrak Depot without encroaching within the rail right-of-way. If proposed, ODOT recommends that the applicant work with Amtrak and the owner, the City of Oregon City, to ensure adequate approvals and easements are in place to facilitate a connection to the Amtrak Depot building.

Safety and Setbacks

This railroad line was originally constructed circa 1870, a 70-foot wide right-of-way was considered adequate for the era. As the dimensions and weight of trains grew over the decades rail corridors did not become wider. Today, there are many freight cars in service that exceed 70 feet in length. Moreover, because the mainline typically is situated on the centerline of the corridor, the external right-of-way boundaries can be as close as 32.5 feet from the nearest rail. Furthermore, this rail line is the principal rail route between the Pacific Northwest and California carrying freight, including hazardous materials such as crude oil. With the expected growth in freight movement over the next 30 years the volume of trains on this line will grow accordingly.

The applicant is advised that commercial and residential development on the proposed site may be exposed to noise, odors, vibrations and exhaust emissions from heavy rail freight trains, passenger trains or transit vehicles. It is generally not the State's responsibility to provide mitigation for receptors that are built after the noise source is in place. Builders should take appropriate measures to mitigate the noise impacts.

Any structures built in close proximity to the right-of-way edge are at risk of damage, and occupants thereof, are susceptible to injury in the unlikely event of a derailment. In designing the site plan, every additional foot of setback from the rail line will help to minimize risks. In addition to setbacks related to safety, the applicant should be conscious of property setbacks, including roof overhangs and projections, so that the roof and/or building projections do not overhang into the rail right-of-way. This will ensure that water runoff does not sheet off of the roof to another property or railroad property. Excess water can cause damage to the rail tracks, ballast, ties, and crossing.

ODOT recommended a minimum 15' setback from rail right-of-way so private buildings and properties can be constructed and maintained without encroaching into the rail right-of-way. Further, due to the close proximity to the rail line, this setback will facilitate and ensure safety of future building occupants.

Other (Advisory) Information

- At the July 6, 2016 Pre-Application meeting, the City noted that there is a need to upgrade an existing 6-inch water line to 8-inches. The City recommended a fee in-lieu of the upgrades. ODOT supports the fee in-lieu, otherwise approval for the water line upgrade will require ODOT Rail and railroad review and approval.

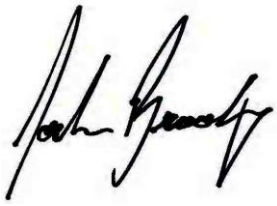
- Off-premise signs require a permit through the ODOT Outdoor Advertising Sign program (ORS 377.725). To determine whether or not a sign will be on or off premise contact Jill Hendrickson (ODOT Right-of-Way 503.986.3635).
- Private signs are not permitted in the state highway right-of-way (ORS 377.700-377.840).

In summation, ODOT recommends the following:

- A Traffic Impact Analysis be required; and
- No public/private connection across the railroad at 17th Street; and
- A minimum 15' setback from the rail right-of-way for any proposed structure; and
- Dedicated Amtrak parking in the proposed development with a direct connection to the rail platform; OR, No direct connection to the rail platform via the rail right-of-way. The applicant may decide to work with Amtrak and City to have a direct connection to the Depot across private property.

Thank you for the opportunity to review and comment on the proposed land use action. For questions related to the comments, please contact the Joshua Brooking, Development Review Planner, at joshua.c.brooking@odot.state.or.us or 503.731.3049 or Avi Tayar, P.E., ODOT Development Review Engineer Lead, at abraham.tayar@odot.state.or.us or 503.731.8221.

Sincerely,



Joshua Brooking
Associate Planner
Development Review
Oregon Department of Transportation
503.731.3049
joshua.c.brooking@odot.state.or.us

Attachments

1. Previous ODOT Comments (DRS#6984), dated March 17, 2016
2. ODOT Rail Standard Fence Detail

ATTACHMENT 1

Oregon

Kate Brown, Governor

Department of Transportation
Region 1 Headquarters
123 NW Flanders Street
Portland, Oregon 97209
(503) 731.8200
FAX (503) 731.8259

DATE: 3/17/16 ODOT #6984

ODOT Response

Project Name: Oregon City Hotel - 415 17th St	**Applicant:** Al Patel
Jurisdiction: City of Oregon City	**Jurisdiction Case #:** PA-16-0005
Site Address: 415 17th St, Oregon City, OR	**Legal Description:** 02S 02E 29CA **Tax Lot(s):** 01301
State Highway: I-205	**Mileposts:** _____

The site of this proposed land use action is adjacent to RAILROAD RIGHT OF WAY. ODOT has permitting authority for this facility and an interest in ensuring that this proposed land use is compatible with its safe and efficient operation. **Please direct the applicant to the District Contact indicated below to determine permit requirements and obtain application information.**

ODOT RECOMMENDED LOCAL CONDITIONS OF APPROVAL

Traffic Impacts on the State Highway:

☒ ODOT recommends that the applicant be required to submit a traffic impact analysis to assess the impacts of the proposed use on the State highway system. The analysis must be conducted by a Professional Engineer registered in Oregon. **Contact the ODOT Traffic representative identified below to scope the study.**

Rail Right of Way/Crossing:

It appears this crossing is a private crossing now. It used to be a public crossing No C-756.30 but was closed in 2003 to commence passenger rail service at the stop in Oregon City. ODOT will place it in our private crossing inventory list.

☒ Based on the site map submitted, development is parallel to the railroad tracks. A continuous fence will be needed to separate the development from the tracks to restrict trespassing on railroad property and for the safety of the public. This includes no gates or access to the rail property. There is fencing along much of the line and a parallel trail so continuing this fencing is in the best interest of the public's safety. A railroad fencing detail example was provided at the pre-application conference and one is attached. ODOT suggests a short fence/landscaping in close proximity to the gated railroad crossing for line of sight of vehicles.

☒ Access to the gated private crossing is not allowed for public use and ODOT Rail and Public Transit Division have no plans to make a public crossing.

☒ Be conscious of property setbacks from the property lines to include the roof overhanging so that the roof does not overhang off of or adjacent to other property and/or water does not sheet off of the roof to another property or railroad property, nor is there an outflow pipe which leads to railroad property. Excess water can cause damage to the rail tracks, ballast, ties, and crossing. There needs to be a setback for all structures no matter how small.

If there are any further changes from what is currently being reviewed, ODOT Rail will need to review the development again.

Signs:

☒ Off-premise signs require a permit through the ODOT Outdoor Advertising Sign program (ORS 377.725). To determine whether or not a sign will be on or off premise contact Jill Hendrickson (ODOT Right-of-Way 503.986.3635).

☒ Private signs are not permitted in the state highway right of way (ORS 377.700-377.840).

Noise Advisory:

☒ Experience has taught us that once developed complaints ensue about neighboring train whistles, noise, vibrations, and odors. I would caution such use especially in such close proximity to a public at-grade crossing due to train noise. We would recommend the contractor use noise deadening building materials, fencing, and bushes to lessen the noise.

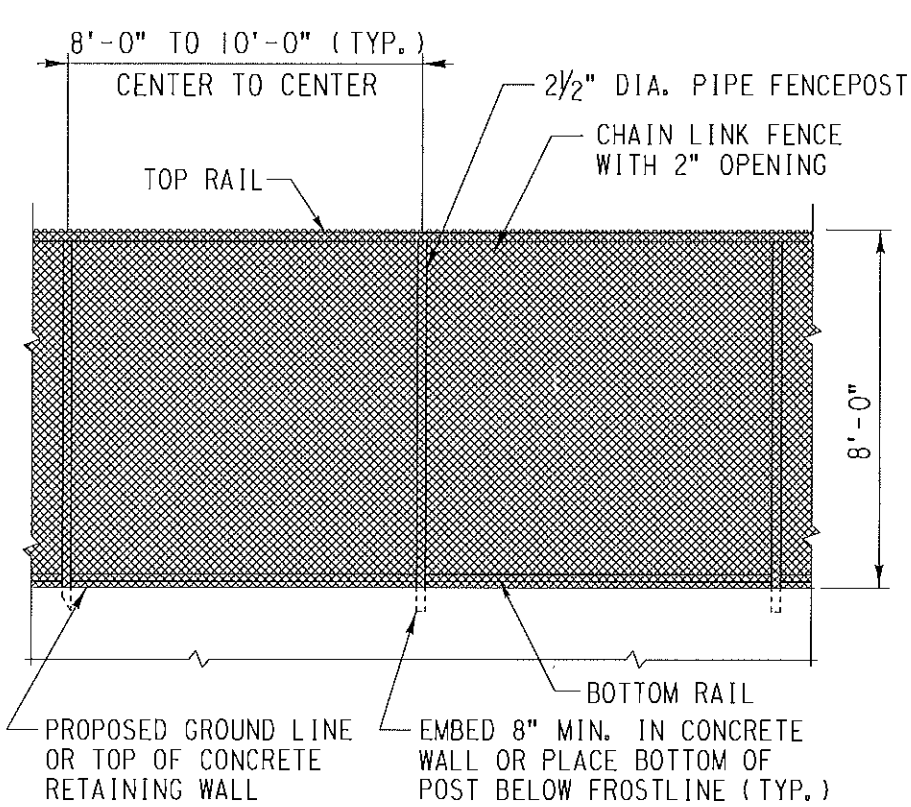
Comments: For any questions related to the rail line adjacent to the property, please contact ODOT Rail Permit Specialist Carrie Martin. Her contact info is below.

Please send a copy of the Land Use Applications, Staff Reports and Notice of Decision including conditions of approval to:

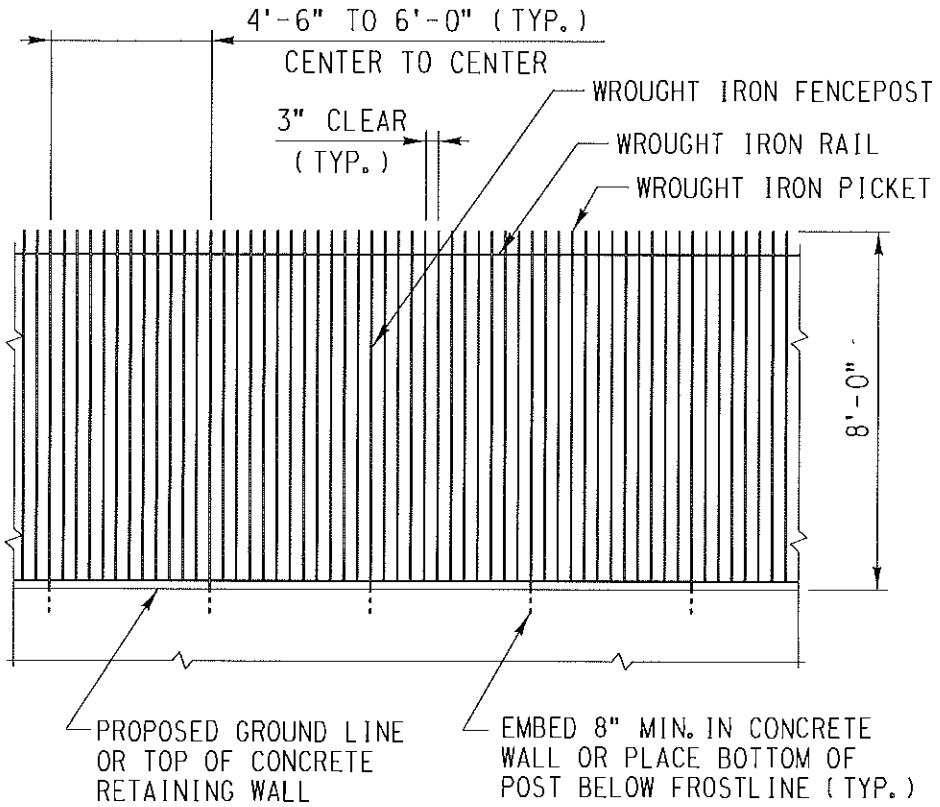
ODOT Region 1 Planning
Development Review
123 NW Flanders St
Portland, OR 97209
Region1_DEVREV_Applications@odot.state.or.us

Development Review Planner: P. Elise Scolnick, AICP	503.731.82348234, P.Elise.SCOLNICK@odot.state.or.us
Traffic Contact: Avi Tayar, P.E.	503.731.8221 Abraham.Tayar@odot.state.or.us
District Contact: Loretta Kieffer	971.673.6228 Loretta.L.Kieffer@odot.state.or.us
ODOT Rail Permit Specialist: Carrie Martin	503-986-6801 Carrie.A.MARTIN@odot.state.or.us

ATTACHMENT 2



CHAIN LINK FENCE



WROUGHT IRON PICKET FENCE

FENCE ELEVATION

SCALE: 3/16" = 1'-0"

REVISIONS		
DATE	LTR.	DESCRIPTION
/		
/		
/		
/		
/		
/		

DESIGN BY: RAF | DRAWN BY: FJS | CHECKED BY: KHJ

APPROVED:

K.H. Jennison
BNSF - ASSISTANT DIRECTOR STRUCTURES DESIGN

George J. Mayn
UPRR - MGR SPECIAL PROJECTS STRUCTURES DESIGN

BNSF RAILWAY | UNION PACIFIC

BRIDGE STANDARDS

RIGHT-OF-WAY FENCING

FENCE DETAILS

FILE OWNER: UPRR	DATE: 1/24/07
PLAN NO.: 711000	SHEET: 1

PLOTTED: 3/30/2007 2:53:20 PM

FILE NAME: P:\ustation\dgn\std\pp_guidelines.dgn

Pre-Application Conference Notes

PA 16-30: Master Plan and Hotel on Washington Street

Pre-Application Conference Date: **7/6/2016**

Proposed Project:

- Construction of a hotel and associated parking lot near an individually designated historic structure.

General Information:

- Location: Clackamas County Map 2-2E-29CA, Tax Lot 601, 900, 1000, 1100, 1200, 1300, 1301
- Zoning: "MUD" Mixed Use Downtown District
- Applicable overlay districts:
  - Natural Resource Overlay District
  - Floodplain Management Overlay District
  - Geologic Hazards Overlay District
- Previous Review: PA 15-25, PA 16-05
- Applications anticipated:
  - Type III Variance for building height ($2,467)
  - Master (Concept) Plan ($6,809 plus + Traffic Impact Analysis Fees including the base rate for non-residential development + $2,021 for Master Plan + $674 for large study area/key corridor)
  - Detailed Development Plan (see fee sheet)
  - Natural Resource Overlay District (see fee sheet)
  - Geologic Hazard Overlay District ($588)
  - Type III Historic Review Board Review ($1,000)
  - Conditional Use for Markets (before 6pm on weekdays): $3,746
  - Property Line Abandonment (Adjustment): $1,145
  - Note we can provide mailing labels for $15

Timing and Process:

The development proposal will be processed as a Type III application and requires Planning Commission review. An explanation of the application processes is provided in OCMC 17.50.

Transportation Impacts:

The applicant will need to have a traffic engineer conduct a transportation study in conformance with the City's *Guidelines for Transportation Impact Analyses* available on the Oregon City website.

Based on the information provided by the applicant, it appears the trip generation exceeds the level at which the project's transportation analysis requirements can be satisfied by submittal of a Transportation Analysis Letter (TAL). A full Transportation Impact Analysis (TIA) will be required. Among other requirements, a full TIA includes conducting traffic counts and operational analysis of impacted intersections will be required. Intersections to be analyzed include the site access and intersections of collector/collector and higher where traffic volumes from the development exceed 20 peak hour trips.

The applicant and his traffic engineer should review the *Guidelines for Transportation Impact Analyses* and the most recent mobility standards as specified in Oregon City Municipal Code section 12.04.205.

Because the proposal includes a master plan, the applicant will need to address the requirements of OCMC Chapter 17.65. Among other things, the applicant will need to specify a phasing plan if more than one phase is proposed. Multiple phases may require that the transportation impacts are assessed for each phase of the development while taking into account the regional traffic growth that is expected

The applicant's traffic engineer is welcome to contact the city's traffic engineering consultant, John Replinger, at Replinger-Associates@comcast.net or at 503-719-3383.

Detailed Development Plan:
The pre-application materials lack the specificity to confirm compliance with all applicable standards. Please include details for all structures, parking lots, pavement, development, etc. in the development application. The applicant is required to demonstrate compliance with all applicable criteria.

Items to consider

- The general layout of the private street is acceptable to the Planning Division. Though, it is recommended to consider the Main connection as a private street and the other connections as parking lot drive aisles.
- Make sure the proposal provides enough specificity and flexibility to be easily implemented.
- Provide a detailed explanation of the onsite private street. It is recommended that the private street be limited to the direct connection from Washington Street to the adjacent train station.
- Provide a clear description of when the public improvements including the private street (podium deck) will be constructed and how any phase will affect the parking lot design, etc.
- Specify the timing associated with each phase and which phase the Hackett House is included within.
- Specify if any exterior alterations are proposed for the Hackett House.
- Provide a detailed description of all pedestrian accessways including the connection to the platform. Assure there is a direct connection to all of the main entrances and from the top of the platform to the street level.
- Provide a detailed description of the flex space adjacent to Washington Street and the location of the Washington Street level lobby. Note that the structure should be adjacent to the right-of-way and no parking should be in front of the space on the ground level.
- Explain if the first phase is subject to multi-family standards, using the definition of dwelling as defined by the Building Division. This analysis assumed it was not.
- The number of parking stalls for the overall site is unable to be calculated due to the lack of specificity of the application, however the number of stalls for the first phase complies.
- Clearly identify the location in which the building height is being measured from. This is specified in the code, though staff supports the measurement starting at the base flood elevation.
- Note that because of the private street, building A is considered a corner lot.
- A property line abandonment (adjustment) may be pursued concurrent with the application.
- A Conditional Use is required if a market operates before 6pm on weekdays.
- An adjustment to the code for massing, articulation, etc. for the podium as well as an adjustment for landscaping inside the parking garage.
- Note that per OCMC 17.62.055.c.5, 60% of the frontage must have a building within 5 feet of the property line or have the acceptable mitigation as identified in 17.62.055.D.1. The mitigation was not identified in the application.

The following standards appear to not be met:

- 17.62.057.D, 17.62.055.D.2 and 3 – The building shall have a street facing façade.
- The dimensional standards do not comply with 17.52.030.D.

- There are more than 8 contiguous parking stalls are adjacent to each other without an interior parking lot landscaping.
- The building height does not comply. It may be easier to have a height of no more than 58' as noted in OCMC 17.34.080.B.1.a
- The orientation of the main entranceway does not comply with 17.62.055.D.
- 5% of the parking stalls shall be designated for carpool/vanpool.
- Transparency appears to not be met on most elevations, with the exception of the elevation opposite of Washington Street. Per OCMC 17.62.055.I, 60% is required at the pedestrian level for the Washington and interior facing facades and 30% transparency is required for the façade opposite of the façade facing the interior street.

You may alter your application, apply for a Variance or adjustments within the Master Plan application for the items identified above.

Additional items to provide. The City could not review compliance with the items below:

- OCMC 17.41. A tree removal, protection and mitigation plan is required.
- Show any walls, fences or retailing walls proposed to be in accordance with OCMC 17.54.100.
- Identification of all loading areas.
- The angle of the angled parking was not specified.
- Bicycle parking.
- Landscaping plans
- Compliance for all standards for automobile parking
- Outdoor lighting
- Mechanical equipment
- Building materials
- Garbage enclosure details
- Details regarding parapets.
- The floor to floor height for the first floor could not be confirmed.
- Adjacent pedestrian and vehicular connections to adjacent properties.

Historic Review Board (HRB):
The subject property contains an individually designated historic structure and requires review and approval by the Historic Review Board (HRB). You may contact John Stutesman, our preservation planner, at 503.496.1527.

Natural Resource Overlay District (NROD):
The Natural Resource Overlay District protects natural resources through the use of a vegetated corridor. For the locations in which development is proposed, a study and associated mitigation is required. It is the responsibility of the applicant to receive additional review from all other applicable agencies such as the Department of State Lands (DSL) and the Army Corps of Engineers.

Flood Management Overlay District:
The applicant shall demonstrate compliance with the Flood Management Overlay District for development within the overlay. This includes demonstrating balanced cut and fill.

Development Services Division (Utilities/Public Improvements/SDC's/Geologic Hazards Overlay District, etc):
See separate notes from Public Works Development Services Division.

Building Division:
You may contact Mike Roberts, our Building Official at 503.496.1517 or by email at mroberts@orcity.org.

Clackamas Fire District:

Questions can be directed to Mike Boumann, Lieutenant Deputy Fire Marshal of Clackamas Fire District #1. You may contact Mr. Boumann at (503)742-2660 or michaelbou@ccfd1.com.

Notes:

- A Neighborhood Association meeting is required prior to a complete application. The site is in the Two Rivers Neighborhood Association.
  Chair: Bryon Boyce, bryony@birdlink.net
  Secretary: Margie Hughes, margiehughes1@aol.com
  Meetings: January 27, 2016, April 27, 2016, July 27, 2016 and October 26, 2016
  Rivershore Bar & Grill, 1900 Clackamas Drive, Oregon City 7:00PM
- We also recommend you consider a presentation before the Citizen Involvement Committee as well as the adjacent McLaughlin Neighborhood Association.
- Signs must comply with the sign code - OCMC 15.28. Note that the City is currently in the process of updating the sign code.
- System Development Charges (SDC) shall be due and payable upon building permit issuance.

Oregon City Municipal Code Criteria:

The following chapters of the Oregon City Municipal Code (OCMC) may be applicable to this proposal:
OCMC 12.04 - Streets, Sidewalks and Public Places
OCMC 12.08 - Public and Street Trees
OCMC 13.12 – Stormwater Management
OCMC 15.48 – Grading, Filling and Excavating
OCMC 17.34 – "MUD" Mixed Use Downtown District
OCMC 17.41- Tree Protection Standards
OCMC 17.42 – Flood Management Overlay District
OCMC 17.44- Geologic Hazards
OCMC 17.49 – Natural Resource Overlay District
OCMC 17.50 – Administrative Processes
OCMC 17.52 – Off-Street parking and Loading
OCMC 17.62 – Site Plan and Design Review
OCMC 17.54 – Supplemental Zoning Regulations and Exceptions
OCMC 17.60 – Variance
OCMC 17.65 - Master Plans

A template for your submittal with the applicable criteria has been emailed by the City.

Pre-application conferences are required by Section 17.50.050 of the City Code, as follows:
A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the City will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

NOTICE TO APPLICANT: A property owner may apply for any permit they wish for their property. HOWEVER, THERE ARE NO GUARANTEES THAT ANY APPLICATION WILL BE APPROVED. No decisions are made until all reports and testimony have been submitted. This form will be kept by the Community Development Department. A copy will be given to the applicant. IF the applicant does not submit an application within six (6) months from the Pre-application Conference meeting date, a NEW Pre-Application Conference will be required.

OREGON CITY

Community Development – Planning

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Pre-Application Conference Notes

PA 17-02: Master Plan with a Hotel and Mixed-Use / Multi-Family on Washington Street

Pre-Application Conference Date: 2/8/2017

Proposed Project:
Construction of a hotel and mixed use / multi-family project near an individually designated historic structure.

General Information:
Location: Clackamas County Map 2-2E-29CA, Tax Lot 601, 900, 1000, 1100, 1200, 1300, 1301

Zoning: "MUD" Mixed Use Downtown District -

Applicable overlay districts:
Natural Resource Overlay District
Floodplain Management Overlay District
Geologic Hazards Overlay District

Previous Reviews: PA 15-25, PA 16-05, PA 16-30

Applications and 2017 Review Fees anticipated:
Fee Schedule:
2017 Planning Fee Schedule

- Type III Variance for building height ($2,467), unless adjustment is requested under the General Development Plan process
- General Development Plan ($6,892)
- Detailed Development Plan (see fee sheet) – Based on Project Cost
- Traffic Impact Analysis Fees: Base rate for non-residential development calculated Based on Square Footage, + $2,046 for Master Plan + $682 for large study area/key corridor)
- Natural Resource Overlay District (Type II or III Non-residential = $1,939)
- Geologic Hazard – Note - City Engineer may waive ($588)
- Type III Historic Review Board Review ($1,000)
- Conditional Use for Outdoor Markets - if applicable (before 6pm on weekdays): $3,791
- Property Line Abandonment (Adjustment): $1,159
- Mailing labels for Public Notice - $15

Timing and Process:
The development proposal will be processed as a Type III application and requires Planning Commission review. An explanation of the application processes is provided in OCMC 17.50.

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Transportation Impacts:
The applicant will need to have a traffic engineer conduct a transportation study in conformance with the City's Guidelines for Transportation Impact Analyses available on the Oregon City website.

Based on the information provided by the applicant, it appears the trip generation exceeds the level at which the project's transportation analysis requirements can be satisfied by submittal of a Transportation Analysis Letter (TAL). A full Transportation Impact Analysis (TIA) will be required. Among other requirements, a full TIA includes conducting traffic counts and operational analysis of impacted intersections will be required. Intersections to be analyzed include the site access and intersections of collector/collector and higher where traffic volumes from the development exceed 20 peak hour trips.

The applicant and his traffic engineer should review the Guidelines for Transportation Impact Analysis (TIA) and the most recent mobility standards as specified in Oregon City Municipal Code section 12.04.205.

Because the proposal includes a master plan, the applicant will need to address the requirements of OCMC Chapter 17.65. Among other things, the applicant will need to specify a phasing plan if more than one phase is proposed. Multiple phases may require that the transportation impacts are assessed for each phase of the development while taking into account the regional traffic growth that is expected

The applicant's traffic engineer is welcome to contact the city's traffic engineering consultant, John Replinger, at Replinger-Associates@comcast.net or at 503-719-3383.

Comments from ODOT are attached separately.

General Development Plan
17.65.010 - Purpose and intent.
It is the intent of this chapter to foster the growth of major institutions and other large-scale development, while identifying and mitigating the impacts of such growth on surrounding properties and public infrastructure. The city recognizes the valuable services and employment opportunities that these developments bring to Oregon City residents. The master plan process is intended to facilitate an efficient and flexible review process for major developments and to provide them with the assurance they need over the long term so that they can plan for and execute their developments in a phased manner. To facilitate this, the master plan process is structured to allow an applicant to address the larger development issues, such as adequacy of infrastructure and transportation capacity, and reserve capacity of the infrastructure and transportation system before expenditure of final design costs.

Detailed Development Plan – See OCMC 17.65.[0]60 - Detailed development plan.:
The pre-application materials lack the specificity to confirm compliance with all applicable DDP standards. A In addition to conforming with the General Development Plan standards of OCMC 17.65, a DDP must also comply with all applicable development review criteria for a commercial site, including the site plan and design review criteria in Chapter 17.62, unless adjusted pursuant to 17.65.070 - Adjustments to development

standards.. Please include details for all structures, parking lots, pavement, development, etc. in the development application.

General Development Plan – See OCMC 17.65.050 - General Development Plan.

An application for a General Development Plan describing the long-term buildout of the site shall be reviewed through a Type III procedure. An applicant must have an approved General Development Plan before any detailed development plan may be approved, unless both are approved or amended concurrently. Amendments to an approved General Development Plan shall be reviewed under a Type III procedure pursuant to Section 17.65.080. The GDP process also allows for 17.65.070 - Adjustments to development standards., similar to a variance process. The criteria are listed below:

D. Approval Criteria. A request for an adjustment to one or more applicable development regulations under this section shall be approved if the review body finds that the applicant has shown the following criteria to be met.

1. Granting the adjustment will equally or better meet the purpose of the regulation to be modified;

2. If more than one adjustment is being requested, the cumulative effect of the adjustments results in a project that is still consistent with the overall purpose of the zone;

3. City-designated Goal 5 resources are protected to the extent otherwise required by Title 17;

4. Any impacts resulting from the adjustment are mitigated; and

5. If an environmental zone, the proposal has as few significant detrimental environmental impacts on the resource and resource values as is practicable.

6. The proposed adjustment is consistent with the Oregon City Comprehensive Plan and ancillary documents.

Items to consider for formal application submittal

- A complete listing of all adjustments requested under 17.65.070 - Adjustments to development standards, and how each adjustment meets the applicable criteria, shall be submitted.
- 17.62.057.D, 17.62.055.D.2 and 3 – The building shall have a street facing façade. Staff still considers the Washington Street façade of Building A as the front of the building and that the building must "relate to the street" in a significant way - pursuant to OCMC 17.62.055.(D)1, 2 and 3. We encourage the applicant to think creatively to assure that this facade is the most architecturally significant, compared to the north façade, or, if an adjustment is requested, to consider seriously how to mitigate the adjustment. This is the applicant's responsibility to design, however, staff suggests the following:
  - Deepening the platform and pedestrian area
  - Clearly building entrance
  - Use of public art
  - Reflective sheltering elements of similar scale and dimension to the north entrance and Porte Cochere
  - Greater variety of color and materials on Washington Street façade to break up blank walls
  - Greater transparency at the pedestrian level
- The general layout of the private street is acceptable to the Planning Division. We recommend that the main circulation drive be a private street and the other connections as parking lot drive aisles.
- Describe the onsite private street. We recommend that the private street provide a direct connection from Washington Street to the adjacent train station.

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- Describe phasing of public improvements.
- Specify the timing associated with each phase and which phase the Hackett House is included within.
- Specify if any exterior alterations are proposed for the Hackett House.
- Describe pedestrian access and connections. Assure there is a direct connection to all of the main entrances and from the top of the platform on Building A to the street level.
- Describe mixed uses adjacent to Washington Street and the location of the Washington Street level lobby.
- Structures should be adjacent to the right-of-way and no parking should be in front of the space on the ground level.
- Multi-family design standards of 17.62.057 - Multi-family standards will apply to the Building B.
- 17.62.055 - Institutional and commercial building standards. apply to Building A and B.
- Washington Street is a Transit Street. 17.62.080 - Special development standards along transit streets will apply.
- Provide calculation of parking spaces.
- Clearly identify the basis of measure for building height. Staff supports the measurement starting at the base flood elevation.
- Note that because of the private street, building A is considered a corner lot, which has building entrance design implications for commercial buildings.
- A property line abandonment (adjustment) may be pursued concurrent with the application.
- A Conditional Use is required if a market operates before 6pm on weekdays.
- Note that per OCMC 17.62.055.c.5, 60% of the frontage must have a building within 5 feet of the property line or have the acceptable mitigation as identified in 17.62.055.D.1. Identify mitigation if required.
- Exception to building height must be approved by the Planning Commission through the General Development Plan or as a separate variance. Staff will want to hear the opinion of the Historic Review Board before making a recommendation to the Planning Commission on the exception to the height.
- 5% of the parking stalls shall be designated for carpool/vanpool.
- Per OCMC 17.62.055.I, 60% is required at the pedestrian level for the Washington and interior facing facades and 30% transparency is required for the façade opposite of the façade facing the interior street.

Items to include or address in narrative with application and plans

- A tree removal, protection and mitigation plan
- Walls, fences or retaining walls
- Loading areas
- Angle and dimensions of the parking spaces.
- Location and type of bicycle parking.
- Landscaping plans
- Off-Street Parking
- Outdoor lighting

- Mechanical Equipment Screening
- Building Materials
- Garbage and Recycling Enclosure
- Parapets dimensions and materials
- Adjacent pedestrian and vehicular connections

Historic Review Board (HRB):
The subject property contains an individually designated historic structure and requires review and approval by the Historic Review Board (HRB). Please see separate notes from Trevor Martin, Associate Planner. You may contact him at (503) 496-1562 or Email tmartin@orcity.org

Natural Resource Overlay District (NROD):
The Natural Resource Overlay District protects natural resources through the use of a vegetated corridor. For the locations in which development is proposed, a study and associated mitigation is required. It is the responsibility of the applicant to receive additional review from all other applicable agencies such as the Department of State Lands (DSL) and the Army Corps of Engineers.

In this case the NROD is indicated as a 200' buffer from the top of bank of Abernethy Creek, which is a delineated Title 3 Water Resource and Critical Title 13 Habitat area. The applicant may submit an application for a verification that the site is not within the NROD pursuant to OCMC 17.49.250 - Verification of NROD boundary. There is a prior exemption file for the property at 306 Main St (PGE substation property).

Flood Management Overlay District:
The applicant shall demonstrate compliance with the Flood Management Overlay District for development within the overlay. This includes writing actual code responses to 17.42.160 - Flood management area standards., which include demonstrating balanced cut and fill, site work and construction standards, and compliance with applicable FEMA and building code requirements.

Development Services Division (Utilities/Public Improvements/SDC's/Geologic Hazards Overlay District, etc): See separate notes from Public Works Development Services Division.

Building Division:
You may contact Mike Roberts, our Building Official at 503.496.1517 or by email at mroberts@orcity.org.

Clackamas Fire District:
Questions can be directed to Mike Boumann, Lieutenant Deputy Fire Marshal of Clackamas Fire District #1. You may contact Mr. Boumann at (503)742-2660 or michaelbou@ccfd1.com.

Neighborhood Association

A Neighborhood Association meeting is required prior to a complete application per . The site is in the Two Rivers Neighborhood Association.
Two Rivers Neighborhood Association
Chair: Bryon Boyce, bryony@birdlink.net
Secretary: Margie Hughes, margiehughes1@aol.com
CIC Representative: Bryon Boyce, bryony@birdlink.net

Meetings: *Special Meeting -Tues., Feb. 7th at 7:00PM, Caufield House, 723 Main Street, Oregon City
Future Meetings: April 26, 2017, July 26, 2017 and October 25, 2017
Rivershore Bar & Grill, 1900 Clackamas Drive, Oregon City 7:00 PM

Planning Division Contact: Pete Walter, pwalter@orcity.org, 503-496-1568

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OREGON CITY

Public Works – Development Services

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7829

DEVELOPMENT SERVICES

PRE-APPLICATION MEETING NOTES

These are preliminary notes based on the application and documents submitted

Planning Project Number: PA 17-02
Address: 415 17th Street, Oregon City, OR 97045
Map Number(s): 2-2E-29CA
Tax Lot(s): 601, 900, 1000, 1100, 1200, 1300, 1301
Project Name: Hackett Hospitality Master Plan
Meeting Date: February 8, 2017
Reviewer(s): Sang Pau, EIT

GENERAL COMMENTS

1. The Applicant is responsible for this project's compliance with applicable Public Works standards, codes and policies.

2. The Applicant shall provide an Erosion Prevention and Sedimentation Control Plan to the City for approval.

3. All applicable System Development Charges (SDC) shall be due and payable upon building permit issuance. Applicant will need to complete a SDC request form, found on the City's website, for an estimate of fees.

ENGINEERING - UTILITIES

Streets

1. The proposed project includes frontage on Washington Street, which is functionally classified as a Minor Arterial (Mixed-Use). A 6-foot wide, curb tight sidewalk with curb and gutter are existing. For this segment of Washington Street the standard section is: 43-foot right-of-way (ROW) from centerline with 32' wide pavement section (measured to face of curb), consisting of 6' for half of the center lane, 12' for one travel lane, 6' for a bike lane and 8' for street parking. The city will require 0.5' wide curb, 5' wide furnishing/landscape zone, 5' wide sidewalk and 0.5' wide monument strip. Additional requirements include acorn style decorative street lights and street trees.

2. The proposed project includes frontage on 17th Street, which is functionally classified as a Local (Mixed-Use). A curb tight sidewalk with curb and gutter are existing along the frontage. The City will approve this section as a Local Residential (27-foot ROW from centerline with 32-foot wide pavement section) vs. Mixed-use section. Due to physical restrictions on the south side of the ROW, the City will consider a modified section with curb-tight sidewalk and a minimum total pavement width of 24 feet. Applicant will need to provide cross-sections along

the street, showing existing conditions to confirm the restriction. A shared path is in the Transportation System Plan (TSP); the standard 5' wide sidewalk across the frontage will satisfy this requirement. There is street lighting located nearby at the intersection of 17th Street and Washington Street, however, additional acorn style decorative street lights shall be placed as required.

3. A 10-foot-wide Public Utility Easement (PUE) will be required along the 17th Street frontage. The Public Utility Easement (PUE) requirement for the frontage on Washington Street maybe adjusted to accommodate the zoning standards for the property. Overhead utilities along the frontage of the site shall be relocated underground.

4. Reduction to the standard improvements and ROW dedication may be requested through the modification process outlined in OCMC 12.04.007.

Stormwater

1. The development shall adhere to the requirements of the Stormwater and Grading Design Standards. The current Standards can be found online here:

http://www.orcity.org/sites/default/files/final_manual_0.pdf

2. The General Threshold(s) for Applicability of the Stormwater and Grading Design Standards:

    a. *Development activities that result in **5,000 square feet of new or replaced impervious surface**, cumulative over a 5-year period, are subject to the requirements of these standards.*

    b. *Development activities that will result in the **creation of more than 500 square feet of new impervious surface within a Natural Resource Overlay District (NROD)**, cumulative over a 5-year period, are subject to the requirements of these standards.*

3. As part of the development, the Applicant must submit a completed Site Assessment and Planning Checklist (and other attachments as described in **Section 9.1.1**) as part of the land use application process. At a minimum the application should the following items from Section 9.1.2 to form the basis for developing the Stormwater Management Plan.

    a. Infiltration test results

    b. Downstream analysis / preliminary drainage report

4. There is an existing stormwater inlet on the southeast corner of the property connecting to a 12-inch stormwater main running through the Washington Street right-of-way. Extension of this existing 12-inch stormwater main will be required for development on the site. The existing inlet location maybe adjusted to accommodate required frontage improvements.

5. The preliminary plan provided does not show accommodations for stormwater management.

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Water

1. There is an existing 10-inch cast iron water main located within Washington Street.

2. There is an existing 6-inch water main located within 17th Street. This existing 6-inch water main will need to be upsized to the City's standard 8-inch diameter ductile iron water main. A fee-in-lieu of construction of the new 8-inch water main will be considered.

3. There is an existing 24-inch water transmission main (owned by the City of West Linn) located within 17th Street.

4. Two fire hydrants are located near the subject site. New fire hydrants and other fire requirements shall be constructed/installed as directed by Clackamas Fire District No. 1.

Sanitary Sewer

1. There is an existing 48-inch Tri-City Service District (TCSD) Reinforced Concrete Pipe (RCP) through the property. Connection to the TCSD sanitary sewer main. Connection to the TCSD main will be allowed with permission obtained from the County with all approved permits provided to the City.

2. An easement will need to be granted over the 48-inch sanitary sewer transmission main, if not already in place. Coordinate with TCSD to determine the width of the required easement over this existing sanitary sewer transmission main.

3. The City will require extension of the 8-inch sanitary sewer main within Washington Street, to and through the site frontage(s).

Other

1. The proposed project is located within a Natural Resources Overlay District (NROD).

2. The proposed project is located within the 100-year floodplain area. Development in the floodplain shall create no net loss of volume and meet other requirements per OCMC 17.42. A preliminary estimate for cut and fill volumes should be provided to address this requirement.

3. The proposed project is located within the Geologic Hazards Overlay District and therefore is subject to OCMC Chapter 17.44. The applicant may demonstrate an exemption per OCMC 17.44.035, or may request a waiver from the code requirements of OCMC 17.44 through Development Services.

4. Verify and locate any existing easements that run through the property.

5. Verify that the existing access easement for the ingress/egress from the northeast corner of the property is adequate.

ABERNETHY PLACE MIXED-USE DEVELOPMENT
TRAFFIC IMPACT STUDY

OREGON CITY, OREGON

DATE:
April 26, 2017

PREPARED FOR:
Historic Properties, LLC

PREPARED BY:
Daniel Stumpf, EI
Michael Ard, PE

LANCASTER
ENGINEERING

321 SW 4th Ave., Suite 400 | Portland, OR 97204 | 503.248.0313 | lancasterengineering.com

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EXECUTIVE SUMMARY

1. The proposed Abernethy Place Mixed-Use Development will include the construction a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop located at 1737 Washington Street in Oregon City, Oregon.

2. The trip generation calculations show that the proposed development is projected to generate a net new total of 159 site trips during the morning peak hour and 151 site trips during the evening peak hour.

3. Based on the operational analysis, all study area intersections are projected to operate acceptably per Oregon City code standards through 2022 either with or without the addition of site trips from the proposed development.

4. Based on the crash analysis, the intersection of 14th Street at Main Street was identified as having a high crash rate. It is recommended that the intersection be converted to all-way stop control to address this safety concern. It is recommended that concurrent with conversion to all-way stop control the eastbound and westbound approaches on 14th Street be converted to have a shared left/through lane and a shared through/right lane. Additionally, it is recommended that the westbound approach to Highway 99E be converted to have a shared left/right turn lane and a dedicated right-turn lane. With these improvements in place, it is anticipated that the safety of the intersection will be improved while maintaining acceptable operation of the affected intersections.

5. It should be noted that the city's Transportation System Plan includes an alternative improvement that could address safety concerns at the intersection of 14th Street and Main Street, consisting of conversion of 14th Street to one-way eastbound from OR-99E to John Adams Street and conversion of 15th Street to one-way westbound from Washington Street to OR-99E. This alternative treatment would likely necessitate installation of a new traffic signal for the intersection of Highway 99E at 15th Street.

6. Intersection sight distance is adequate at the site access intersections. No sight distance mitigation is recommended.

7. Based on the left-turn lane warrant analysis, installation of a northbound left-turn lane on Washington Street at the site access is recommended for safe operation of the new site access.

8. Since the westbound 14th Street approach to Main Street currently meets left-turn lane warrants, it is recommended that a northwest-bound left-turn lane be provided even if the intersection is not converted to all-way stop control.

9. Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met for any of the unsignalized stop-controlled study intersections under any of the analysis scenarios.

10. The proposed site access intersection at Washington Street can be constructed to meet the minimum access spacing standards required by the Oregon City Municipal Code.

11. Based on the proportionality analysis, it was determined that a requirement to construct a left-turn lane serving the site access would be proportionate to the impacts of the proposed development. However, a requirement for construction of safety improvements at the intersection of 14th Street and Main Street would not proportionate to the impacts of the development. If the city desires to require mitigation from the proposed development, it may therefore be appropriate to request a proportionate share payment based on the impacts of the proposed development rather than requesting construction of the recommended improvements.

PROJECT DESCRIPTION & LOCATION

INTRODUCTION

The proposed Abernethy Place Mixed-Use Development will include the construction a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop located at 1737 Washington Street in Oregon City, Oregon. The proposed development will take access to the nearby transportation system via three points of access: the intersections of Abernethy Road at Washington Street, a proposed site access driveway onto Washington Street, and a shared access driveway onto Washington Street at the existing Amtrak station entrance.

This report addresses the impacts of the proposed development on the nearby street system. Based on correspondence with City of Oregon City staff, the report conducts safety and capacity/level-of-service analyses at the following intersections:

1. Interstate 205 (I-205) southbound ramps at McLoughlin Boulevard (OR-99E);
2. I-205 northbound ramps at OR-99E;
3. 15th Street at OR-99E;
4. 14th Street at OR-99E;
5. 14th Street at Main Street;
6. 7th Street at Washington Street;
7. 14th Street at Washington Street;
8. 15th Street at Washington Street;
9. Abernethy Road at Washington Street;
10. Proposed site access at Washington Street;
11. Amtrak station access at Washington Street;
12. Prairie Schooner Way at Washington Street;
13. Clackamas River Drive at Washington Street; and
14. Trails End Highway (OR-213) at Clackamas River Drive.

The purpose of this study is to determine whether the transportation system in the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, safety analyses, and level-of-service calculations is included in the appendix to this report.

LOCATION DESCRIPTION

The project site is located northwest of Washington Street, north of 17th Street, and southeast of the Amtrak railroad tracks in Oregon City, Oregon. The subject site is located within a mixed-use area with the Oregon City Amtrak Rail Station to the northeast, the End of the Oregon Trail Interpretive Center to the southeast, a power substation and other industrial land-uses to the west, and a mix of smaller residential/commercial/industrial land-uses to the south.

The subject site includes seven tax lots; lots 601, 900, 1000, 1100, 1200, 1300, 1301; which encompass an approximate total of 4.1 acres. All seven lots are zoned as *Mixed Use Downtown*

(MUD) and are currently developed and utilized by several industrial and commercial service land-uses.

VICINITY STREETS

OR-99E is classified by the Oregon Department of Transportation (ODOT) as a Regional Highway south and a District Highway north of I-205 and by the City of Oregon City as a Major Arterial. The roadway has a varying cross-section of four to eight travel lanes and has a posted speed of 40 mph north and 30 mph south of 14th Street. On-street parking is permitted along both sides of the roadway at marked locations south of 14th Street. Curbs, sidewalks, and bicycle lanes are intermittently provided along both sides of the roadway.

Main Street is classified by the City of Oregon City as a Collector. The roadway has a two-lane cross-section with on-street parking permitted along both sides of the roadway south of 15th Street where either adequate roadway width is provided or spaces are marked. Bicycle lanes are provided along both sides of the roadway north while sharrows are marked within vehicle travel lanes south of 15th Street. Curbs and sidewalks are provided along both sides of the roadway south of 15th Street while only partially provided to the north.

Washington Street is classified by the City of Oregon City as a Minor Arterial north and a Local Street south of 5th Street. The roadway has a varying cross-section between two to six travel lanes and has a posted speed which varies between 25 mph and 35 mph within the study area. On-street parking is permitted along both sides of the roadway south of 11th Street while bicycle lanes are provided along both sides to the north. Curbs and sidewalks are provided along both sides of the roadway south and intermittently provided north of Abernethy Road.

OR-213 is classified by ODOT as a District Highway and by the City of Oregon City as an Expressway. The roadway has a varying cross-section between four to seven travel lanes and has a posted speed of 45 mph north and 55 mph south of Prairie Schooner Way. Bicycle lanes or shoulders are provided along both sides of the roadway. Curbs and sidewalks are intermittently provided along both sides of the roadway.

Clackamas River Drive is classified by the City of Oregon City as a Minor Arterial. The roadway has a two-lane cross-section north of the roundabout at Washington Street, and a four-lane cross-section to the south with two southbound travel lanes, a two-way left-turn lane, and a northbound travel lane. It has a posted speed of 40 mph north and 30 mph south of S Melinda Street. Bicycle lanes are provided along both sides of the roadway while curbs and sidewalks are intermittently provided.

Prairie Schooner Way is classified by the City of Oregon City as a Minor Arterial. The roadway has a five-lane cross-section, with two eastbound and three westbound travel lanes. Curbs and bicycle lanes are provided along both sides of the roadway.

Abernethy Road is classified by the City of Oregon City as a Minor Arterial. The roadway has a three-lane cross-section, with one travel lane and a center two-way left-turn lane, and has a posted speed of 35 mph. Bicycle lanes are provided along both sides of the roadway while curbs and sidewalks are intermittently provided along both sides.

15th Street is classified by the City of Oregon City as a Collector. The roadway has a two-lane cross-section and has a posted speed of 25 mph. On-street parking is permitted along both sides of the roadway east of Washington Street where adequate roadway width is available. Curbs and sidewalks are intermittently provided along both sides of the roadway.

14th Street is classified by the City of Oregon City as a Collector west and Local Street east of Washington Street. The roadway has a four-lane cross-section between OR-99E and Main Street, with two travel lanes in each direction, and a two-lane cross-section east of Main Street. On-street parking is permitted along both sides of the roadway east of Washington Street. Curbs and sidewalks are provided along both sides of the roadway.

7th Street is classified by the City of Oregon City as a Major Arterial. The roadway has a three-lane cross-section, with one travel lane in each direction and a center turn lane. On-street parking is permitted along the north side of the roadway between John Adams Street and John Quincy Adams Street. Curbs and sidewalks are provided along both sides of the roadway.

STUDY INTERSECTIONS

The I-205 southbound ramps intersection at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northbound approach has three through lanes and one channelized right-turn lane that operates under yield control. The southbound approach has three through lanes and one left-turn lane served by protected phasing. The westbound approach has two left-turn lanes and one right-turn lane served by permitted/overlapping phasing. One crosswalk is marked across the eastern intersection leg.

The I-205 northbound ramps intersection at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northbound approach has three through lanes and one right-turn lane served by permitted/overlapping phasing. The southbound approach has three through lanes and one left-turn lane served by protected phasing. The westbound approach has one left-turn lane and one channelized right-turn lane that operates under yield control. One crosswalk is marked across the eastern intersection leg.

The intersection of 15th Street at OR-99E is a three-legged intersection that is stop-controlled for the westbound approach of 15th Street. The northeast-bound approach has one through lane and one shared through/right-turn lane. The southwest-bound approach has three through lanes. The northwest-bound approach has one right-turn lane. One crosswalk is marked across the southeastern intersection leg.

The intersection of 14th Street at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one through lane and one shared through/right-turn lane. The southwest-bound approach has two through lanes and a left-turn lane served by flashing-yellow-arrow phasing. The northwest-bound approach of 14th Street has one left-turn lane and one right-turn lane served by permitted/overlapping phasing. Crosswalks are marked across all intersection legs.

The intersection of 14th Street at Main Street is a four-legged intersection that is two-way stop-controlled for the northeast-bound and southwest-bound approaches of Main Street. The northeast-bound approach has one shared left-turn/through lane and one right-turn lane. The southwest-bound and northwest-bound approaches each have one shared lane for all turning movements. The southeast-bound approach has one left-turn lane and one shared through/right-turn lane. Crosswalks are marked across all intersection legs.

The intersection of 7th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane and one shared through/right-turn lane. The northeast-bound and southwest-bound approaches operate under split phasing. The southeast-bound and northwest-bound approaches of 7th Street each have one through lane and one right-turn lane served by permitted/overlapping phasing. Left-turns from 7th Street onto Washington Street are prohibited. Crosswalks are marked across all intersection legs.

The intersection of 14th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane served by flashing-yellow-arrow phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound approach has one shared lane for all turning movements. The southeast-bound approach has one shared left-turn/through lane and one right-turn lane. Crosswalks are marked across all intersection legs.

The intersection of 15th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane served by flashing-yellow-arrow phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound and southeast-bound approaches each have one shared lane for all turning movements. Crosswalks are marked across all intersection legs.

The intersection of Abernethy Road at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one left-turn lane served by permitted phasing, one through lane, one right-turn lane, and a bicycle lane situated between the through and right-turn lanes. The south-westbound approach has one left-turn turn lane served by permitted phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound approach has one left-turn lane served by permitted phasing and one shared through/right-turn lane. The southeast-bound approach has one shared lane for all turning movements. Crosswalks are marked across all intersection legs.

The Amtrak station/End of the Oregon Trail Interpretive Center access intersection on Washington Street is a four-legged intersection that is two-way stop-controlled for the two driveway approaches. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound and southeast-bound approaches each have one shared lane for all turning movements. A crosswalk is marked across the southwestern intersection leg while sidewalks are in place across the northwestern and southeastern legs.

The intersection of Prairie Schooner Way at Washington Street is a three-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one through lane, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The southwest-bound approach has two through lanes, one left-turn lane served by flashing-yellow-arrow phasing, and a bicycle lane to the right of the outermost standard travel lane. The westbound approach of Prairie Schooner Way has two left-turn lanes, one right-turn lane served by permitted/overlapping phasing, and a bicycle lane to the right of the outermost standard travel lane. Crosswalks are marked across the northeastern and southeastern intersection legs.

The intersection of Clackamas River Drive at Washington Street is a three-legged round-about intersection. The northeast-bound approach of Washington Street has one shared through/U-turn lane and one free-flowing channelized right-turn lane. The southwest-bound approach has one shared left-turn/through/U-turn lane. The northwest-bound approach has one shared left-turn/right-turn/U-turn lane. Crosswalks are marked across all intersection legs.

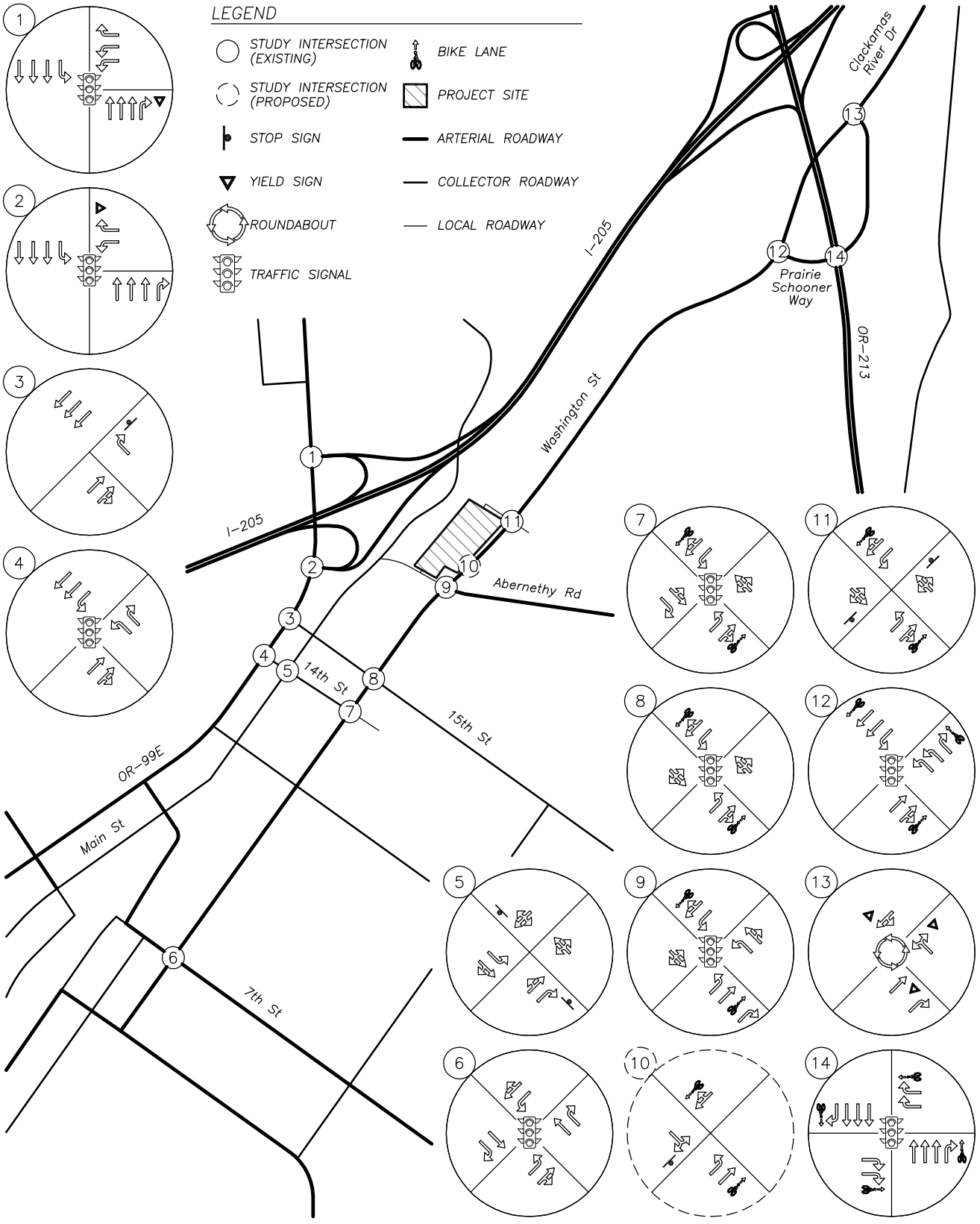
The intersection of OR-213 at Clackamas River Drive is a four-legged intersection that is controlled by a traffic signal. The northbound and southbound approaches of OR-213 each have three through lanes, one channelized right-turn lane that operates without stop/yield/signal controls, and a bicycle lane to the right of the outermost standard travel lane. The eastbound and westbound approaches of Prairie Schooner Way and Clackamas River Drive, respectively, each have two right-turn lanes and a bicycle lane to the right of the outermost standard travel lane. Crosswalks are marked across the eastern and western intersection legs.

A vicinity map displaying the project site, vicinity streets, and the study intersections with their associated lane configurations is shown in Figure 1 on page 10.

TRAFFIC COUNTS

Traffic counts were conducted at the study intersections on Thursday January 26th, 2017 from 7:00 AM to 9:00 AM and on Wednesday, January 25th, 2017 from 4:00 PM to 6:00 PM. Data was used from each intersection's respective morning and evening peak hours.

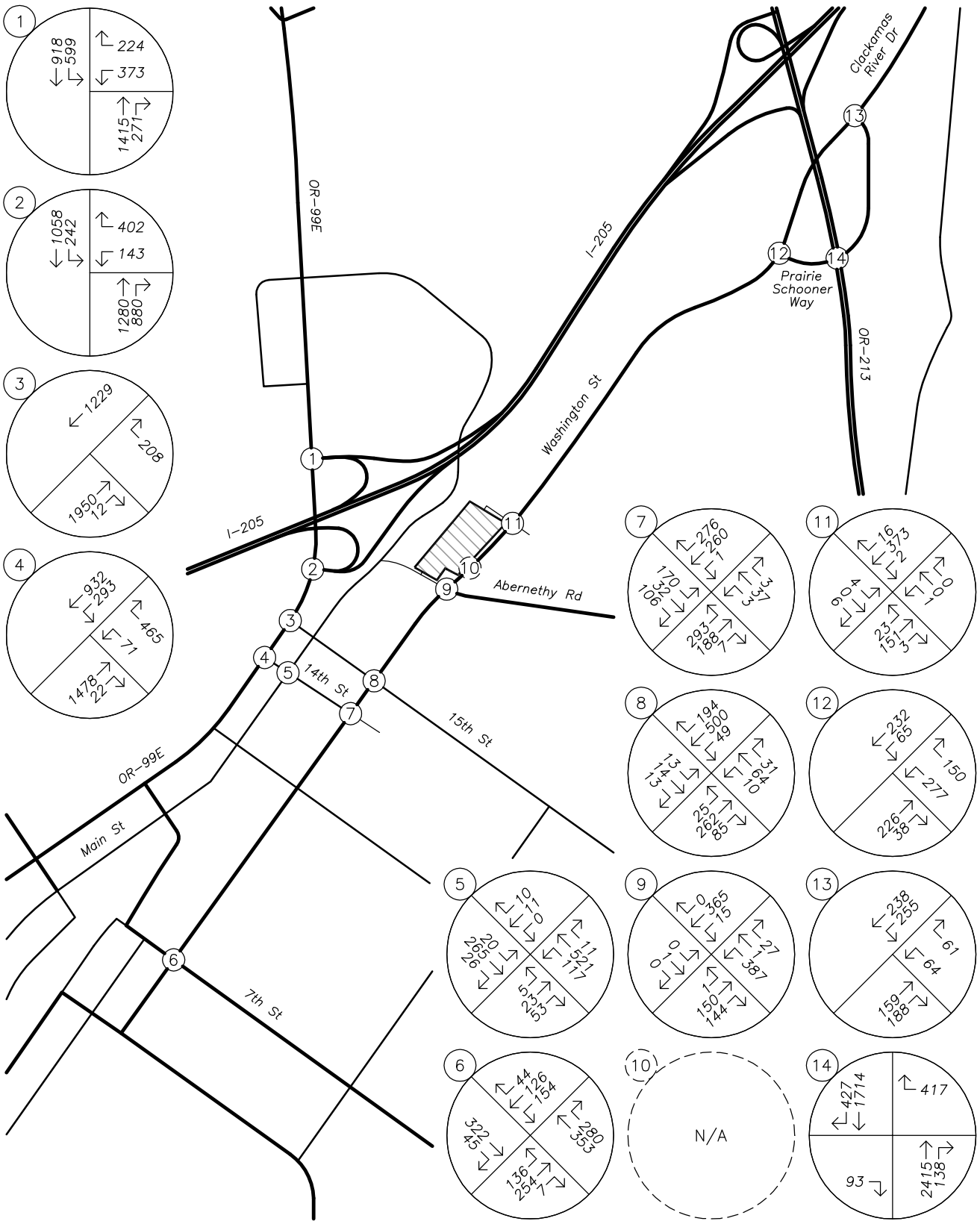
Figures 2 and 3 on pages 11 and 12 show the existing morning and evening peak hour traffic volumes at the study intersections, respectively.



VICINITY MAP

no scale

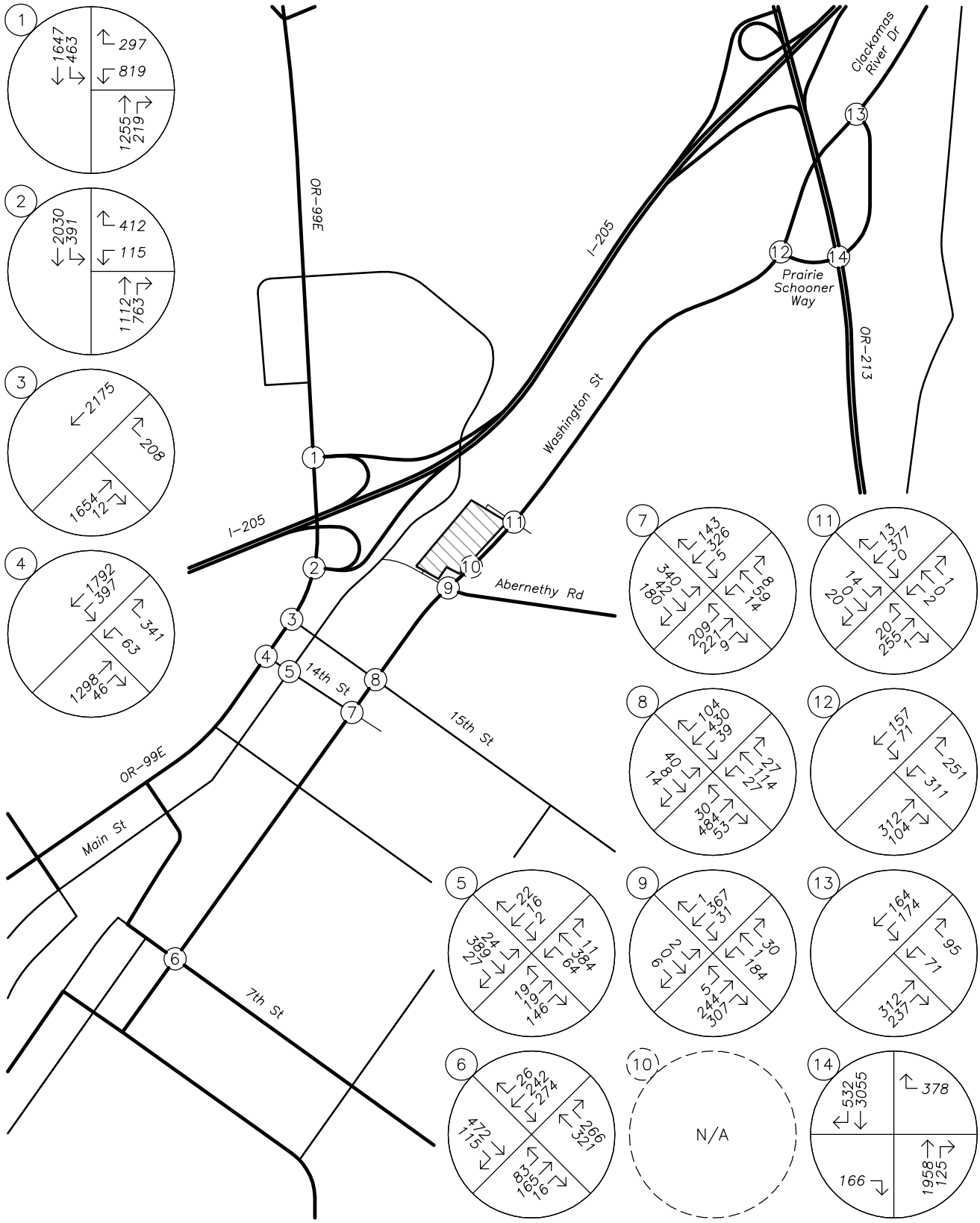
FIGURE 1



TRAFFIC VOLUMES
Existing Conditions
AM Peak Hour

no scale

FIGURE 2



TRAFFIC VOLUMES
Existing Conditions
PM Peak Hour

no scale

FIGURE 3

PAGE 12

SITE TRIPS

TRIP GENERATION

The proposed Abernethy Place Mixed-Use Development will include the construction of a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop. To estimate the number of trips that will be generated by the proposed development, trip rates from the *TRIP GENERATION MANUAL* were used. Data from land-use code 220, *Apartments*, land-use code 310, *Hotel*, land-use code 820, *Shopping Center*, and land-use code 936, *Coffee/Donut Shop without Drive-Through Window*, were used to estimate the proposed development's trip generation based on the number of rooms for the hotel, dwelling units for the apartment, and square-footage of gross floor area for the retail space and coffee shop.

Internal Trip Generation

Given the variety of land-uses that are proposed for development within the project site (including hotel, residential, retail, and restaurant land-uses), some trips generated by this development will likely be shared/internally captured by the proposed uses within the site and will not impact the nearby transportation system. Using the National Cooperative Highway Research Programs (NCHRP) Report 684, *Enhancing Internal Trip Capture Estimation for Mixed-Use Development*, internal capture rates for the proposed development were calculated for each land-use during the morning and evening peak hours.

According to Report 684, the proposed development is expected to internally capture approximately 9 percent of site trips during the morning peak hour and 28 percent of site trips during the evening peak hour. Due to the limited variety of on-site retail and restaurant uses, the calculated internal capture rate during the evening peak hour was manually reduced to 20 percent for the evening peak hour in order to maintain a conservative analysis.

Pass-by Trip Generation

Some of the proposed land-uses are expected to attract pass-by/diverted trips to the site. Pass-by trips are trips that leave an adjacent roadway to patronize a land-use and then continue in their original direction of travel. Similar to pass-by trips, diverted trips are trips that divert from a nearby roadway not adjacent to the site to patronize a land-use before continuing to their original destination. Pass-by trips do not add additional trips to the transportation system; however, they do add additional turning movements at site access intersections. Diverted trips may add additional turning movements at other nearby intersections. Pass-by trip rates were determined using data provided in the *TRIP GENERATION HANDBOOK*, 3rd Edition[1]. For the purposes of this analysis, pass-by and diverted trips were accounted for as the following:

- The proposed retail space has a pass-by trip rate of 34 percent of external trips generated based on data provided for land-use code 820 of the *TRIP GENERATION HANDBOOK*, 3rd Edition.

[1] Institute of Transportation Engineers (ITE), *TRIP GENERATION HANDBOOK*, 3rd Edition, 2014.

- The proposed coffee shop will utilize a pass-by/diverted trip rate of 82 percent for the morning peak hour and 73 percent for the evening peak hour. The calculated pass-by/diverted trip rates for the coffee shop are based on a trip generation study conducted at Starbucks facilities throughout Washington State in 2002.

Since the total number of pass-by trips which could be generated by the proposed uses exceeds the reasonable number of site trips that would be expected to divert from Washington Street, additional trips were treated as diverted-linked trips and drawn from through traffic traveling along Abernethy Road and the northbound travel lanes along Highway 99E. It is assumed that no more than five percent of the through traffic along Washington Street will enter the site as pass-by trips. An additional five percent of the through traffic along Abernethy road was assumed to divert to the site, and the remaining diverted trips were drawn from the northbound through traffic along OR-99E.

Trip Generation Analysis Results

The trip generation calculations show that the proposed development is projected to generate a net new total of 159 site trips during the morning peak hour and 151 site trips during the evening peak hour. The trip generation estimates of the proposed development are summarized in Table 2 below.

It should be noted that the development is proposed to occur in two phases. Phase 1 will consist of the 99-room hotel, while phase 2 will consist of all other proposed uses. Development of Phase 1 (prior to Phase 2) will result in a net increase of 52 trips during the morning peak hour and 59 trips during the evening peak hour, since the internal capture rates will not apply when only one use is located on the site. Development of Phase 2 will result in a net addition of 107 additional trips during the morning peak hour and 92 trips during the evening peak hour, resulting in the total projected site trips previously described.

Detailed trip generation and internal capture calculations as well as the Starbucks trip generation study are included in the technical appendix to this report.

Table 2 - Proposed Development Trip Generation Summary									
	ITE Code	Size	Morning Peak Hour In	Morning Peak Hour Out	Morning Peak Hour Total	Evening Peak Hour In	Evening Peak Hour Out	Evening Peak Hour Total	Weekday Total
Phase 1									
Hotel	310	99 units	31	21	52	30	29	59	808
Phase 1 + Phase 2									
Apartments	210	131 units	13	54	67	53	28	81	872
Internal Capture		*9% (20%)*	*1*	*5*	*6*	*11*	*6*	*17*	*174*
Net New Trips			12	49	61	42	22	64	698
Hotel	310	99 units	31	21	52	30	29	59	808
Internal Capture		*9% (20%)*	*3*	*2*	*5*	*6*	*6*	*12*	*162*
Net New Trips			28	19	47	24	23	47	646
Retail Space	820	9,500 sq.ft.	6	3	9	17	18	35	406
Internal Capture		*9% (20%)*	*1*	*0*	*1*	*3*	*4*	*7*	*81*
Pass-by Trips		*34% (34%)*	*1*	*1*	*2*	*5*	*5*	*10*	*110*
Net New Trips			4	2	6	9	9	18	215
Coffee Shop	936	2,500 sq.ft.	138	133	271	51	51	102	165
Internal Capture		*9% (20%)*	*12*	*12*	*24*	*10*	*10*	*20*	*33*
Pass-by Trips		*82% (73%)*	*101*	*101*	*202*	*30*	*30*	*60*	*96*
Net New Trips			25	20	45	11	11	22	36
Total Trip Generation			**188**	**211**	**399**	**151**	**126**	**277**	**2,251**
Total Internal Capture			***17***	***19***	***36***	***30***	***26***	***56***	***450***
Total Pass-by Trips			***102***	***102***	***204***	***35***	***35***	***70***	***206***
Total Net New Trips			**69**	**90**	**159**	**86**	**65**	**151**	**1,595**

* AM Peak Hour (PM Peak Hour and Weekday)

TRIP DISTRIBUTION

The directional distribution of primary site trips to/from the project site was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at study intersections.

The following trip distribution was estimated and used for analysis:

- Approximately 30 percent of primary trips will travel to/from the north along OR-213;
- Approximately 15 percent of primary trips will travel to/from the east along Abernethy Road;
- Approximately 12 percent of primary trips will travel to/from the north along OR-99E;
- Approximately 10 percent of primary trips will travel to/from the southeast along 7th Street;
- Approximately 9 percent of primary trips will travel to/from the southwest along Washington Street;
- Approximately 6 percent of primary trips will travel to/from the northeast along Interstate 205 (I-205);
- Approximately 5 percent of primary trips will travel to/from the northeast along Clackamas River Drive;
- Approximately 5 percent of primary trips will travel to/from the southeast along 15th Street;
- Approximately 4 percent of primary trips will travel to/from the southwest along Main Street;
- Approximately 2 percent of primary trips will travel to/from the southwest along OR-99E; and
- Approximately 2 percent of primary trips will travel to/from the southwest along I-205.

The proposed development is planned to have three points of access to the subject site from Washington Street: the west leg of the intersection of Abernethy Road at Washington Street, a proposed site access on Washington Street approximately 200 feet northeast of Abernethy Road, and at the existing Amtrak Station access driveway. Based on the site layout, primary trips to and from the site are anticipated to utilize site access points as follows:

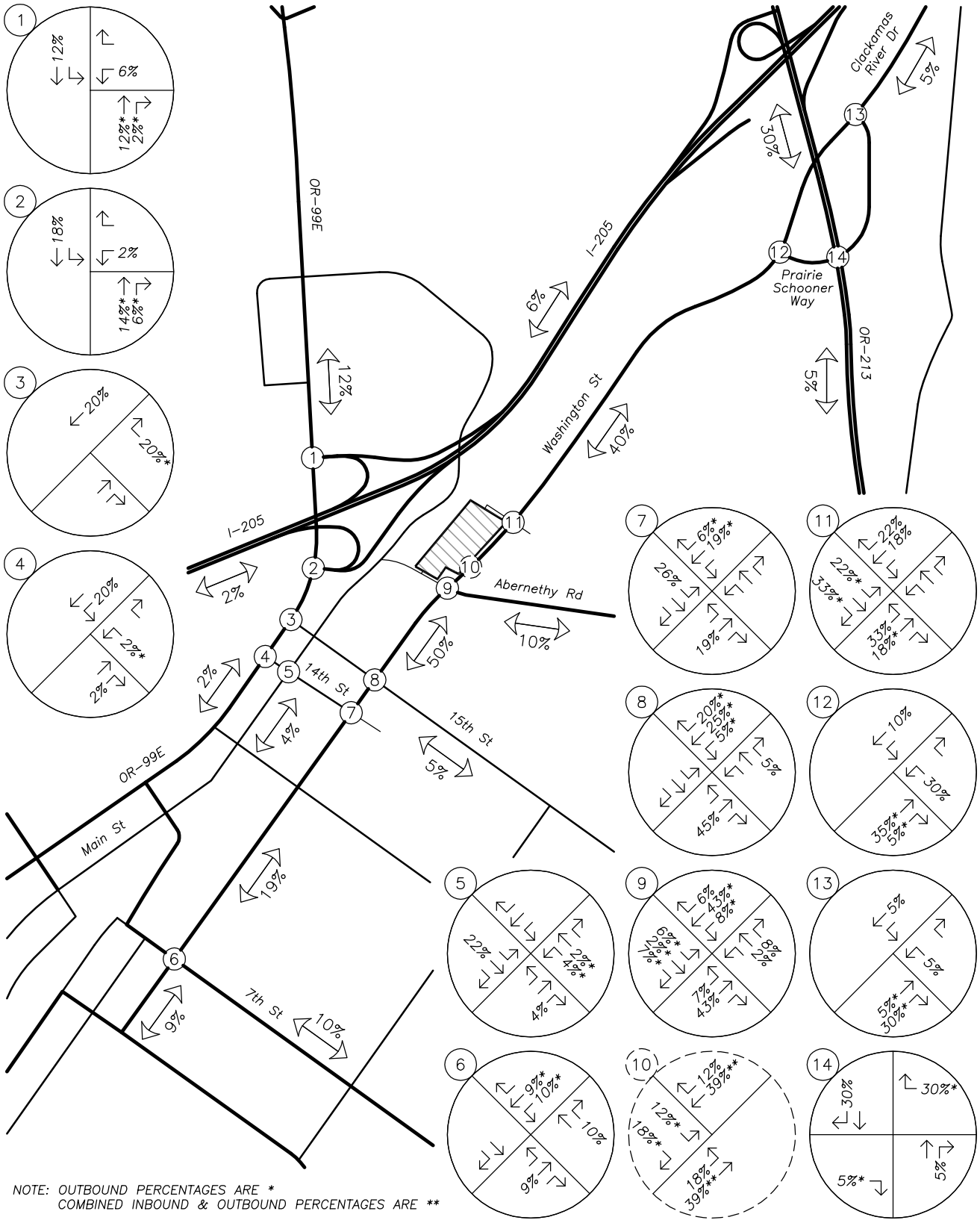
- Approximately 15 percent of primary trips will utilize the access at the intersection of Abernethy Road at Washington Street;
- Approximately 30 percent of primary trips will utilize the proposed access along Washington Street; and
- Approximately 55 percent of primary trips will utilize the Amtrak access along Washington Street.

The trip distribution percentages utilized for the primary site trips generated by the proposed development are shown in Figure 4 on page 18.

The proposed mixed-use building, which will include a coffee shop and retail space, is located within the northeastern section of the project site. Since only these two land-uses are expected to generate pass-by trips, it is anticipated that pass-by trips to and from the site will utilize site access points as follows:

- Approximately 50 percent of pass-by trips will utilize the proposed access along Washington Street; and
- Approximately 50 percent of pass-by trips will utilize the Amtrak access along Washington Street.

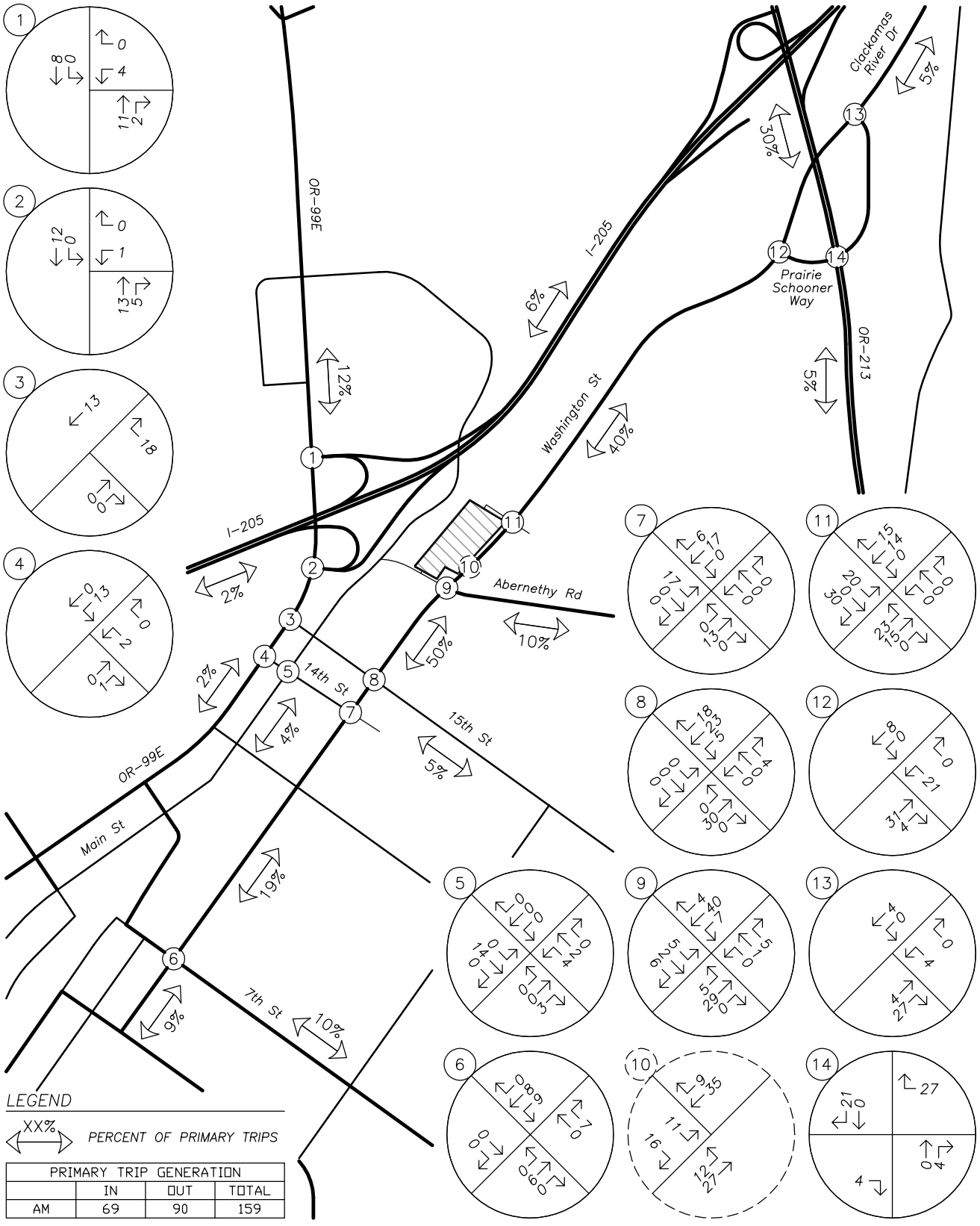
The trip assignment for primary site trips generated by the proposed development are shown in Figure 5 on page 19 for the morning peak hour and in Figure 6 on page 20 for the evening peak hour. The trip assignment for pass-by site trips generated by the proposed coffee shop and retail space are shown in Figure 7 on page 21 for the morning peak hour and in Figure 8 on page 22 for the evening peak hour. The total site trip assignment of trips generated by the proposed development are shown in Figure 9 on page 23 for the morning peak hour and in Figure 10 on page 24 for the evening peak hour.



SITE TRIP DISTRIBUTION
Inbound & Outbound Percentages – Primary Trips
AM & PM Peak Hours

no scale

FIGURE 4

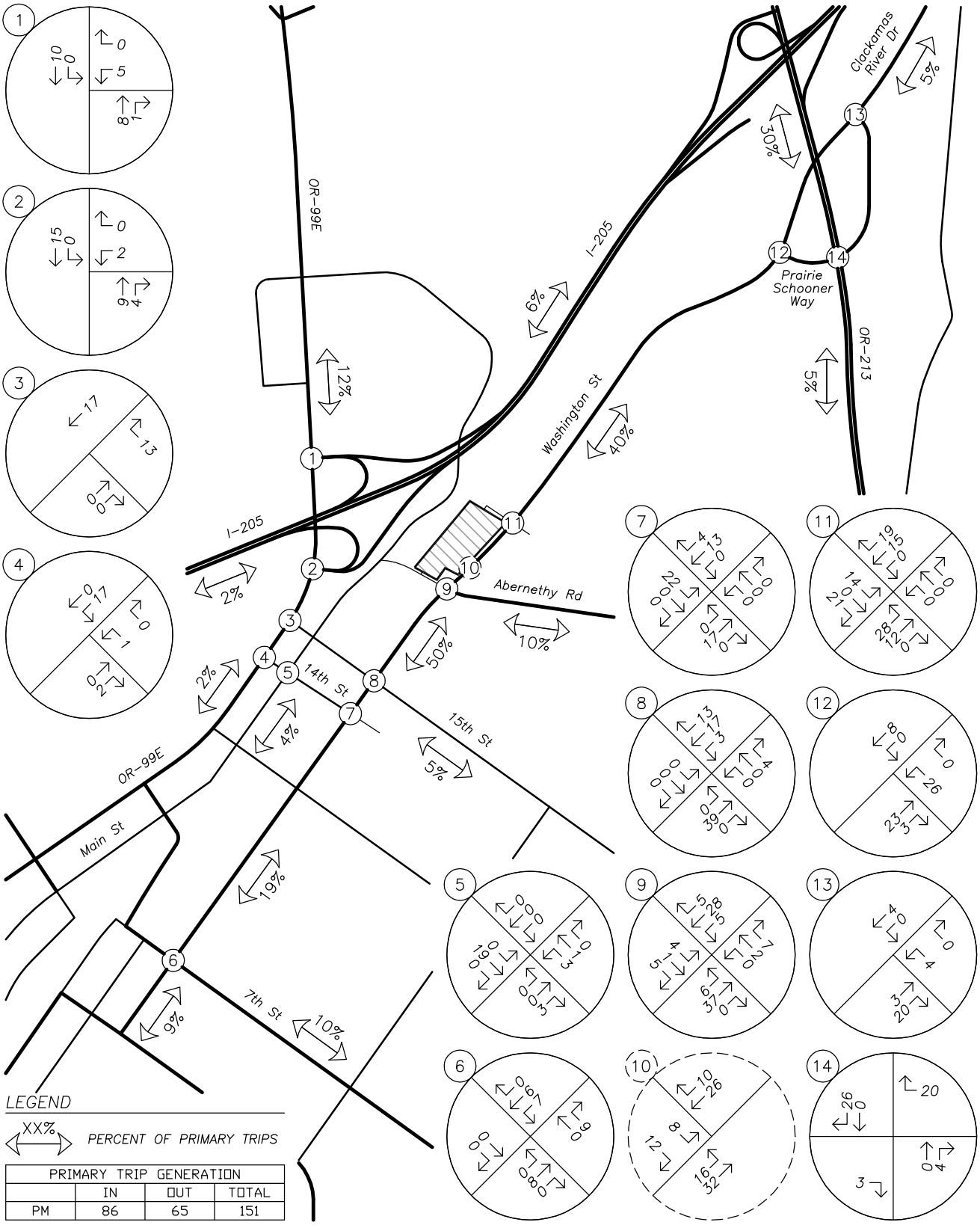


PRIMARY TRIP GENERATION			
	IN	OUT	TOTAL
AM	69	90	159

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Primary Site Trips
AM Peak Hour

no scale

FIGURE 5

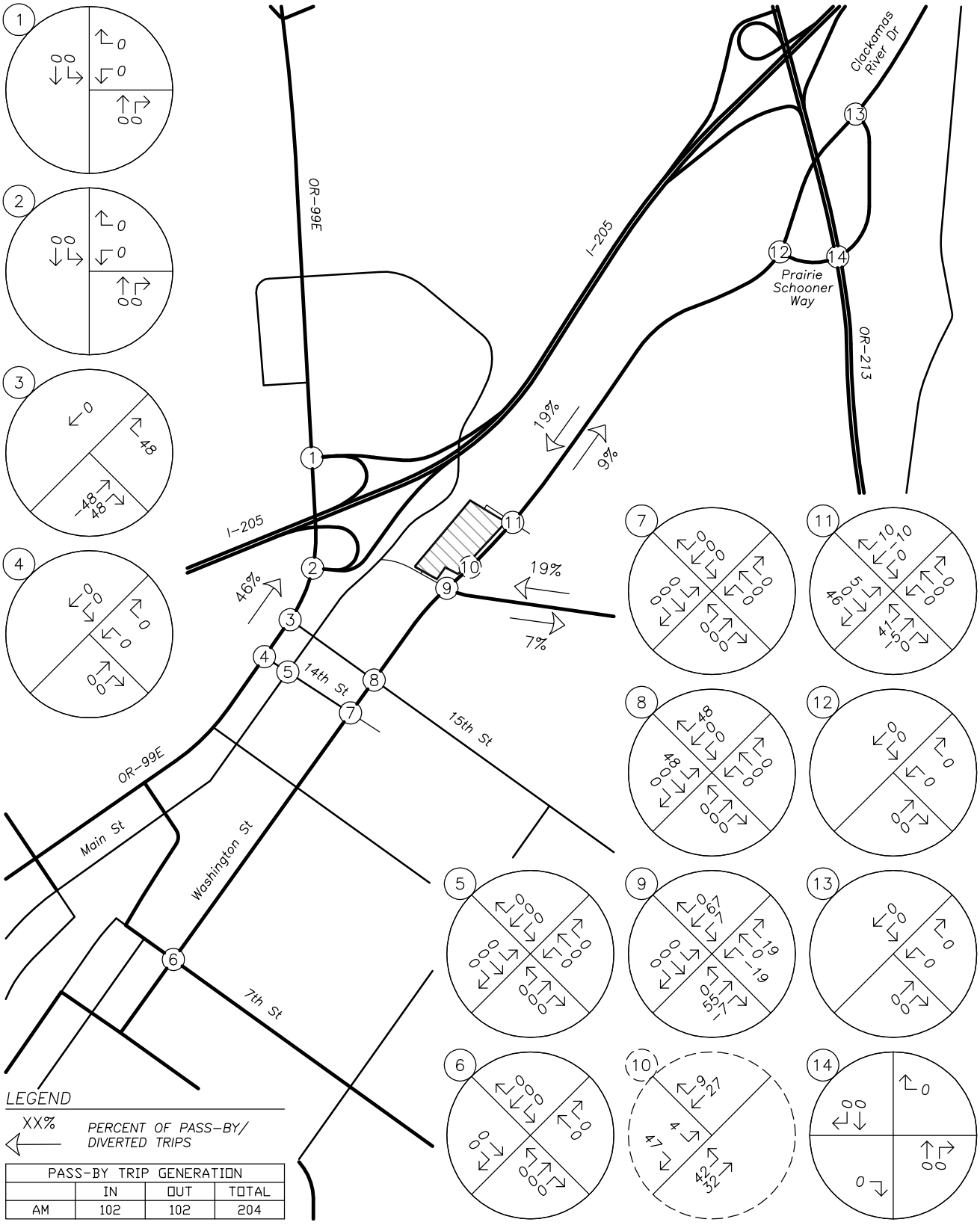


PRIMARY TRIP GENERATION			
	IN	OUT	TOTAL
PM	86	65	151

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Primary Site Trips
PM Peak Hour

no scale

FIGURE 6

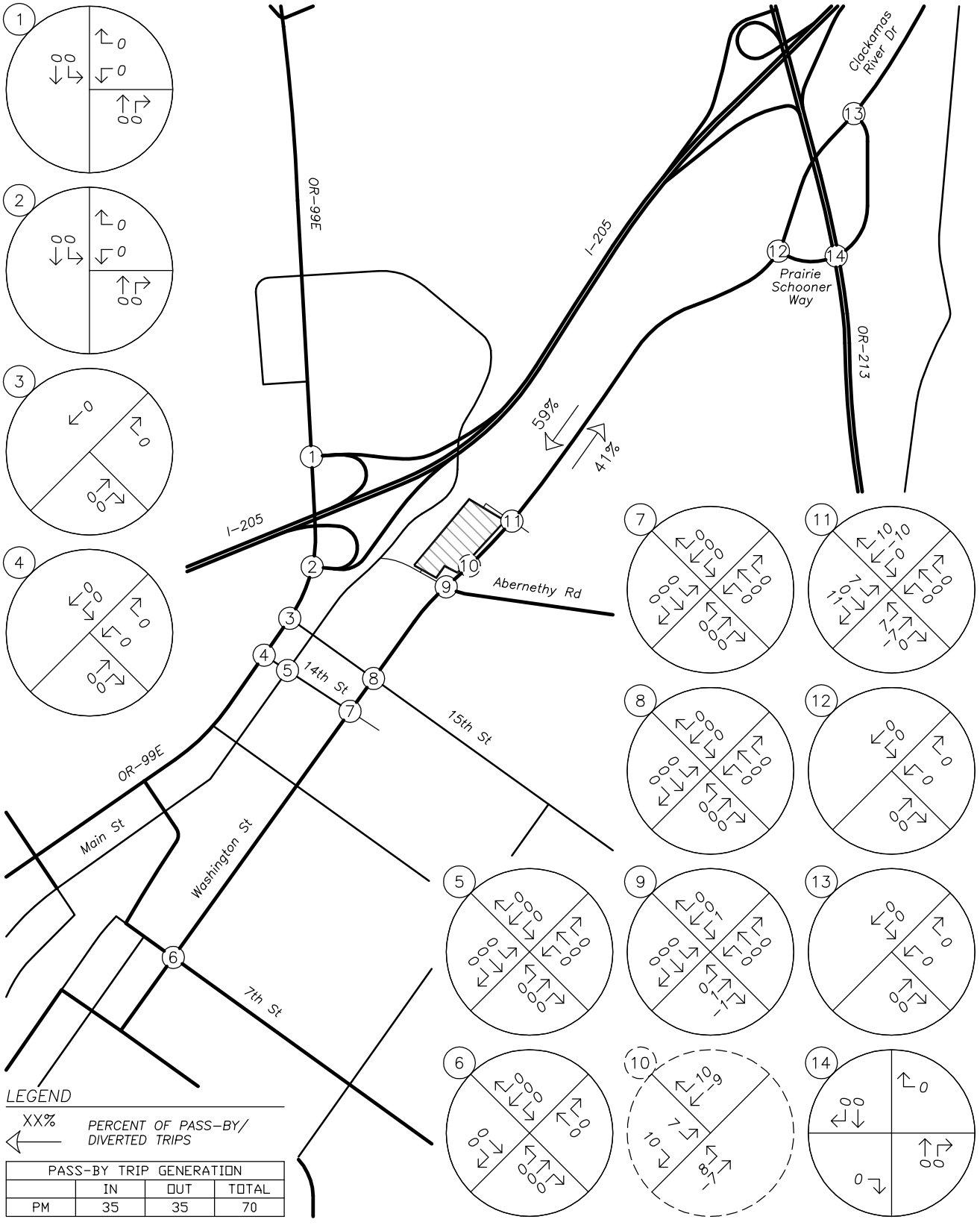


PASS-BY TRIP GENERATION			
	IN	OUT	TOTAL
AM	102	102	204

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Pass-by Site Trips
AM Peak Hour

no scale

FIGURE 7

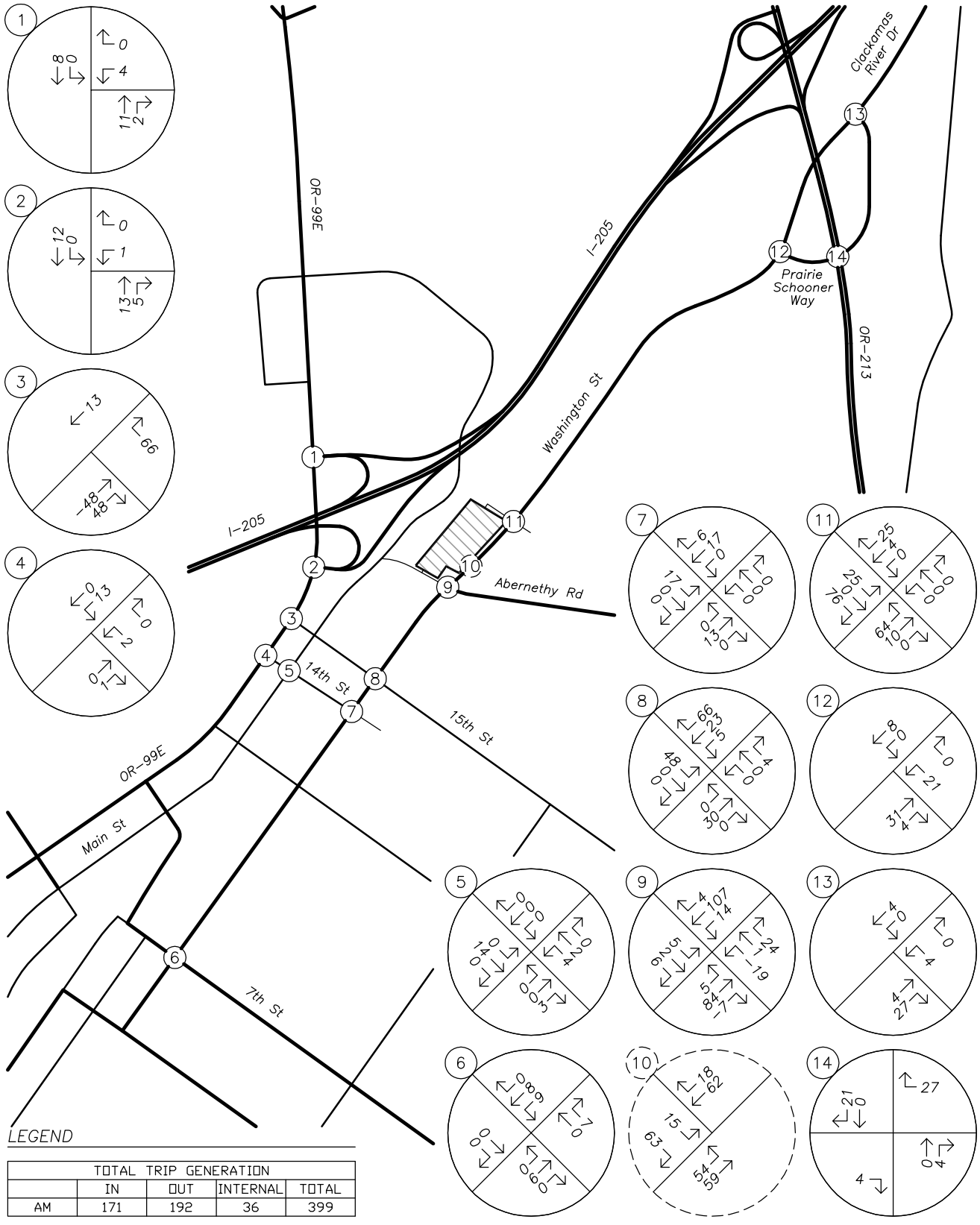


PASS-BY TRIP GENERATION			
	IN	OUT	TOTAL
PM	35	35	70

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Pass-by Site Trips
PM Peak Hour

no scale

FIGURE 8

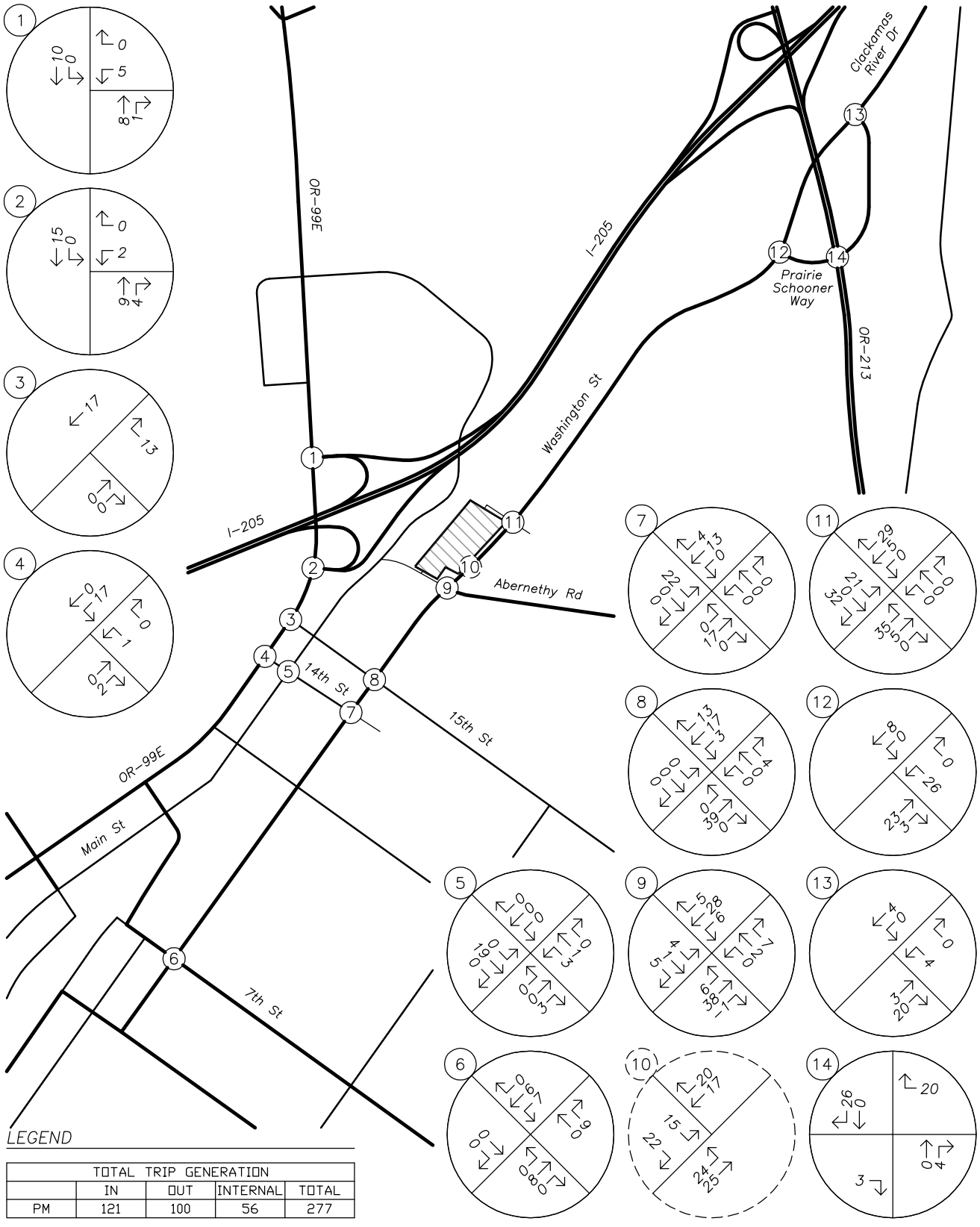


TOTAL TRIP GENERATION				
	IN	OUT	INTERNAL	TOTAL
AM	171	192	36	399

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Total Site Trips
AM Peak Hour

no scale

FIGURE 9



TOTAL TRIP GENERATION				
	IN	OUT	INTERNAL	TOTAL
PM	121	100	56	277

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Total Site Trips
PM Peak Hour

no scale

FIGURE 10

OPERATIONAL ANALYSIS

BACKGROUND VOLUMES

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required.

In order to calculate the future traffic volumes for non-ODOT facilities, a compounded growth rate of two percent per year for an assumed build-out condition of five years was applied to the measured existing traffic volumes to approximate year 2022 background conditions.

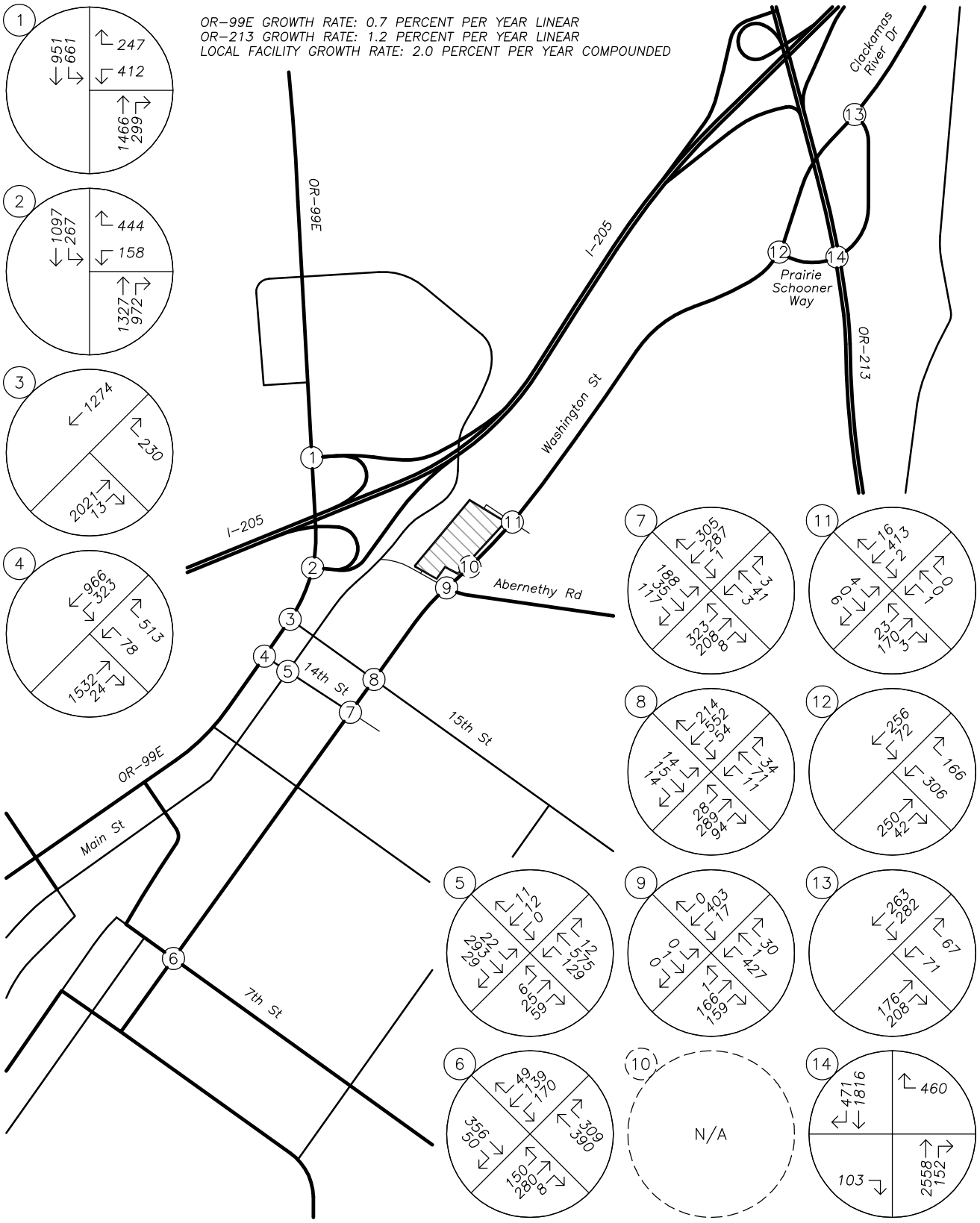
To estimate the future traffic volumes for ODOT facilities, a linear growth rates of 0.7 percent per year and 1.2 percent per year were calculated for the traffic volumes along OR-99E and OR-213, respectively, using ODOT's 2035 Future Volume Tables. This growth rate was applied to the measured existing traffic volumes over a five-year period to determine year 2022 background traffic volumes for the through traffic traveling along both ODOT roadways. A compounded growth rate of two percent per year for an assumed build-out condition of five years was applied to all other turning movement traffic volumes at study intersections along these ODOT roadways.

Figure 11 on page 26 and Figure 12 on page 27 show the projected year 2022 background traffic volumes at the study intersections during the morning and evening peak hours, respectively.

BACKGROUND VOLUMES PLUS SITE TRIPS

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2022 background traffic volumes to obtain the expected 2022 background volumes plus site trips.

Figure 13 on page 28 and Figure 14 on page 29 show the projected year 2022 peak hour background traffic volumes plus proposed development site trips at the study intersections during the morning and evening peak hours, respectively.

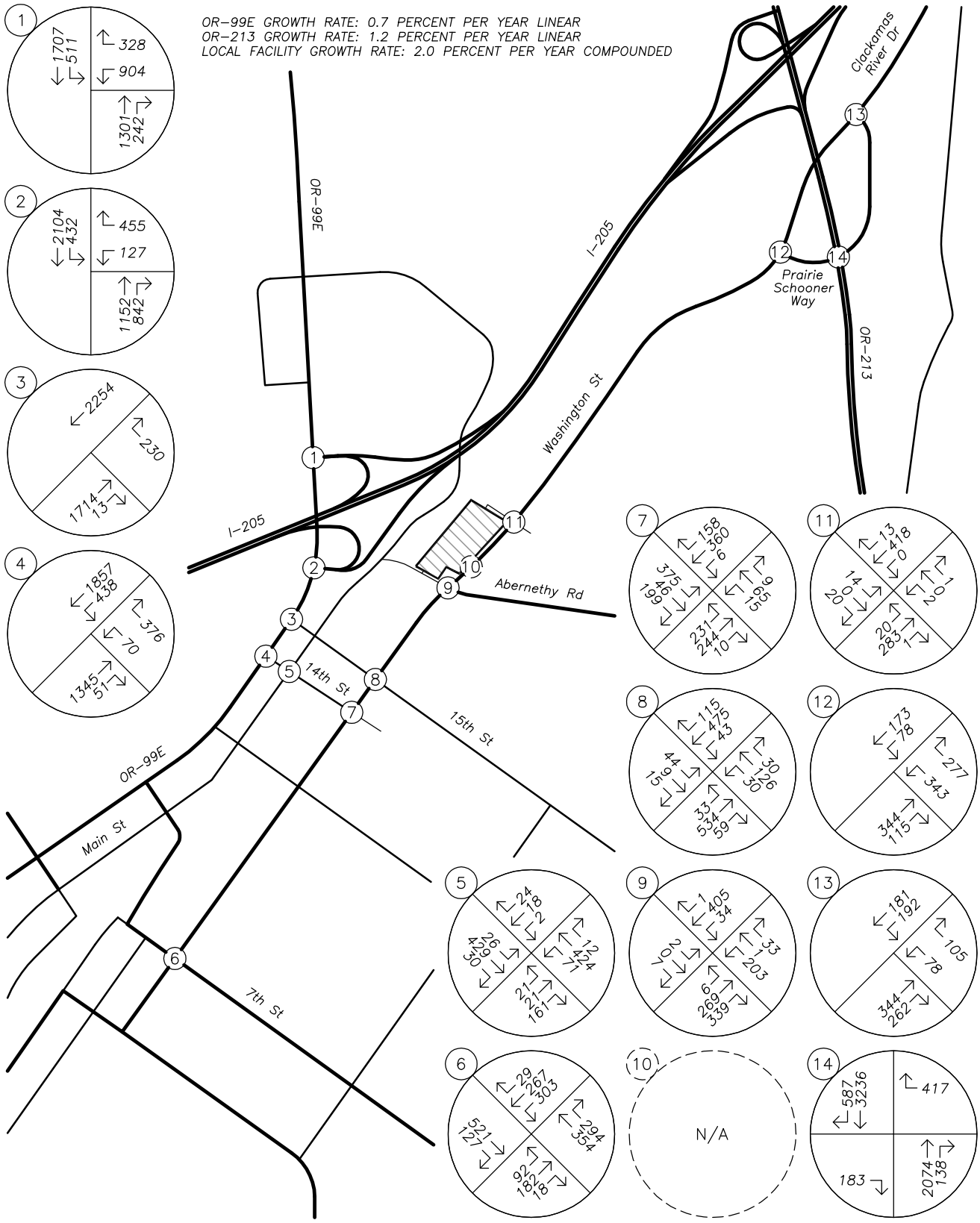


TRAFFIC VOLUMES
Year 2022 Background Conditions
AM Peak Hour

no scale

FIGURE 11

PAGE 26

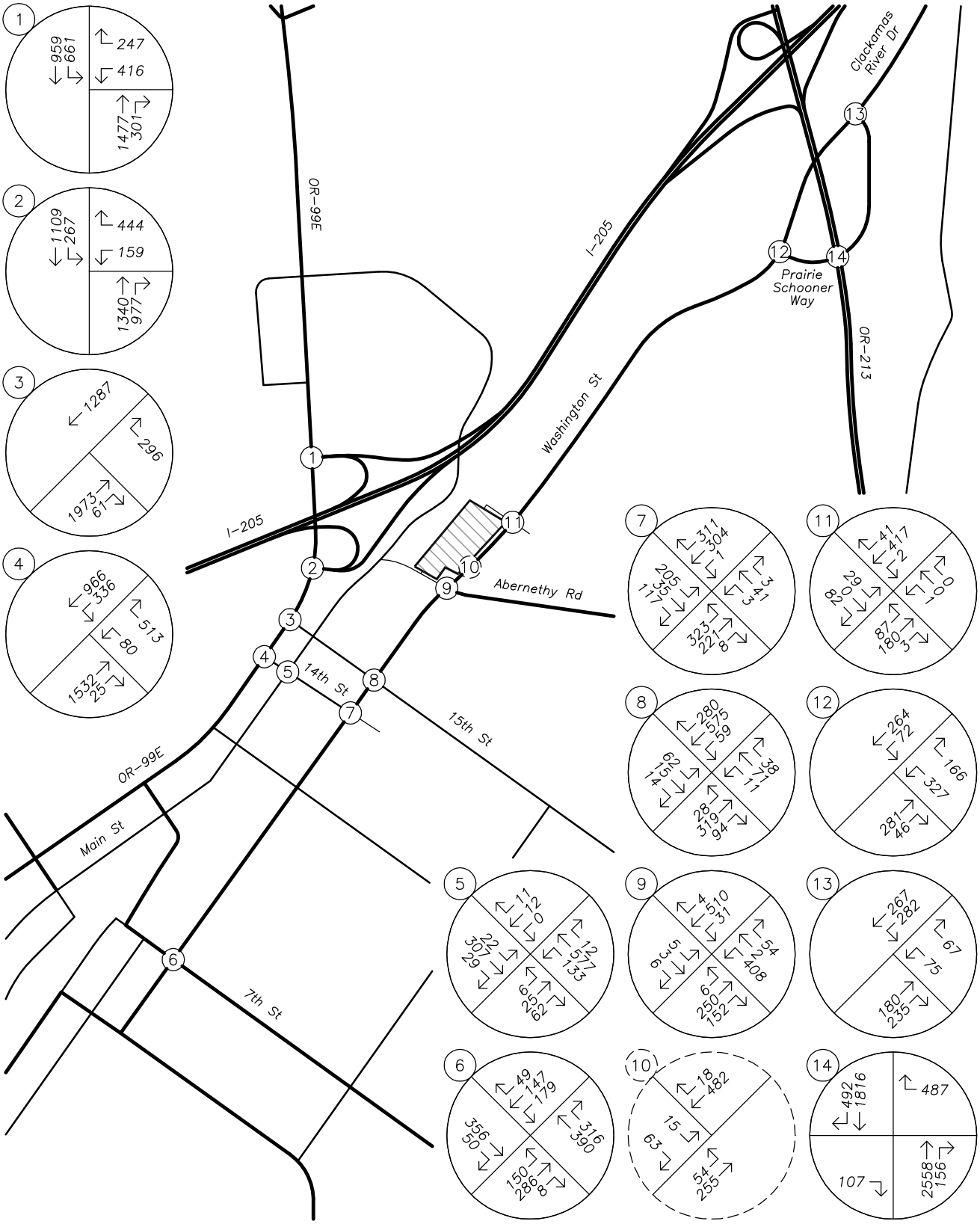


TRAFFIC VOLUMES
Year 2022 Background Conditions
PM Peak Hour

no scale

FIGURE 12

PAGE 27

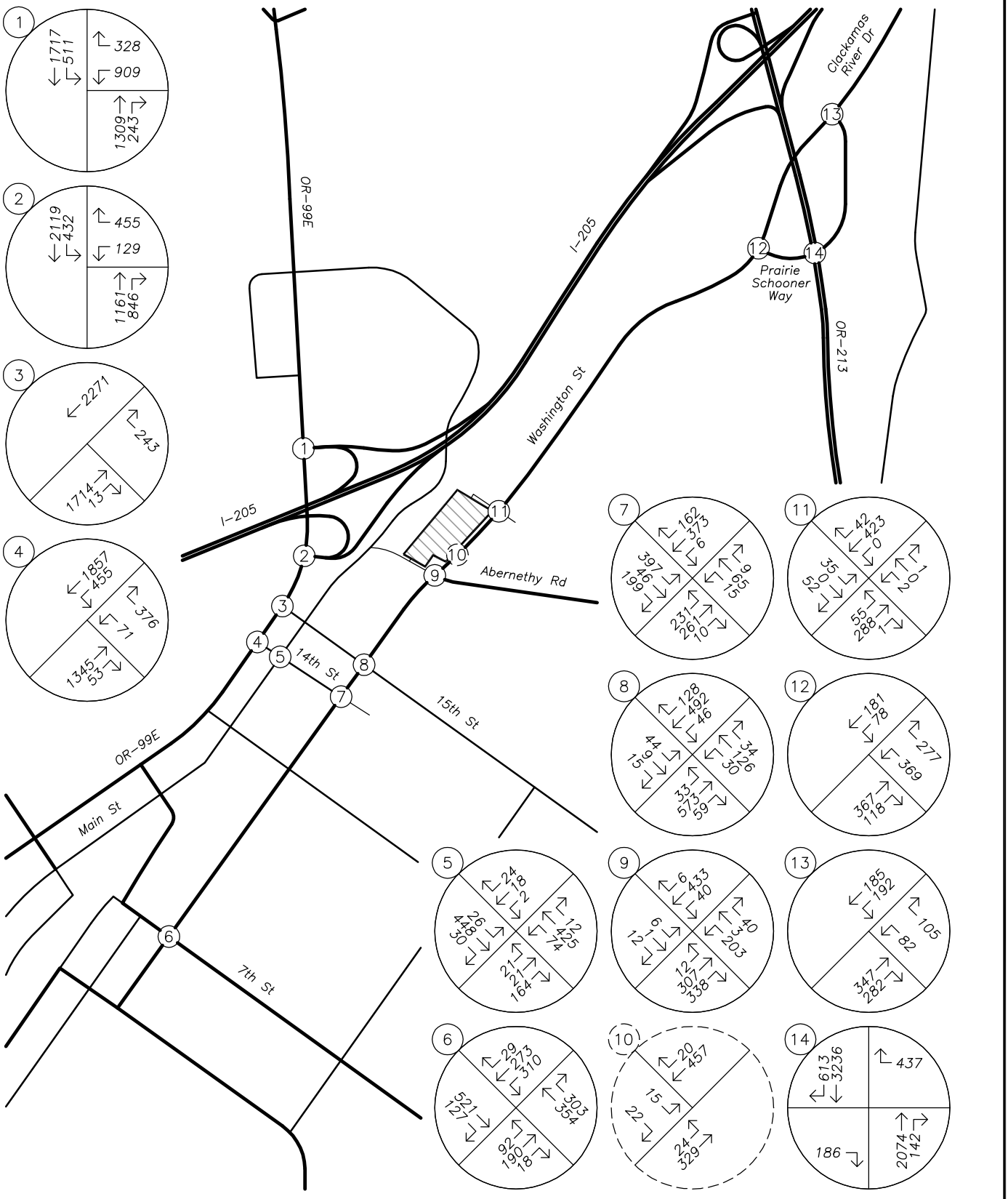


TRAFFIC VOLUMES
Year 2022 Background Conditions plus Site Trips
AM Peak Hour

no scale

FIGURE 13

PAGE 28



TRAFFIC VOLUMES
Year 2022 Background Conditions plus Site Trips
PM Peak Hour

no scale

FIGURE 14

CAPACITY ANALYSIS

A capacity and delay analysis was conducted for each of the study intersections. The analysis was conducted according to the signalized and unsignalized intersection analysis methodologies in the *HIGHWAY CAPACITY MANUAL* (HCM). The level-of-service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The v/c ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

Per Section 12.04.205 of the *Oregon City Municipal Code*, the following minimum acceptable operation standards apply when evaluating traffic impacts associated with the proposed land uses:

- For intersections within the Regional Center, a maximum v/c ratio of 1.10 is permissible during the peak hour, provided that during the second hour the v/c ratio is 0.99 or less. For signalized intersections, these standards apply to the intersection as a whole. For unsignalized intersections, these standards apply to the major-street approaches only. There is no performance standard for unsignalized minor street approaches.
- For intersections outside the Regional Center but designated on the Arterial and Throughway Network, a maximum v/c ratio of 0.99 shall be maintained. This standard applies to signalized intersections as a whole, and to the major-street approaches at unsignalized intersections. There is no performance standard for unsignalized minor street approaches.
- Signalized intersections located outside the Regional Center (Downtown Community Plan) boundaries and not designated on the Arterial and Throughway Network shall operate at LOS D or better for the intersection as a whole, no approach shall operate worse than LOS E, and the intersection shall operate with a v/c ratio no higher than 1.0 for the sum of critical movements.
- Unsignalized intersections located outside the Regional Center (Downtown Community Plan) boundaries and not designated on the Arterial and Throughway Network shall operate at LOS E or better for all approaches serving more than 20 peak hour vehicles. LOS F will be tolerated at movements serving no more than 20 vehicles during the peak hour.
- Until the City adopts new performance measures that identify alternative mobility targets, the City exempts proposed development that is permitted, either conditionally, outright, or through a detailed development master plan approval from compliance with the above mobility standards for identified intersections, including the intersections of OR-99E at the I-205 eastbound and westbound ramp terminals.

According to the City of Oregon City's Downtown Community Plan, the Regional Center encompasses all of the study intersections operating under City jurisdiction, except for Clackamas River Drive at Washington Street. Clackamas River Drive is, however, designated on the Arterial and Throughway Network.

The I-205 southbound ramps intersection at OR-99E is projected to operate with a v/c ratio of 1.02 during the morning peak hour and a v/c ratio of 0.98 during the evening peak hour under year 2022 background conditions. With the addition of site trips from the proposed development, the

intersection is projected to continue to operate with a v/c ratio of 1.02 during the morning peak and the v/c ratio is projected to increase to 0.99 during the evening peak hour.

The I-205 northbound ramps intersection at OR-99E is projected to operate with a v/c ratio of 0.90 during the morning peak hour and a v/c ratio of 0.81 during the evening peak hour under year 2022 background traffic conditions. With the addition of site trips from the proposed development, the intersection is projected to operate with a v/c ratio of 0.91 during the morning peak hour and 0.81 during the evening peak hour.

Under year 2022 background conditions the intersection of 15th Street at OR-99E is projected to operate with a v/c ratio of 0.85 during the morning peak hour and 0.71 during the evening peak hour. With the addition of site trips from the proposed development the intersection is projected to operate with a v/c ratio of 0.95 during the morning peak hour and 0.71 during the evening peak hour.

The intersection of 14th Street at OR-99E operates with a v/c ratio of 0.96 or less during the morning peak hour and 0.85 or less during the evening peak hour for all analysis scenarios.

The intersection of 14th Street at Main Street currently operates at LOS C with v/c ratios of 0.20 during the morning peak hour and 0.26 during the evening peak hour. Under year 2022 background conditions, the intersection is projected to operate at LOS E with a v/c ratio of 0.29 or less during the morning peak hour and at LOS E with a v/c ratio of 0.32 or less during the evening peak hour, regardless the addition of proposed development trips.

The intersection of 7th Street at Washington Street operates at LOS C with v/c ratios or 0.72 or less during the morning peak hour and 0.75 or less during the evening peak hour for all analysis scenarios.

The intersection of 14th Street at Washington Street is projected to operate at LOS C with v/c ratios of 0.86 or less during the morning peak hour and 0.89 or less during the evening peak hour through year 2022 background conditions. Upon build-out of the proposed development, the intersection is projected to operate at LOS D with v/c ratios of 0.90 during the morning peak hour and 0.95 during the evening peak hour.

The intersection of 15th Street at Washington Street operates at LOS B with v/c ratios of 0.79 or less during the morning peak hour and 0.64 or less during the evening peak hour for all analysis scenarios.

The intersection of Abernethy Road at Washington Street operates at LOS B with a v/c ratio of 0.82 or less during the morning peak hour and at LOS A with a v/c ratio of 0.55 or less during the evening peak hour for all analysis scenarios.

Upon build-out of the proposed development, the proposed site access intersection at Washington Street is projected to operate at LOS B with v/c ratios of 0.32 during the morning peak hour and 0.31 during the evening peak hour.

The Amtrak station access intersection at Washington Street currently operates at LOS B with a v/c ratio of 0.25 during both the morning and evening peak hours. Under year 2022 background

conditions, the intersection is projected to operate at LOS C with v/c ratios of 0.28 or less during the morning peak hour and 0.30 or less during the evening peak hour, regardless the addition of proposed development trips.

The intersection of Prairie Schooner Way at Washington Street operates at LOS A with a v/c ratio of 0.39 or less during the morning peak hour and at LOS B with a v/c ratio of 0.46 or less during the evening peak hour for all analysis scenarios.

The intersection of Clackamas River Drive at Washington Street operates at LOS B with v/c ratios of 0.62 or less during the morning peak hour and at level of service A with v/c ratios of 0.44 or less during the evening peak hour for all analysis scenarios.

The intersection of OR-213 at Clackamas River Drive operates at LOS B with v/c ratios of 0.84 or less during the morning peak hour and 0.90 or less during the evening peak hour for all analysis scenarios.

The v/c, delay, and LOS results of the capacity analysis are shown in Tables 3 and 4 for the morning and evening peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Based on the results of the operational analysis, all intersections are projected to operate acceptably per Oregon City standards through year 2022 either with or without the addition of site trips from the proposed development.

The intersections operating under ODOT jurisdiction are also projected to meet ODOT's respective performance standards, with the exception of OR 99-E at the I-205 ramp terminals. However, these intersections are specifically exempted from operational standards pursuant to OCMC 12.04.205(D).

Table 3 - Capacity Analysis Summary						
	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay	V/C	In	Out	Total
1. I-205 SB Ramps at OR-99E						
Existing Conditions	D	40	0.95	C	28	0.91
2022 Background Conditions	D	52	1.02	D	36	0.98
2022 Background plus Site Conditions	D	53	1.02	D	37	0.99
2. I-205 NB Ramps at OR-99E						
Existing Conditions	C	21	0.78	B	17	0.71
2022 Background Conditions	C	27	0.90	B	20	0.81
2022 Background plus Site Conditions	C	27	0.91	B	20	0.81
3. 15th St at OR-99E						
Existing Conditions	D	32	0.82	C	21	0.68
2022 Background Conditions	E	42	0.85	C	24	0.71
2022 Background plus Site Conditions	F	76	0.96	D	26	0.71
4. 14th St at OR-99E						
Existing Conditions	C	23	0.90	B	15	0.80
2022 Background Conditions	C	27	0.96	B	17	0.83
2022 Background plus Site Conditions	C	28	0.96	B	18	0.85
5. 14th St at Main St						
Existing Conditions	D	35	0.20	D	30	0.26
2022 Background Conditions	E	46	0.28	E	39	0.30
2022 Background plus Site Conditions	E	49	0.29	E	41	0.32
6. 7th St at Washington St						
Existing Conditions	C	20	0.65	C	21	0.68
2022 Background Conditions	C	22	0.71	C	24	0.74
2022 Background plus Site Conditions	C	23	0.72	C	24	0.75
7. 14th St at Washington St						
Existing Conditions	C	25	0.78	C	26	0.80
2022 Background Conditions	C	31	0.86	C	34	0.89
2022 Background plus Site Conditions	D	36	0.90	D	38	0.95
8. 15th St at Washington St						
Existing Conditions	B	11	0.66	B	11	0.58
2022 Background Conditions	B	11	0.70	B	13	0.62
2022 Background plus Site Conditions	B	17	0.79	B	14	0.64
9. Abernethy Rd at Washington St						
Existing Conditions	B	13	0.70	A	7	0.49
2022 Background Conditions	B	16	0.76	A	8	0.53
2022 Background plus Site Conditions	B	18	0.82	A	8	0.55

Table 4 - Capacity Analysis Summary (Continued)						
	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay	V/C	In	Out	Total
10. Site Access at Washington St						
2022 Background plus Site Conditions	B	15	0.32	B	15	0.31
11. Amtrak Station Access at Washington St						
Existing Conditions	B	15	0.25	B	14	0.25
2022 Background Conditions	C	16	0.27	C	15	0.28
2022 Background plus Site Conditions	C	23	0.29	C	18	0.30
12. Prairie Schooner Way at Washington St						
Existing Conditions	A	9	0.33	B	10	0.38
2022 Background Conditions	A	9	0.36	B	11	0.43
2022 Background plus Site Conditions	A	10	0.39	B	11	0.46
13. Clackamas River Dr at Washington St						
Existing Conditions	B	11	0.55	A	8	0.39
2022 Background Conditions	B	12	0.62	A	9	0.43
2022 Background plus Site Conditions	B	13	0.62	A	9	0.44
14. OR-213 at Clackamas River Dr						
Existing Conditions	B	10	0.77	B	11	0.84
2022 Background Conditions	B	12	0.83	B	14	0.89
2022 Background plus Site Conditions	B	12	0.84	B	14	0.90

Although not recommended in conjunction with the proposed development, it should be noted that according to Oregon City's Transportation System Plan (TSP), there is an identified project which would improve intersection operation at the intersection of OR-99E and the I-205 southbound ramps. The proposed improvement consists of installation of a second southbound left-turn lane, as well as providing a second eastbound receiving lane to accommodate the added turn lane. With installation of the additional turn lane, the intersection would be projected to operate with v/c ratios below 0.85 during the morning and evening peak hours either with or without the addition of site trips from the proposed development.

SAFETY ANALYSIS

CRASH DATA ANALYSIS

Using data obtained from the ODOT's Crash Analysis and Reporting Unit, a review of the most recent available five years of crash history (from January 2011 to December 2015) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak period represents 10 percent of average daily traffic (ADT) at the intersection. Crash rates in excess of one to two crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

I-205 Southbound Ramps Intersection at OR-99E

The I-205 southbound ramps intersection at OR-99E had 47 reported crashes during the analysis period. The crashes consisted of 25 rear-end collisions, 19 turning-movement collisions, one fixed-object collision, one collision involving a pedestrian, and one collision involving a bicyclist. Of the crashes reported, 20 were classified as "Property Damage Only" (*PDO*), 20 were classified as "Possible Injury – Complaint of Pain" (*Injury C*), six were classified as "Non-Incapacitating Injury" (*Injury B*), and one was classified as "Incapacitating Injury – Bleeding, Broken Bones" (*Injury A*). The crash rate at the intersection was calculated to be 0.55 CMEV.

Three of the reported crashes at the intersection involved a pedestrian, bicyclist, or was classified as an *Injury A* collision. The crash involving a pedestrian occurred when the driver of a westbound right-turning passenger car failed to yield right-of-way to a pedestrian who was utilizing some form of conveyance other than walking while in an intersection crosswalk. The driver of the vehicle had conducted a right-turn after coming to a stop at the intersection. The pedestrian sustained injuries consistent with *Injury B* classification while the driver of the vehicles was uninjured. The crash involving a bicyclist occurred when the driver of a westbound right-turning passenger car struck a southbound bicyclist who was traveling on the roadway shoulder against the flow of traffic. The bicyclist had disregarded the traffic signal and had entered the intersection illegally. The bicyclist sustained injuries consistent with *Injury B* classification while the driver of the vehicle was uninjured. The crash which resulted in injuries consistent with *Injury A* classification occurred when the driver of a northbound passenger car disregarded the traffic signal and collided with a westbound left-turning passenger car. The driver of the northbound vehicle sustained injuries while the other driver was uninjured.

I-205 Northbound Ramps Intersection at OR-99E

The I-205 northbound ramps intersection at OR-99E had 42 reported crashes during the analysis period. The crashes consisted of 28 rear-end collisions and 14 turning-movement collisions. Of the crashes reported, 23 were classified as *PDO*, 17 were classified as *Injury C*, one was classified as *Injury B*, and one was classified as *Injury A*. The crash rate at the intersection was calculated to be 0.48 CMEV.

One of the reported crashes at intersection was classified as an *Injury A* collision. The crash occurred when the driver of a westbound right-turning vehicle was following too close and rear-ended another passenger car that had stopped at the intersection. The driver of the vehicle that was rear-ended sustained injuries while the other driver was uninjured.

15th Street at OR-99E

The intersection of 15th Street at OR-99E had 20 reported crashes during the analysis period. The crashes consisted of 14 rear-end collisions, five turning-movement collisions, and one collision involving a bicyclist. Of the crashes reported, six were classified as *PDO*, 12 were classified as *Injury C*, one was classified as *Injury B*, and one was classified as *Injury A*. The crash rate at the intersection was calculated to be 0.27 CMEV.

One of the reported crashes at the intersection was classified as an *Injury A* collision. The crash occurred when the driver of a northwest-bound right-turning passenger car failed to yield right-of-way to a bicyclist crossing through the intersection. The driver of the passenger car had proceeded through the intersection after stopping, however had their vision obscured by some roadside obstruction. The bicyclist sustained injuries while the driver of the vehicle was uninjured.

14th Street at OR-99E

The intersection of 14th Street at OR-99E had 49 reported crashes during the analysis period. The crashes consisted of 24 turning-movement collisions, 23 rear-end collisions, and two collisions involving bicyclists. Of the crashes reported, 15 were classified as *PDO*, 25 were classified as *Injury C*, and nine were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.68 CMEV.

Two of the reported crashes at the intersection involved a bicyclist. One of the bicycle related crashes occurred when the driver of a southwest-bound left-turning passenger car was struck by a bicyclist who disregarded the traffic signal and had entered the intersection illegally. The driver of the vehicle was uninjured while the bicyclist sustained injuries consistent with *Injury B* classification. The second bicycle related crash occurred when the driver of a northeast-bound right-turning passenger car failed to yield right-of-way to a bicyclist. The driver of the vehicle was uninjured while the bicyclist sustained injuries consistent with *Injury B* classification.

14th Street at Main Street

The intersection of 14th Street at Main Street had 30 reported crashes during the analysis period. The crashes consisted of 21 angle-type collisions, six turning-movement collisions, two collisions involving bicyclists, and one collision involving a pedestrian. Of the crashes reported, 15 were

classified as *PDO*, 11 were classified as *Injury C*, and four were classified as *Injury B*. The crash rate at the intersection was calculated to be 1.46 CMEV.

Based on the calculated crash rate being in excess of one crash per million entering vehicles, additional investigation regarding the safety of the intersection is appropriate. It was noted that Oregon City's Transportation System Plan includes a recommendation to convert this intersection to all-way stop control as mitigation for the high incidence of crashes at the intersection. The intersection crash history shows five or more crashes per year that are susceptible to correction by installation of all-way stop control for each of the three most recent years analyzed (2013, 2014 and 2015). Accordingly, all-way stop control is both warranted and recommended based on the crash history. No other specific safety mitigations are recommended based on the crash history. A more detailed discussion of this potential safety mitigation including operational and queuing impacts is provided on page 40.

7th Street at Washington Street

The intersection of 7th Street at Washington Street had nine reported crashes during the analysis period. The crashes consisted of four angle-type collisions, four turning-movement collisions, and one rear-end collision. Of the crashes reported, five were classified as *PDO* and four were classified as *Injury C*. The crash rate at the intersection was calculated to be 0.25 CMEV.

14th Street at Washington Street

The intersection of 14th at Washington Street had nine reported crashes during the analysis period. The crashes consisted of four turning-movement collisions, three rear-end collisions, one fixed-object collision, and one angle-type collision. Of the crashes reported, four were classified as *PDO* and five were classified as *Injury C*. The crash rate at the intersection was calculated to be 0.32 CMEV.

15th Street at Washington Street

The intersection of 15th Street at Washington Street had 20 reported crashes during the analysis period. The crashes consisted of ten turning-movement collisions, six angle-type collisions, three rear-end collisions, and one collision involving a bicyclist. Of the crashes reported, nine were classified as *PDO*, nine were classified as *Injury C*, and two were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.80 CMEV.

One of the reported crashes at the intersection involved a bicyclist. The crash occurred when the driver of a southeast-bound left-turning passenger car failed to yield right-of-way to a bicyclist. The driver of the passenger car had their vision obscured by some roadside obstruction. The bicyclist sustained injuries consistent with *Injury C* classification while the driver of the vehicle was uninjured.

Abernethy Road at Washington Street

The intersection of Abernethy Road at Washington Street had no reported crashes during the analysis period.

Amtrak Station Access at Washington Street

The Amtrak station access intersection at Washington Street had no reported crashes during the analysis period.

Prairie Schooner Way at Washington Street

The intersection of Prairie Schooner Way at Washington Street had three reported crashes during the analysis period. All three crashes were turning-movement collisions, two of which were classified as *PDO* while one was classified as *Injury B*. Since the intersection was recently constructed near the end of year 2012, the crash rate was calculated to be 0.23 CMEV based on three years of complete crash history.

Clackamas River Drive at Washington Street

The intersection of Clackamas River Drive at Washington Street had two reported crashes during the analysis period. One of the crashes was a rear-end collision while the other was a turning-movement collision. Both crashes were classified as *PDO*. Since the intersection was recently constructed near the end of year 2012, the crash rate was calculated to be 0.17 CMEV based on three years of complete crash history.

OR-213 at Clackamas River Drive

The intersection of OR-213 at Clackamas River Drive was recently reconstructed near the end of year 2012. Prior to reconstruction, the intersection allowed full turning-movements for all approaches. Currently, the intersection allows only right-in/right-out movements for the minor-street approaches while bi-directional traffic along the major-street is separated by a raised median.

Since significant changes to traffic controls had occurred at the intersection, it's reasonable to assume that crash patterns have also significantly changed. Prior to reconstruction of the intersection, over a duration of two years (between 2011 and 2012) a total of 19 crashes were reported at the intersection. After construction was completed, over a duration of three years (between 2013 and 2015) a total of 15 crashes were reported. Based on this information, on average 9.5 crashes per year had occurred at the intersection prior to reconstruction while 5.0 crashes per year had occurred after construction had ended. In order to more accurately assess safety at the intersection, only three years of crash data between years 2013 and 2015 was reviewed instead of five years.

Based on the three years of crash history, the intersection had 15 reported crashes during the analysis period. The crashes consisted of eight rear-end collisions, two turning-movement collisions, two overturning collisions, one angle-type collision, one fixed-object collision, and one sideswipe collision. Of the crashes reported, four were classified as *PDO*, eight were classified as *Injury C*, and three were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.22 CMEV.

Based on the detailed crash data for the study intersections, it is recommended that the intersection of 14th Street at Main Street be converted to all-way stop control. No other specific mitigations are recommended for the study area intersections based on the crash history.

SIGHT DISTANCE

Sight distance was examined for the proposed site access intersection along Washington Street. The proposed access will be located at/near the existing driveway access that currently serves tax lot 1300 of the project site. Intersection sight distance was measured and evaluated in accordance with the standards established in *A Policy on Geometric Design of Highways and Streets*[2]. According to AASHTO, the driver's eye is assumed to be 15 feet from the near edge of the nearest travel lane of the intersecting street and at a height of 3.5 feet above the approach street pavement. The major-street approaching vehicle driver's eye-height is assumed to be 3.5 feet above the cross-street pavement.

The posted speed along Washington Street changes between 25 mph and 35 mph at the proposed access location; 25 mph to the southwest of the proposed access and 35 mph to the northeast. Based on the posted speeds along Washington Street, the minimum required intersection sight distances for maintaining relatively uninterrupted traffic flow along the roadway are 280 feet for northeast-bound approaching vehicles and 390 for southwest-bound approach vehicles. At the proposed site access, intersection sight distance was measured to be in excess of 700 feet to the northeast and 378 feet to the southwest, limited by a crest in the vertical curvature of the roadway.

Based on the detailed analysis, adequate sight distance is available for the proposed site access intersection. No sight distance mitigation is necessary or recommended.

WARRANT ANALYSIS

Left-turn lane and traffic signal warrants were examined for the study intersections where such treatments would be applicable.

A left-turn refuge lane is primarily a safety consideration for the major street, removing left-turning vehicles from the through traffic stream. The left-turn lane warrants used were developed from the National Cooperative Highway Research Project's (NCHRP) Report 457. Turn lane warrants were evaluated based on the number of advancing and opposing vehicles as well as the number of turning vehicles, the travel speed, and the number of through lanes.

Left-turn lane warrants are project to be met for the following two intersection approaches:

- Northeast-bound approach at the intersection of 14th Street at Main Street under existing conditions during the morning and evening peak hours.
- Northwest-bound approach at the site access intersection at Washington Street under year 2022 build-out conditions during the morning peak hour.

The intersection of 14th Street at Main Street is included within Oregon City's TSP and is planned for conversion to all-way stop control in the short-term. Typically, conversion of an intersection to all-way stop control means that the left-turn lane warrants are no longer applicable. However, based on

[2] American Association of State Highways and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 6th Edition, 2011.

the operational analysis of intersection operation under all-way stop control it is recommended that a northwest-bound left-turn lane be provided at the intersection even under all-way stop control in order to ensure that all approaches will continue to operate within capacity.

Traffic signal warrants were examined for unsignalized stop-controlled study intersections to determine whether the installation of any new traffic signal will be warranted at the intersections upon completion of the proposed development and change in zoning. Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met for any of the unsignalized stop-controlled study intersections under any of the analysis scenarios.

CIRCULATION AND CONNECTIVITY ANALYSIS

The proposed development is immediately adjacent to Washington Street, which provides connections to the greater street network for motor vehicles, pedestrians and bicycles.

Motor vehicle connectivity was described in detail in the description of the study area as well as the operational analysis provided for study area intersections. The proposed development site has adequate safe access for motor vehicle transportation modes.

Continuous sidewalks are provided along the east side of Washington Street in the site vicinity while intermittent sidewalks are available along the west side. It is anticipated that continuous sidewalks will be provided along the site frontage concurrent with development of the site. Sidewalks are also provided along both sides of most other roadways in the site vicinity.

Washington Street has continuous bike lanes in place on both sides of the roadway. Abernethy Road also has bike lanes in both directions southeast of the subject property. In addition to these major streets, local streets in the immediate site vicinity generally carry motorized traffic at speeds and volumes that allow bicycles to safely share the roadway.

In addition to the typical transportation modes described above, it should be noted that the subject property is also immediately adjacent to the Oregon City Amtrak station, which provides connectivity by rail to Salem, Albany, Eugene and beyond to the south, and to Portland, Vancouver, Kelso/Longview, Tacoma, Seattle and more to the north.

Within the subject property, motor vehicle speeds and volumes are projected to be low. Sidewalks and crosswalks will be provided internal to the site for access to the proposed buildings both from the adjacent street sidewalks and from the parking areas within the site. The proposed site plan adequately accommodates the circulation of pedestrians, bicycles and motor vehicles within the site.

Based on the analysis of connectivity and circulation for all modes, the surrounding transportation infrastructure is adequate for safe travel for pedestrians, bicycles, and motor vehicles.

ACCESS SPACING STANDARDS

The proposed development will either construct a new access near or utilize an existing access driveway, which currently serves tax lot 1300 of the project site, located along Washington Street. In

order to assess whether access spacing standards can be met at the proposed access location, code section 12.04.195 – *Spacing Standards* from Oregon City's municipal code was referenced.

According to Table 12.04.195.B – *Minimum Driveway Spacing Standards*, the *"minimum distance from a street corner to a driveway of all uses and minimum distance between driveways for uses other than single and two-family dwellings"* along Minor Arterial roadways shall be 175 feet. The nearest driveways/public roadways to the project site along northwestern side of Washington Street are the Amtrak station access immediately to the northeast and an automotive repair shop's driveway approximately 75 feet to the southwest. The project site has approximately 520 feet of frontage along Washington Street, 245 feet of which could have a site access built while satisfying City access spacing standards. Therefore, a proposed site access may be constructed along Washington Street while meeting Oregon City standards.

MITIGATION ANALYSIS

Although the operational analysis did not demonstrate the need for any operational mitigation in order to meet city standards, the high historical crash rate for the intersection of 14th Street at Main Street is indicative of the need for safety mitigation.

In conformance with the city's Transportation System Plan, the intersection was identified as a candidate location for conversion to all-way stop control. Providing all-way stop control would be expected to reduce the frequency of the reported crash types. However, introduction of stop signs along 14th Street could also result in increased queue lengths. Given the short distance between Main Street and OR-99E along 14th Street, special consideration of the potential capacity and queuing impacts of all-way stop control is appropriate at this location.

Based on the operational analysis, conversion to all-way stop control absent other improvements would be projected to result in eastbound queues on 14th Street backing up onto OR-99E. Installation of eastbound and westbound left-turn lanes along 14th Street at Main Street was also determined to be insufficient to mitigate queueing and capacity concerns along the 14th Street corridor with stop control at Main Street.

In order to improve operation and reduce queue lengths, two additional improvements are recommended in conjunction with conversion to all-way stop control. The first is to convert the eastbound and westbound approaches on 14th Street at Main Street to each have a shared left/through lane and a shared through/right lane. This lane configuration provides two eastbound lanes in which through traffic can queue, significantly increasing the available eastbound queue storage between Main Street and OR-99E. With two receiving lanes, the eastbound storage is sufficient to accommodate platoons of vehicles making southbound left turns from OR-99E onto 14th Street. This improvement thus ensures that acceptable operation can be maintained during the evening peak hour, when eastbound volumes are highest on 14th Street.

The second improvement addresses operation during the morning peak hour. Even with two westbound lanes provided along 14th Street, long queues would be projected to develop in the right lane since most eastbound drivers turn right onto OR-99E. Introduction of all-way stop control would limit the number of vehicles that could enter OR-99E during the green indication, since

vehicles that currently could be served may be stuck at the stop sign at Main Street. In order to balance traffic volumes between the two eastbound lanes and maximize the number of vehicles that can enter OR-99E during each green indication, it is recommended that the westbound approach on 14th Street to OR-99E be converted to have a shared left/right turn lane and a dedicated right turn lane.

A Synchro/SimTraffic analysis was conducted for the proposed improvements, including conversion to all-way stop control for safety as well as reconfiguration of the intersection approaches on 14th Street as described.

Based on the operational analysis, the intersection of Highway 99E at 14th Street is projected to operate at level of service C and with a v/c ratio of 0.94 during the morning peak hour under year 2022 traffic conditions with the addition of site trips from the proposed development and the proposed safety, queuing, and capacity improvements in place. During the evening peak hour, the intersection is projected to operate at level of service C with a v/c ratio of 0.91.

Under year 2022 traffic conditions with the addition of site trips from the proposed development and the proposed safety, capacity and queuing improvements in place, the intersection of 14th Street at Main Street is projected to operate at level of service C during the morning peak hour, with a v/c ratio of 0.72 for the critical approach. During the evening peak hour, the intersection is projected to operate at level of service C, with a v/c ratio of 0.54 for the critical movement. Notably, the v/c ratio for the eastbound 14th Street approaches is projected to be less than 0.50 during both the morning and evening peak hours.

Based on the queuing analysis, the average queue length projected on the eastbound 14th Street approach to Main Street was projected to be 70 feet during the morning peak hour and 84 feet during the evening peak hour. Observation of the queueing simulation showed that although the available queue storage eastbound often filled, the queues immediately clear following each cycle of the traffic signal at OR-99E, and the queues of southbound vehicles turning left from OR-99E onto 14th Street also clear regularly. Additionally, although westbound queues develop during the morning peak hour on 14th Street approaching Main Street, the queues do not extend to Washington Street and result in congestion on the local street network.

Based on the analysis, installation of all-way stop control can be recommended as a safety mitigation for the intersection of 14th Street at Main Street provided that the eastbound and westbound approaches on 14th Street approached Main Street are converted to each have a shared left/through lane and a shared through/right lane, and the westbound 14th Street approach to OR-99E is converted to have a shared left/right lane and a dedicated right-turn lane at the signal.

It should also be noted as an alternative to the above-recommended improvements that the city's Transportation System Plan also includes an alternative improvement consisting of conversion of 14th Street to one-way eastbound from OR-99E to John Adams Street and conversion of 15th Street to one-way westbound from Washington Street to OR-99E. This option would result in more significant changes to trip routing within the study area. It would also likely necessitate installation of a new traffic signal at the intersection of Highway 99E and 15th Street, since this would become the intersection that accommodates westbound left-turns onto OR-99E. Although this alternative

improvement can be considered by the city and ODOT, the associated impacts and costs are well beyond what can reasonably be expected as mitigation for development of the subject property.

PROPORTIONALITY ANALYSIS

In order to determine the relative impacts of the proposed development at locations requiring mitigation, a proportionality analysis was prepared. Generally, any requested mitigation must have a logical connection or "nexus" to the proposed development, and the requested mitigation must be roughly proportional to the impacts of the proposed development.

For this project, two primary mitigations were recommended based on the safety analysis. These consist of installation of a northbound left-turn lane at the site access and a collection of improvements near the intersection of 14th Street and Main Street to improve safety while maintaining acceptable operation of the impacted intersections.

The northbound left-turn lane recommended at the site access serves site traffic and is located along the site frontage. Accordingly, there is a logical nexus between the proposed development and the safety mitigation. Since the access will serve exclusively site traffic, it is reasonable to request that the improvement be funded by the proposed development.

The improvements intended to address existing safety concerns at the intersection of 14th Street and Main Street are not directly contiguous to the site, and the proposed development is not causing the safety problem since it is occurring under existing conditions. However, the site will add trips through the intersection. Accordingly, there is also a logical nexus between this improvement need and the proposed development.

In order to assess the proportionate impacts of the proposed development on the intersection, traffic volumes were considered for existing and year 2022 conditions. These volumes were compared to the projected number of site trips added to the intersection under Phase 1 development of the 99-room hotel as well as at full site build-out. Currently, the intersection accommodates 1,062 entering vehicles during the morning peak hour and 1,123 entering vehicles during the evening peak hour. Under year 2022 background plus site trips conditions, the intersection is projected to accommodate 1,196 entering vehicles during the morning peak hour and 1,265 entering vehicles during the evening peak hour.

Based on the site trip generation and distribution, Phase 1 of the proposed development would be projected to add 8 site trips to the intersection during the morning peak hour and 10 site trips during the evening peak hour. At full site build-out, the development is projected to add 23 trips to the intersection during the morning peak hour and 26 trips during the evening peak hour in total.

The added trips from Phase 1 are projected to represent less than one percent of the traffic passing through the intersection under year 2022 conditions, and the total impact from Phases 1 and 2 is projected to represent two percent of the traffic passing through the intersection.

Often, proportionality analysis is conducted not based on the total intersection volumes as compared to the site traffic volumes, but instead on the portion of the projected traffic increase that is

attributable to the proposed development. In this case, it is probably not appropriate to assess relative impacts in this manner, since the historical safety problem is entirely attributable to existing traffic rather than the projected traffic increases. Nevertheless, if the proportionality analysis were conducted based on only the projected increase in trips, the proposed development would represent 6% of the increase during the morning peak hour and 7% of the increase during the evening peak hour for Phase 1. The cumulative impact of Phases 1 and 2 would represent 17% of the increased traffic volumes during the morning peak hour and 18% of the increase during the evening peak hour.

Based on this analysis, it is reasonable to conclude that the proposed development should not be solely responsible for the costs associated with the recommended safety improvements for the intersection of 14th Street at Main Street. If the city desires to require mitigation from the proposed development, it may therefore be appropriate to request a proportionate share payment based on the impacts of the proposed development rather than requesting construction of the recommended improvements.

CONCLUSIONS

Based on the operational analysis, all study area intersections are projected to operate acceptably per Oregon City code standards through 2022 either with or without the addition of site trips from the proposed development.

Based on the crash analysis, the intersection of 14th Street at Main Street was identified as having a high crash rate. It is recommended that the intersection be converted to all-way stop control to address this safety concern. It is recommended that concurrent with conversion to all-way stop control the eastbound and westbound approaches on 14th Street be converted to have a shared left/through lane and a shared through/right lane. Additionally, it is recommended that the westbound approach to Highway 99E be converted to have a shared left/right turn lane and a dedicated right-turn lane. With these improvements in place, it is anticipated that the safety of the intersection will be improved while maintaining acceptable operation of the affected intersections.

It should be noted that the city's Transportation System Plan includes an alternative improvement that could address safety concerns at the intersection of 14th Street and Main Street, consisting of conversion of 14th Street to one-way eastbound from OR-99E to John Adams Street and conversion of 15th Street to one-way westbound from Washington Street to OR-99E. This alternative treatment would likely necessitate installation of a new traffic signal for the intersection of Highway 99E at 15th Street.

Intersection sight distance is adequate at the site access intersections. No sight distance mitigation is recommended.

Based on the left-turn lane warrant analysis, installation of a northbound left-turn lane on Washington Street at the site access is recommended for safe operation of the new site access.

Since the westbound 14th Street approach to Main Street currently meets left-turn lane warrants, it is recommended that a northwest-bound left-turn lane be provided even if the intersection is not converted to all-way stop control.

Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met for any of the unsignalized stop-controlled study intersections under any of the analysis scenarios.

The proposed site access intersection at Washington Street can be constructed to meet the minimum access spacing standards required by the Oregon City Municipal Code.

Based on the proportionality analysis, it was determined that a requirement to construct a left-turn lane serving the site access would be proportionate to the impacts of the proposed development. However, a requirement for construction of safety improvements at the intersection of 14th Street and Main Street would not proportionate to the impacts of the development. If the city desires to require mitigation from the proposed development, it may therefore be appropriate to request a proportionate share payment based on the impacts of the proposed development rather than requesting construction of the recommended improvements.

ABERNETHY PLACE MIXED-USE DEVELOPMENT
TRAFFIC IMPACT STUDY

OREGON CITY, OREGON

4/18/17

REGISTERED PROFESSIONAL ENGINEER
54983PE
OREGON
JULY 10, 2002
MICHAEL T. ARD

EXPIRES: 12/31/17

DATE:
April 18, 2017

PREPARED FOR:
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EXECUTIVE SUMMARY

1. The proposed Abernethy Place Mixed-Use Development will include the construction a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop located at 1737 Washington Street in Oregon City, Oregon.

2. The trip generation calculations show that the proposed development is projected to generate a net new total of 159 site trips during the morning peak hour and 151 site trips during the evening peak hour.

3. Based on the operational analysis, all study area intersections are projected to operate acceptably per Oregon City code standards through 2022 either with or without the addition of site trips from the proposed development.

4. Based on the crash analysis, the intersection of 14th Street at Main Street was identified as having a high crash rate. It is recommended that the intersection be converted to all-way stop control to address this safety concern. It is recommended that concurrent with conversion to all-way stop control the eastbound and westbound approaches on 14th Street be converted to have a shared left/through lane and a shared through/right lane. Additionally, it is recommended that the westbound approach to Highway 99E be converted to have a shared left/right turn lane and a dedicated right-turn lane. With these improvements in place, it is anticipated that the safety of the intersection will be improved while maintaining acceptable operation of the affected intersections.

5. It should be noted that the city's Transportation System Plan includes an alternative improvement that could address safety concerns at the intersection of 14th Street and Main Street, consisting of conversion of 14th Street to one-way eastbound from OR-99E to John Adams Street and conversion of 15th Street to one-way westbound from Washington Street to OR-99E. This alternative treatment would likely necessitate installation of a new traffic signal for the intersection of Highway 99E at 15th Street.

6. Intersection sight distance is adequate at the site access intersections. No sight distance mitigation is recommended.

7. Based on the left-turn lane warrant analysis, installation of a northbound left-turn lane on Washington Street at the site access is recommended in conjunction with development of Phase 2.

8. Since the westbound 14th Street approach to Main Street currently meets left-turn lane warrants, it is recommended that a northwest-bound left-turn lane be provided even if the intersection is not converted to all-way stop control.

9. Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met for any of the unsignalized stop-controlled study intersections under any of the analysis scenarios.

10. The proposed site access intersection at Washington Street can be constructed to meet the minimum access spacing standards required by the Oregon City Municipal Code.

11. Based on the proportionality analysis, it was determined that a requirement to construct a left-turn lane serving the site access would be proportionate to the impacts of the proposed development. However, a requirement for construction of safety improvements at the intersection of 14th Street and Main Street would not proportionate to the impacts of the development. If the city desires to require mitigation from the proposed development, it may therefore be appropriate to request a proportionate share payment based on the impacts of the proposed development rather than requesting construction of the recommended improvements.

PROJECT DESCRIPTION & LOCATION

INTRODUCTION

The proposed Abernethy Place Mixed-Use Development will include the construction a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop located at 1737 Washington Street in Oregon City, Oregon. The proposed development will take access to the nearby transportation system via three points of access: the intersections of Abernethy Road at Washington Street, a proposed site access driveway onto Washington Street, and a shared access driveway onto Washington Street at the existing Amtrak station entrance.

This report addresses the impacts of the proposed development on the nearby street system. Based on correspondence with City of Oregon City staff, the report conducts safety and capacity/level-of-service analyses at the following intersections:

1. Interstate 205 (I-205) southbound ramps at McLoughlin Boulevard (OR-99E);
2. I-205 northbound ramps at OR-99E;
3. 15th Street at OR-99E;
4. 14th Street at OR-99E;
5. 14th Street at Main Street;
6. 7th Street at Washington Street;
7. 14th Street at Washington Street;
8. 15th Street at Washington Street;
9. Abernethy Road at Washington Street;
10. Proposed site access at Washington Street;
11. Amtrak station access at Washington Street;
12. Prairie Schooner Way at Washington Street;
13. Clackamas River Drive at Washington Street; and
14. Trails End Highway (OR-213) at Clackamas River Drive.

The purpose of this study is to determine whether the transportation system in the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, safety analyses, and level-of-service calculations is included in the appendix to this report.

LOCATION DESCRIPTION

The project site is located northwest of Washington Street, north of 17th Street, and southeast of the Amtrak railroad tracks in Oregon City, Oregon. The subject site is located within a mixed-use area with the Oregon City Amtrak Rail Station to the northeast, the End of the Oregon Trail Interpretive Center to the southeast, a power substation and other industrial land-uses to the west, and a mix of smaller residential/commercial/industrial land-uses to the south.

The subject site includes seven tax lots; lots 601, 900, 1000, 1100, 1200, 1300, 1301; which encompass an approximate total of 4.1 acres. All seven lots are zoned as *Mixed Use Downtown*

(MUD) and are currently developed and utilized by several industrial and commercial service land-uses.

VICINITY STREETS

OR-99E is classified by the Oregon Department of Transportation (ODOT) as a Regional Highway south and a District Highway north of I-205 and by the City of Oregon City as a Major Arterial. The roadway has a varying cross-section of four to eight travel lanes and has a posted speed of 40 mph north and 30 mph south of 14th Street. On-street parking is permitted along both sides of the roadway at marked locations south of 14th Street. Curbs, sidewalks, and bicycle lanes are intermittently provided along both sides of the roadway.

Main Street is classified by the City of Oregon City as a Collector. The roadway has a two-lane cross-section with on-street parking permitted along both sides of the roadway south of 15th Street where either adequate roadway width is provided or spaces are marked. Bicycle lanes are provided along both sides of the roadway north while sharrows are marked within vehicle travel lanes south of 15th Street. Curbs and sidewalks are provided along both sides of the roadway south of 15th Street while only partially provided to the north.

Washington Street is classified by the City of Oregon City as a Minor Arterial north and a Local Street south of 5th Street. The roadway has a varying cross-section between two to six travel lanes and has a posted speed which varies between 25 mph and 35 mph within the study area. On-street parking is permitted along both sides of the roadway south of 11th Street while bicycle lanes are provided along both sides to the north. Curbs and sidewalks are provided along both sides of the roadway south and intermittently provided north of Abernethy Road.

OR-213 is classified by ODOT as a District Highway and by the City of Oregon City as an Expressway. The roadway has a varying cross-section between four to seven travel lanes and has a posted speed of 45 mph north and 55 mph south of Prairie Schooner Way. Bicycle lanes or shoulders are provided along both sides of the roadway. Curbs and sidewalks are intermittently provided along both sides of the roadway.

Clackamas River Drive is classified by the City of Oregon City as a Minor Arterial. The roadway has a two-lane cross-section north of the roundabout at Washington Street, and a four-lane cross-section to the south with two southbound travel lanes, a two-way left-turn lane, and a northbound travel lane. It has a posted speed of 40 mph north and 30 mph south of S Melinda Street. Bicycle lanes are provided along both sides of the roadway while curbs and sidewalks are intermittently provided.

Prairie Schooner Way is classified by the City of Oregon City as a Minor Arterial. The roadway has a five-lane cross-section, with two eastbound and three westbound travel lanes. Curbs and bicycle lanes are provided along both sides of the roadway.

Abernethy Road is classified by the City of Oregon City as a Minor Arterial. The roadway has a three-lane cross-section, with one travel lane and a center two-way left-turn lane, and has a posted speed of 35 mph. Bicycle lanes are provided along both sides of the roadway while curbs and sidewalks are intermittently provided along both sides.

15th Street is classified by the City of Oregon City as a Collector. The roadway has a two-lane cross-section and has a posted speed of 25 mph. On-street parking is permitted along both sides of the roadway east of Washington Street where adequate roadway width is available. Curbs and sidewalks are intermittently provided along both sides of the roadway.

14th Street is classified by the City of Oregon City as a Collector west and Local Street east of Washington Street. The roadway has a four-lane cross-section between OR-99E and Main Street, with two travel lanes in each direction, and a two-lane cross-section east of Main Street. On-street parking is permitted along both sides of the roadway east of Washington Street. Curbs and sidewalks are provided along both sides of the roadway.

7th Street is classified by the City of Oregon City as a Major Arterial. The roadway has a three-lane cross-section, with one travel lane in each direction and a center turn lane. On-street parking is permitted along the north side of the roadway between John Adams Street and John Quincy Adams Street. Curbs and sidewalks are provided along both sides of the roadway.

STUDY INTERSECTIONS

The I-205 southbound ramps intersection at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northbound approach has three through lanes and one channelized right-turn lane that operates under yield control. The southbound approach has three through lanes and one left-turn lane served by protected phasing. The westbound approach has two left-turn lanes and one right-turn lane served by permitted/overlapping phasing. One crosswalk is marked across the eastern intersection leg.

The I-205 northbound ramps intersection at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northbound approach has three through lanes and one right-turn lane served by permitted/overlapping phasing. The southbound approach has three through lanes and one left-turn lane served by protected phasing. The westbound approach has one left-turn lane and one channelized right-turn lane that operates under yield control. One crosswalk is marked across the eastern intersection leg.

The intersection of 15th Street at OR-99E is a three-legged intersection that is stop-controlled for the westbound approach of 15th Street. The northeast-bound approach has one through lane and one shared through/right-turn lane. The southwest-bound approach has three through lanes. The northwest-bound approach has one right-turn lane. One crosswalk is marked across the southeastern intersection leg.

The intersection of 14th Street at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one through lane and one shared through/right-turn lane. The southwest-bound approach has two through lanes and a left-turn lane served by flashing-yellow-arrow phasing. The northwest-bound approach of 14th Street has one left-turn lane and one right-turn lane served by permitted/overlapping phasing. Crosswalks are marked across all intersection legs.

The intersection of 14th Street at Main Street is a four-legged intersection that is two-way stop-controlled for the northeast-bound and southwest-bound approaches of Main Street. The northeast-bound approach has one shared left-turn/through lane and one right-turn lane. The southwest-bound and northwest-bound approaches each have one shared lane for all turning movements. The southeast-bound approach has one left-turn lane and one shared through/right-turn lane. Crosswalks are marked across all intersection legs.

The intersection of 7th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane and one shared through/right-turn lane. The northeast-bound and southwest-bound approaches operate under split phasing. The southeast-bound and northwest-bound approaches of 7th Street each have one through lane and one right-turn lane served by permitted/overlapping phasing. Left-turns from 7th Street onto Washington Street are prohibited. Crosswalks are marked across all intersection legs.

The intersection of 14th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane served by flashing-yellow-arrow phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound approach has one shared lane for all turning movements. The southeast-bound approach has one shared left-turn/through lane and one right-turn lane. Crosswalks are marked across all intersection legs.

The intersection of 15th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane served by flashing-yellow-arrow phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound and southeast-bound approaches each have one shared lane for all turning movements. Crosswalks are marked across all intersection legs.

The intersection of Abernethy Road at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one left-turn lane served by permitted phasing, one through lane, one right-turn lane, and a bicycle lane situated between the through and right-turn lanes. The south-westbound approach has one left-turn turn lane served by permitted phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound approach has one left-turn lane served by permitted phasing and one shared through/right-turn lane. The southeast-bound approach has one shared lane for all turning movements. Crosswalks are marked across all intersection legs.

The Amtrak station/End of the Oregon Trail Interpretive Center access intersection on Washington Street is a four-legged intersection that is two-way stop-controlled for the two driveway approaches. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound and southeast-bound approaches each have one shared lane for all turning movements. A crosswalk is marked across the southwestern intersection leg while sidewalks are in place across the northwestern and southeastern legs.

The intersection of Prairie Schooner Way at Washington Street is a three-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one through lane, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The southwest-bound approach has two through lanes, one left-turn lane served by flashing-yellow-arrow phasing, and a bicycle lane to the right of the outermost standard travel lane. The westbound approach of Prairie Schooner Way has two left-turn lanes, one right-turn lane served by permitted/overlapping phasing, and a bicycle lane to the right of the outermost standard travel lane. Crosswalks are marked across the northeastern and southeastern intersection legs.

The intersection of Clackamas River Drive at Washington Street is a three-legged round-about intersection. The northeast-bound approach of Washington Street has one shared through/U-turn lane and one free-flowing channelized right-turn lane. The southwest-bound approach has one shared left-turn/through/U-turn lane. The northwest-bound approach has one shared left-turn/right-turn/U-turn lane. Crosswalks are marked across all intersection legs.

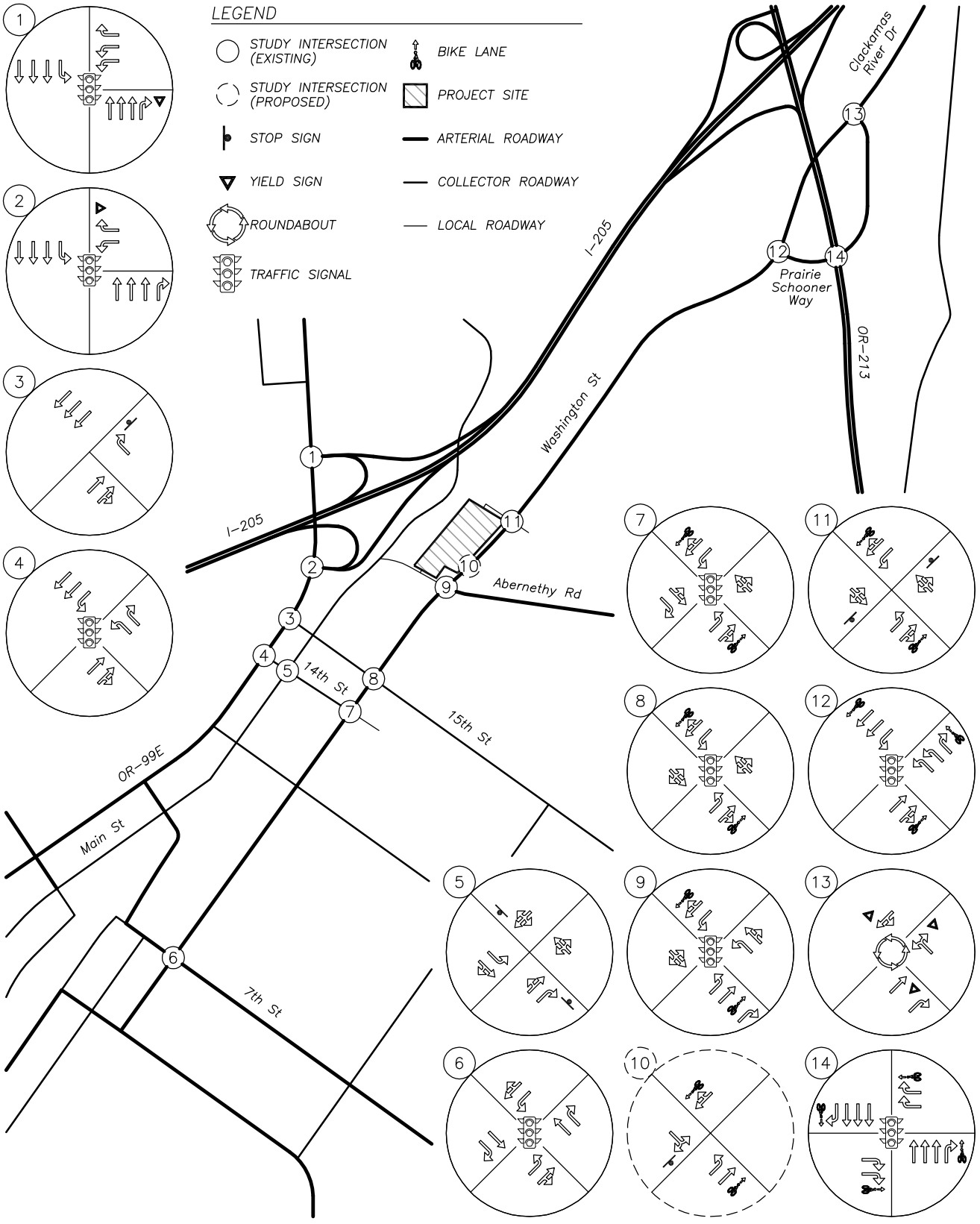
The intersection of OR-213 at Clackamas River Drive is a four-legged intersection that is controlled by a traffic signal. The northbound and southbound approaches of OR-213 each have three through lanes, one channelized right-turn lane that operates without stop/yield/signal controls, and a bicycle lane to the right of the outermost standard travel lane. The eastbound and westbound approaches of Prairie Schooner Way and Clackamas River Drive, respectively, each have two right-turn lanes and a bicycle lane to the right of the outermost standard travel lane. Crosswalks are marked across the eastern and western intersection legs.

A vicinity map displaying the project site, vicinity streets, and the study intersections with their associated lane configurations is shown in Figure 1 on page 10.

TRAFFIC COUNTS

Traffic counts were conducted at the study intersections on Thursday January 26th, 2017 from 7:00 AM to 9:00 AM and on Wednesday, January 25th, 2017 from 4:00 PM to 6:00 PM. Data was used from each intersection's respective morning and evening peak hours.

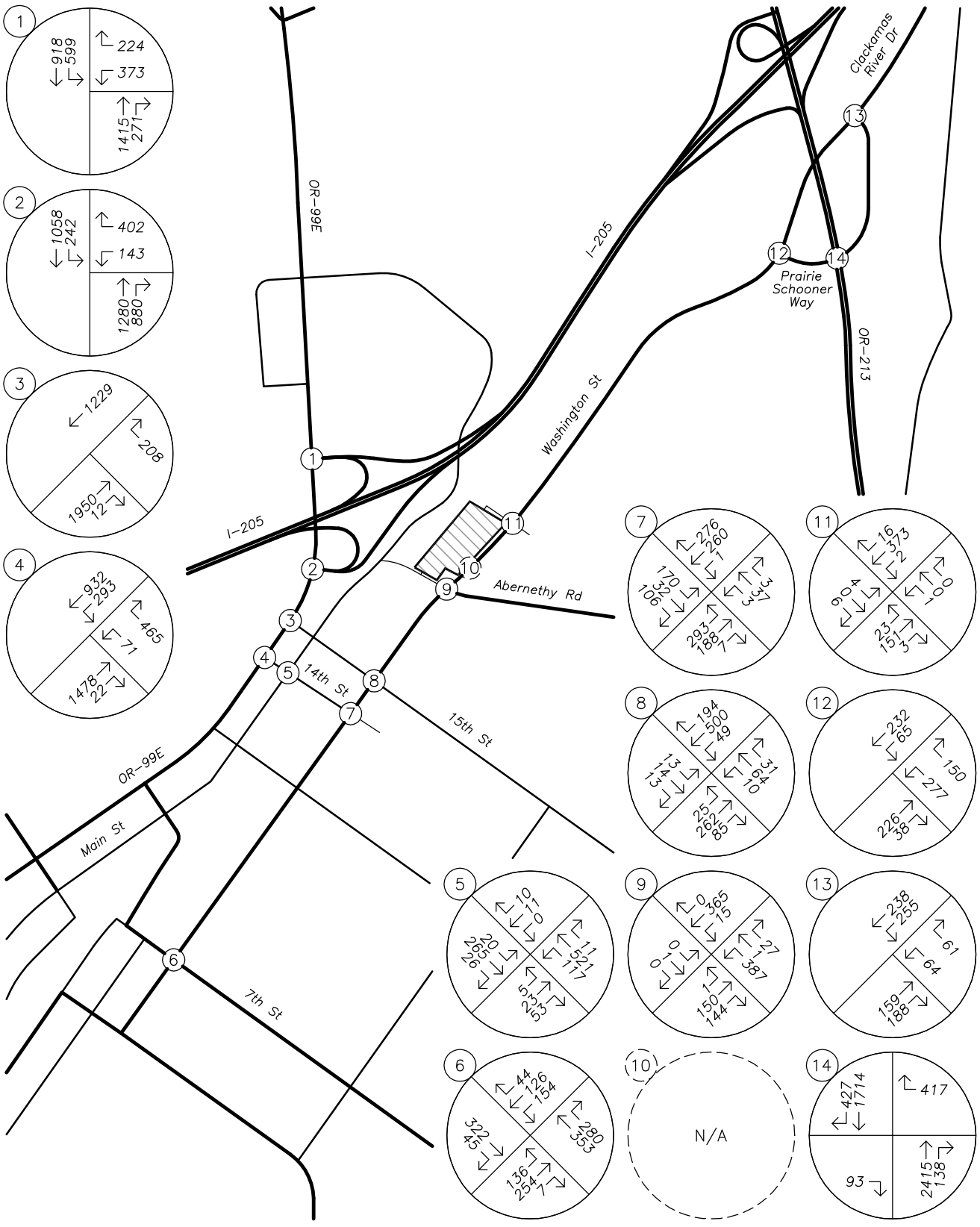
Figures 2 and 3 on pages 11 and 12 show the existing morning and evening peak hour traffic volumes at the study intersections, respectively.



VICINITY MAP

no scale

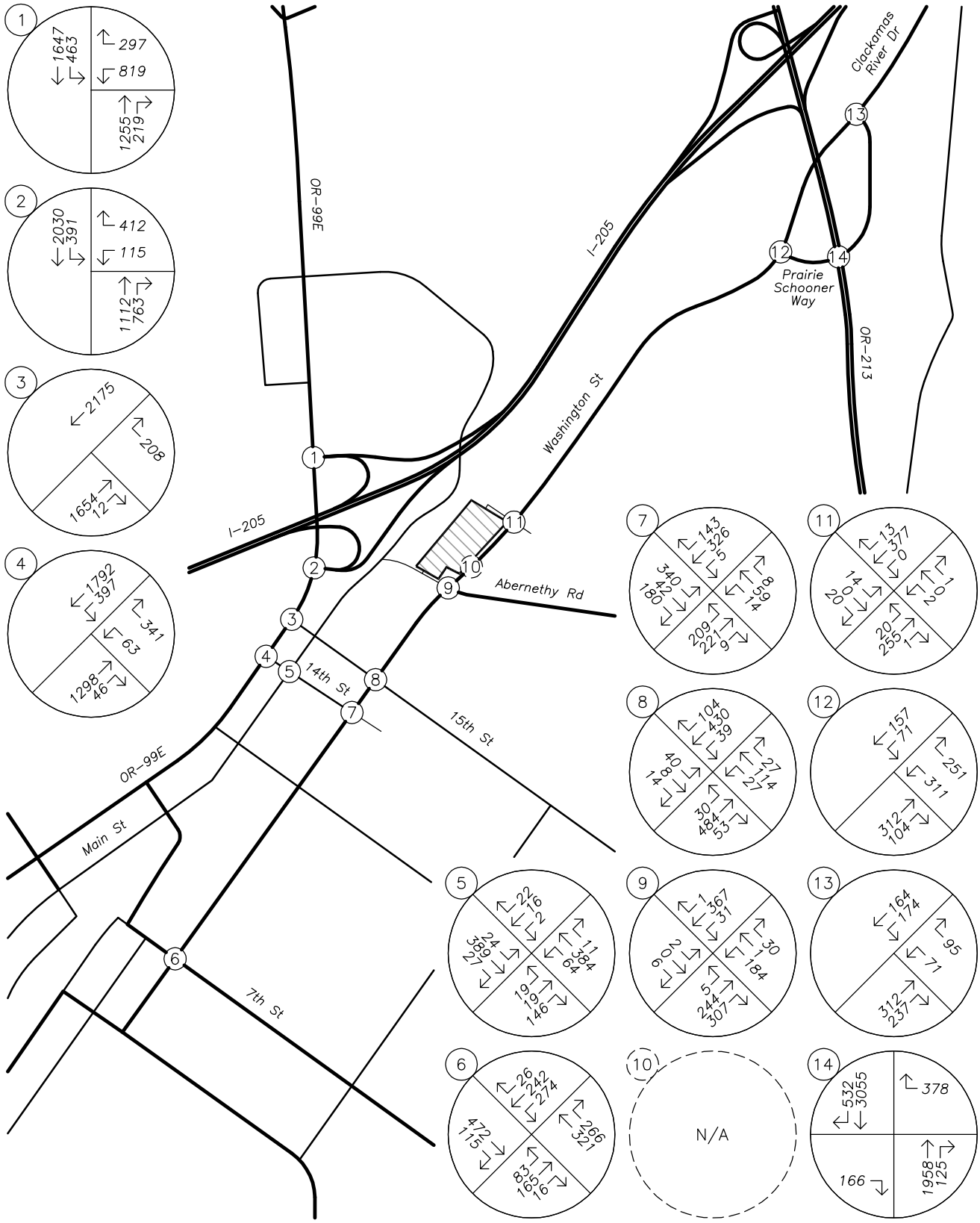
FIGURE 1



TRAFFIC VOLUMES
Existing Conditions
AM Peak Hour

no scale

FIGURE 2



TRAFFIC VOLUMES
Existing Conditions
PM Peak Hour

no scale

FIGURE 3

PAGE 12

SITE TRIPS

TRIP GENERATION

The proposed Abernethy Place Mixed-Use Development will include the construction of a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop. To estimate the number of trips that will be generated by the proposed development, trip rates from the *TRIP GENERATION MANUAL* were used. Data from land-use code 220, *Apartments*, land-use code 310, *Hotel*, land-use code 820, *Shopping Center*, and land-use code 936, *Coffee/Donut Shop without Drive-Through Window*, were used to estimate the proposed development's trip generation based on the number of rooms for the hotel, dwelling units for the apartment, and square-footage of gross floor area for the retail space and coffee shop.

Internal Trip Generation

Given the variety of land-uses that are proposed for development within the project site (including hotel, residential, retail, and restaurant land-uses), some trips generated by this development will likely be shared/internally captured by the proposed uses within the site and will not impact the nearby transportation system. Using the National Cooperative Highway Research Programs (NCHRP) Report 684, *Enhancing Internal Trip Capture Estimation for Mixed-Use Development*, internal capture rates for the proposed development were calculated for each land-use during the morning and evening peak hours.

According to Report 684, the proposed development is expected to internally capture approximately 9 percent of site trips during the morning peak hour and 28 percent of site trips during the evening peak hour. Due to the limited variety of on-site retail and restaurant uses, the calculated internal capture rate during the evening peak hour was manually reduced to 20 percent for the evening peak hour in order to maintain a conservative analysis.

Pass-by Trip Generation

Some of the proposed land-uses are expected to attract pass-by/diverted trips to the site. Pass-by trips are trips that leave an adjacent roadway to patronize a land-use and then continue in their original direction of travel. Similar to pass-by trips, diverted trips are trips that divert from a nearby roadway not adjacent to the site to patronize a land-use before continuing to their original destination. Pass-by trips do not add additional trips to the transportation system; however, they do add additional turning movements at site access intersections. Diverted trips may add additional turning movements at other nearby intersections. Pass-by trip rates were determined using data provided in the *TRIP GENERATION HANDBOOK*, 3rd Edition[1]. For the purposes of this analysis, pass-by and diverted trips were accounted for as the following:

- The proposed retail space has a pass-by trip rate of 34 percent of external trips generated based on data provided for land-use code 820 of the *TRIP GENERATION HANDBOOK*, 3rd Edition.

[1] Institute of Transportation Engineers (ITE), *TRIP GENERATION HANDBOOK*, 3rd Edition, 2014.

- The proposed coffee shop will utilize a pass-by/diverted trip rate of 82 percent for the morning peak hour and 73 percent for the evening peak hour. The calculated pass-by/diverted trip rates for the coffee shop are based on a trip generation study conducted at Starbucks facilities throughout Washington State in 2002.

Since the total number of pass-by trips which could be generated by the proposed uses exceeds the reasonable number of site trips that would be expected to divert from Washington Street, additional trips were treated as diverted-linked trips and drawn from through traffic traveling along Abernethy Road and the northbound travel lanes along Highway 99E. It is assumed that no more than five percent of the through traffic along Washington Street will enter the site as pass-by trips. An additional five percent of the through traffic along Abernethy road was assumed to divert to the site, and the remaining diverted trips were drawn from the northbound through traffic along OR-99E.

Trip Generation Analysis Results

The trip generation calculations show that the proposed development is projected to generate a net new total of 159 site trips during the morning peak hour and 151 site trips during the evening peak hour. The trip generation estimates of the proposed development are summarized in Table 2 below.

It should be noted that the development is proposed to occur in two phases. Phase 1 will consist of the 99-room hotel, while phase 2 will consist of all other proposed uses. Development of Phase 1 (prior to Phase 2) will result in a net increase of 52 trips during the morning peak hour and 59 trips during the evening peak hour, since the internal capture rates will not apply when only one use is located on the site. Development of Phase 2 will result in a net addition of 107 additional trips during the morning peak hour and 92 trips during the evening peak hour, resulting in the total projected site trips previously described.

Detailed trip generation and internal capture calculations as well as the Starbucks trip generation study are included in the technical appendix to this report.

Table 2 - Proposed Development Trip Generation Summary									
	ITE Code	Size	Morning Peak Hour In	Out	Total	Evening Peak Hour In	Out	Total	Weekday Total
Phase 1									
Hotel	310	99 units	31	21	52	30	29	59	808
Phase 1 + Phase 2									
Apartments	210	131 units	13	54	67	53	28	81	872
Internal Capture		*9% (20%)*	*1*	*5*	*6*	*11*	*6*	*17*	*174*
Net New Trips			12	49	61	42	22	64	698
Hotel	310	99 units	31	21	52	30	29	59	808
Internal Capture		*9% (20%)*	*3*	*2*	*5*	*6*	*6*	*12*	*162*
Net New Trips			28	19	47	24	23	47	646
Retail Space	820	9,500 sq.ft.	6	3	9	17	18	35	406
Internal Capture		*9% (20%)*	*1*	*0*	*1*	*3*	*4*	*7*	*81*
Pass-by Trips		*34% (34%)*	*1*	*1*	*2*	*5*	*5*	*10*	*110*
Net New Trips			4	2	6	9	9	18	215
Coffee Shop	936	2,500 sq.ft.	138	133	271	51	51	102	165
Internal Capture		*9% (20%)*	*12*	*12*	*24*	*10*	*10*	*20*	*33*
Pass-by Trips		*82% (73%)*	*101*	*101*	*202*	*30*	*30*	*60*	*96*
Net New Trips			25	20	45	11	11	22	36
Total Trip Generation			**188**	**211**	**399**	**151**	**126**	**277**	**2,251**
Total Internal Capture			***17***	***19***	***36***	***30***	***26***	***56***	***450***
Total Pass-by Trips			***102***	***102***	***204***	***35***	***35***	***70***	***206***
Total Net New Trips			**69**	**90**	**159**	**86**	**65**	**151**	**1,595**

* AM Peak Hour (PM Peak Hour and Weekday)

TRIP DISTRIBUTION

The directional distribution of primary site trips to/from the project site was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at study intersections.

The following trip distribution was estimated and used for analysis:

- Approximately 30 percent of primary trips will travel to/from the north along OR-213;
- Approximately 15 percent of primary trips will travel to/from the east along Abernethy Road;
- Approximately 12 percent of primary trips will travel to/from the north along OR-99E;
- Approximately 10 percent of primary trips will travel to/from the southeast along 7th Street;
- Approximately 9 percent of primary trips will travel to/from the southwest along Washington Street;
- Approximately 6 percent of primary trips will travel to/from the northeast along Interstate 205 (I-205);
- Approximately 5 percent of primary trips will travel to/from the northeast along Clackamas River Drive;
- Approximately 5 percent of primary trips will travel to/from the southeast along 15th Street;
- Approximately 4 percent of primary trips will travel to/from the southwest along Main Street;
- Approximately 2 percent of primary trips will travel to/from the southwest along OR-99E; and
- Approximately 2 percent of primary trips will travel to/from the southwest along I-205.

The proposed development is planned to have three points of access to the subject site from Washington Street: the west leg of the intersection of Abernethy Road at Washington Street, a proposed site access on Washington Street approximately 200 feet northeast of Abernethy Road, and at the existing Amtrak Station access driveway. Based on the site layout, primary trips to and from the site are anticipated to utilize site access points as follows:

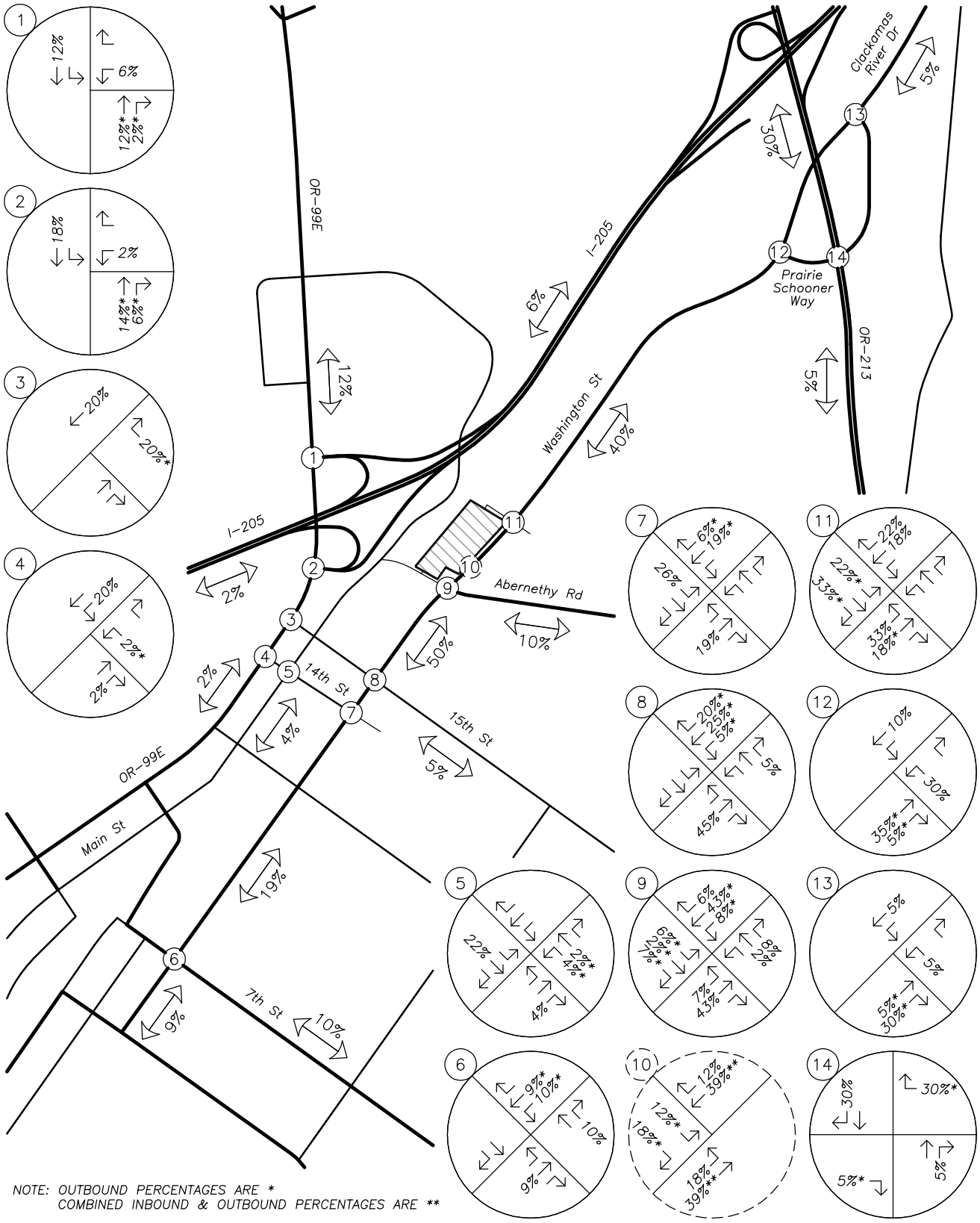
- Approximately 15 percent of primary trips will utilize the access at the intersection of Abernethy Road at Washington Street;
- Approximately 30 percent of primary trips will utilize the proposed access along Washington Street; and
- Approximately 55 percent of primary trips will utilize the Amtrak access along Washington Street.

The trip distribution percentages utilized for the primary site trips generated by the proposed development are shown in Figure 4 on page 18.

The proposed mixed-use building, which will include a coffee shop and retail space, is located within the northeastern section of the project site. Since only these two land-uses are expected to generate pass-by trips, it is anticipated that pass-by trips to and from the site will utilize site access points as follows:

- Approximately 50 percent of pass-by trips will utilize the proposed access along Washington Street; and
- Approximately 50 percent of pass-by trips will utilize the Amtrak access along Washington Street.

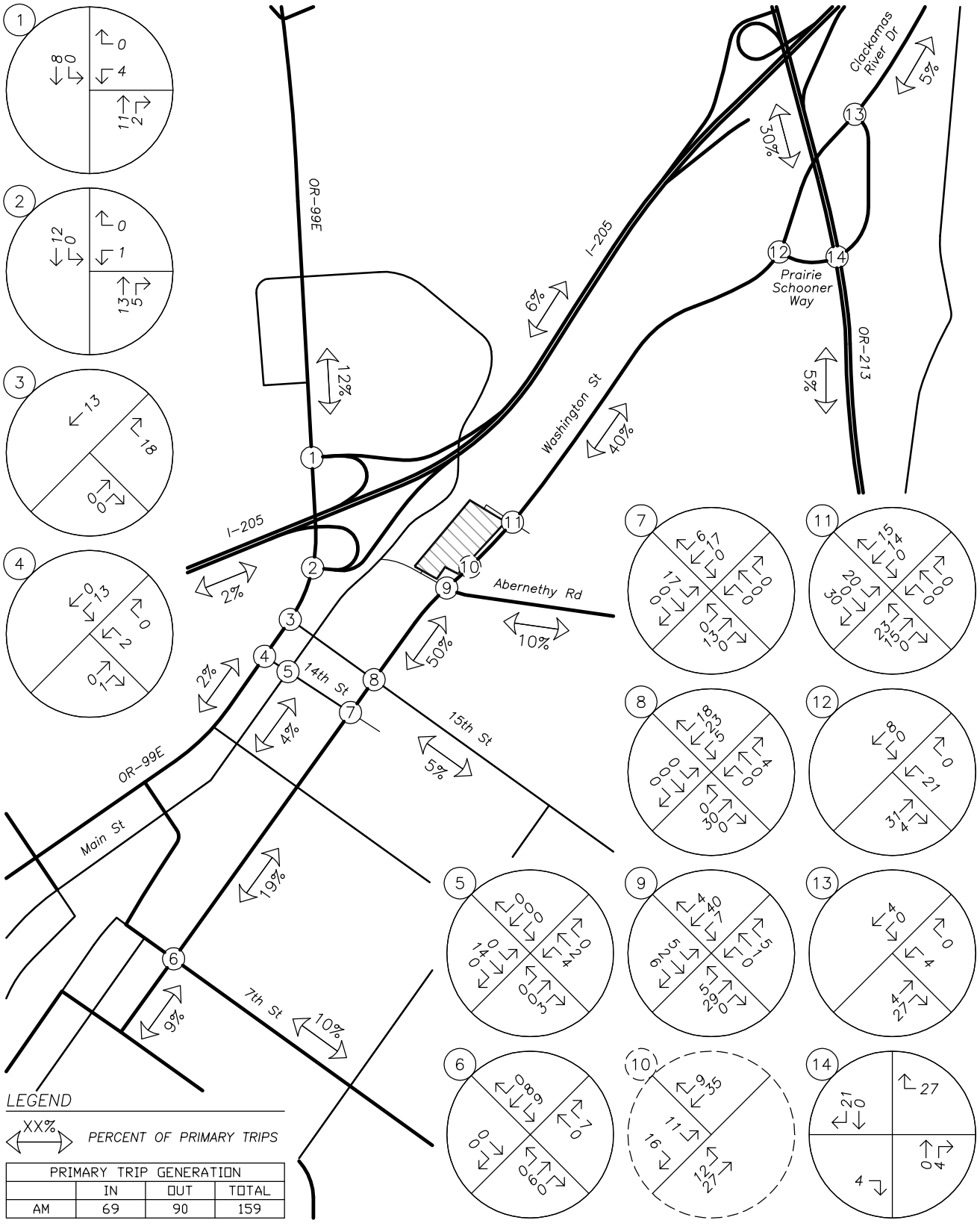
The trip assignment for primary site trips generated by the proposed development are shown in Figure 5 on page 19 for the morning peak hour and in Figure 6 on page 20 for the evening peak hour. The trip assignment for pass-by site trips generated by the proposed coffee shop and retail space are shown in Figure 7 on page 21 for the morning peak hour and in Figure 8 on page 22 for the evening peak hour. The total site trip assignment of trips generated by the proposed development are shown in Figure 9 on page 23 for the morning peak hour and in Figure 10 on page 24 for the evening peak hour.



SITE TRIP DISTRIBUTION
Inbound & Outbound Percentages – Primary Trips
AM & PM Peak Hours

no scale

FIGURE 4

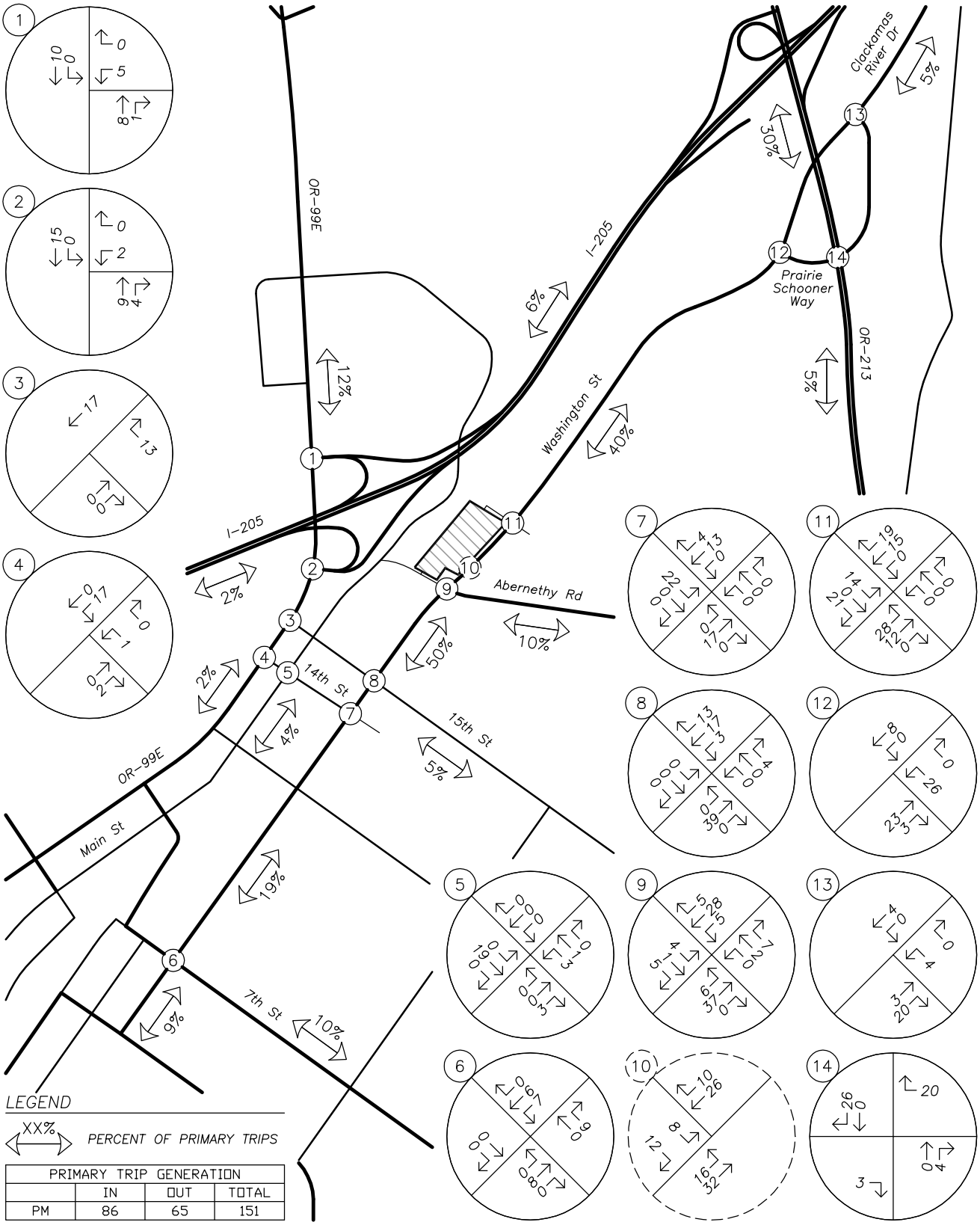


PRIMARY TRIP GENERATION			
	IN	OUT	TOTAL
AM	69	90	159

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Primary Site Trips
AM Peak Hour

no scale

FIGURE 5

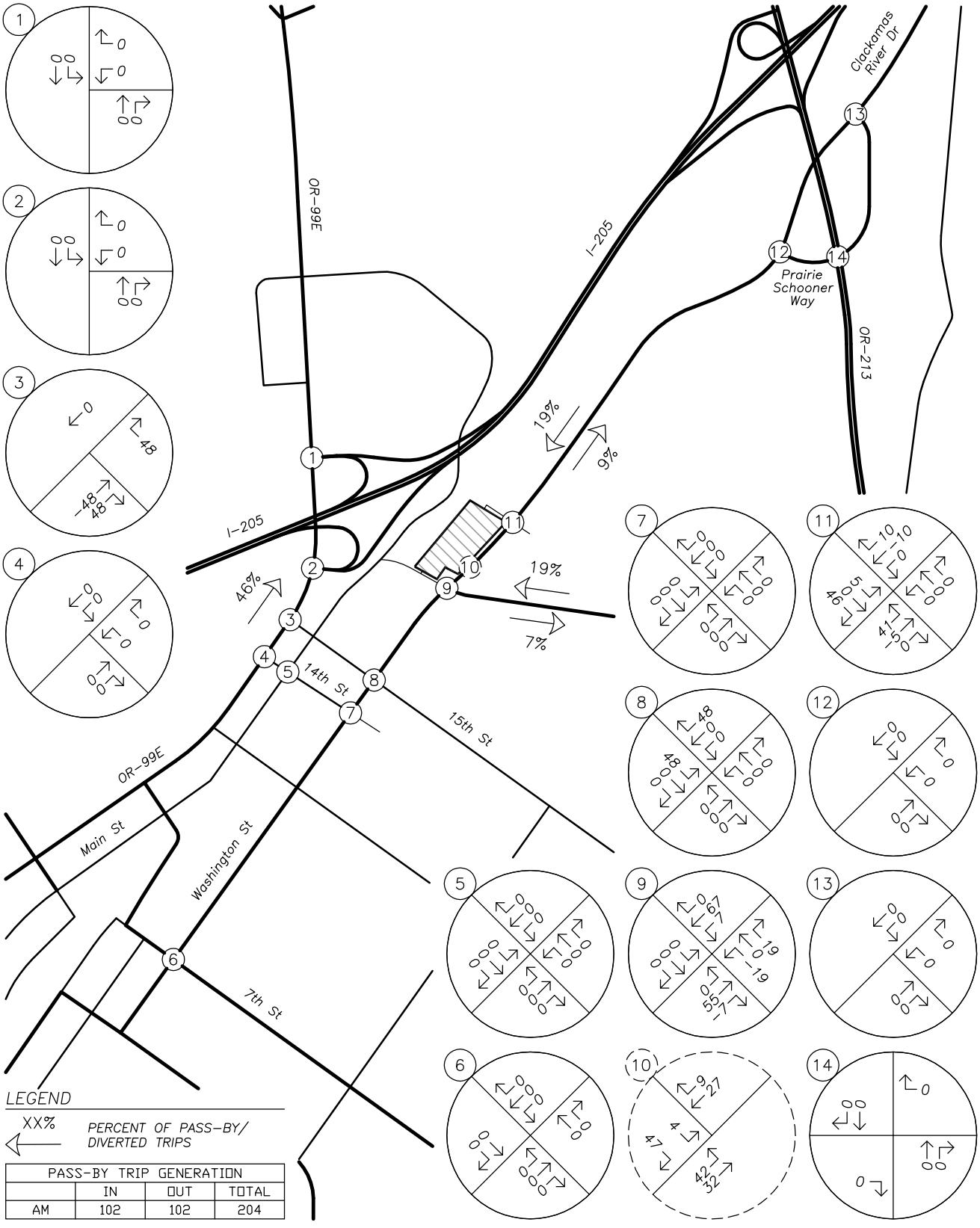


PRIMARY TRIP GENERATION			
	IN	OUT	TOTAL
PM	86	65	151

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Primary Site Trips
PM Peak Hour

no scale

FIGURE 6

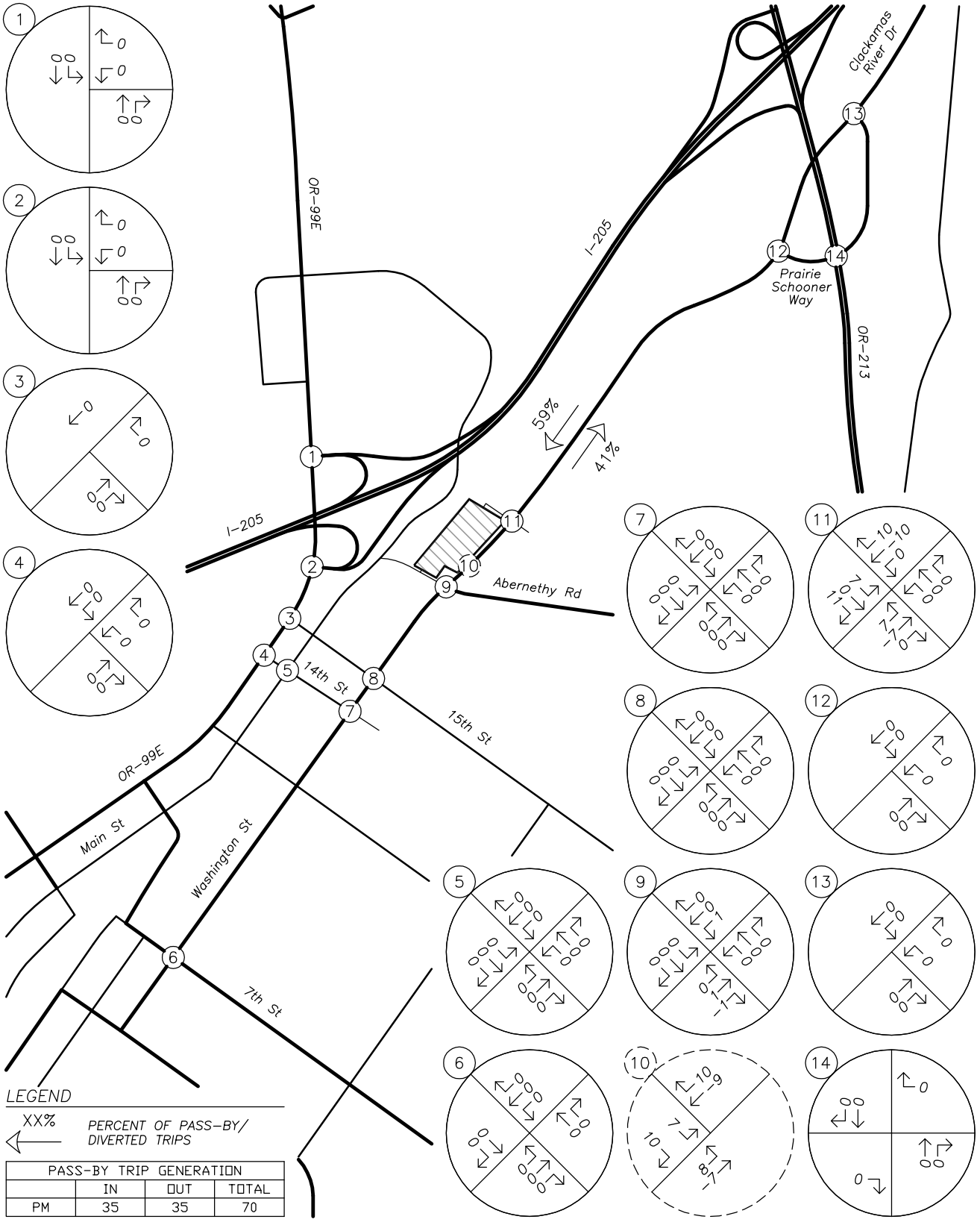


PASS-BY TRIP GENERATION			
	IN	OUT	TOTAL
AM	102	102	204

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Pass-by Site Trips
AM Peak Hour

no scale

FIGURE 7

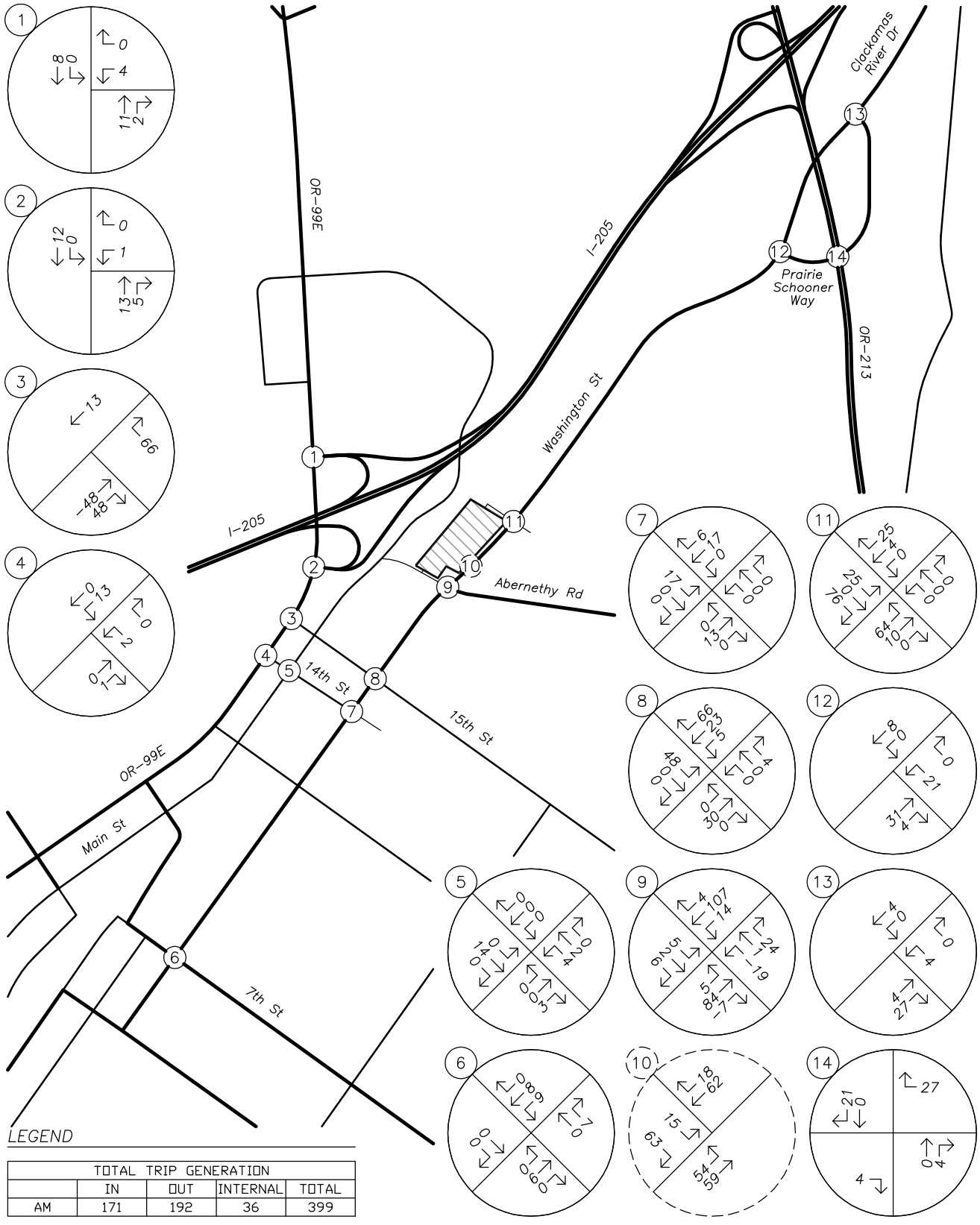


PASS-BY TRIP GENERATION			
	IN	OUT	TOTAL
PM	35	35	70

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Pass-by Site Trips
PM Peak Hour

no scale

FIGURE 8

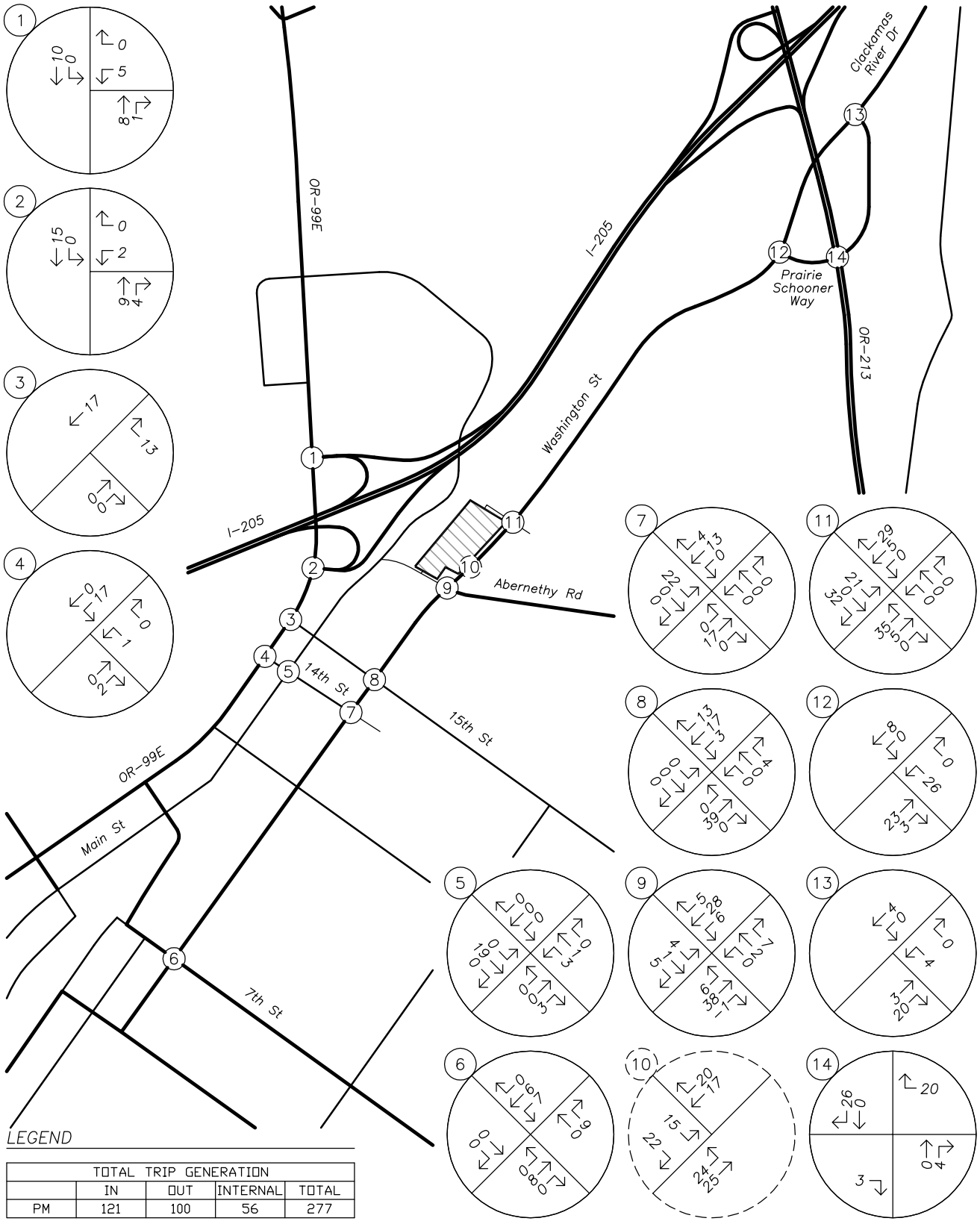


TOTAL TRIP GENERATION				
	IN	OUT	INTERNAL	TOTAL
AM	171	192	36	399

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Total Site Trips
AM Peak Hour

no scale

FIGURE 9



TOTAL TRIP GENERATION				
	IN	OUT	INTERNAL	TOTAL
PM	121	100	56	277

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Total Site Trips
PM Peak Hour

no scale

FIGURE 10

OPERATIONAL ANALYSIS

BACKGROUND VOLUMES

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required.

In order to calculate the future traffic volumes for non-ODOT facilities, a compounded growth rate of two percent per year for an assumed build-out condition of five years was applied to the measured existing traffic volumes to approximate year 2022 background conditions.

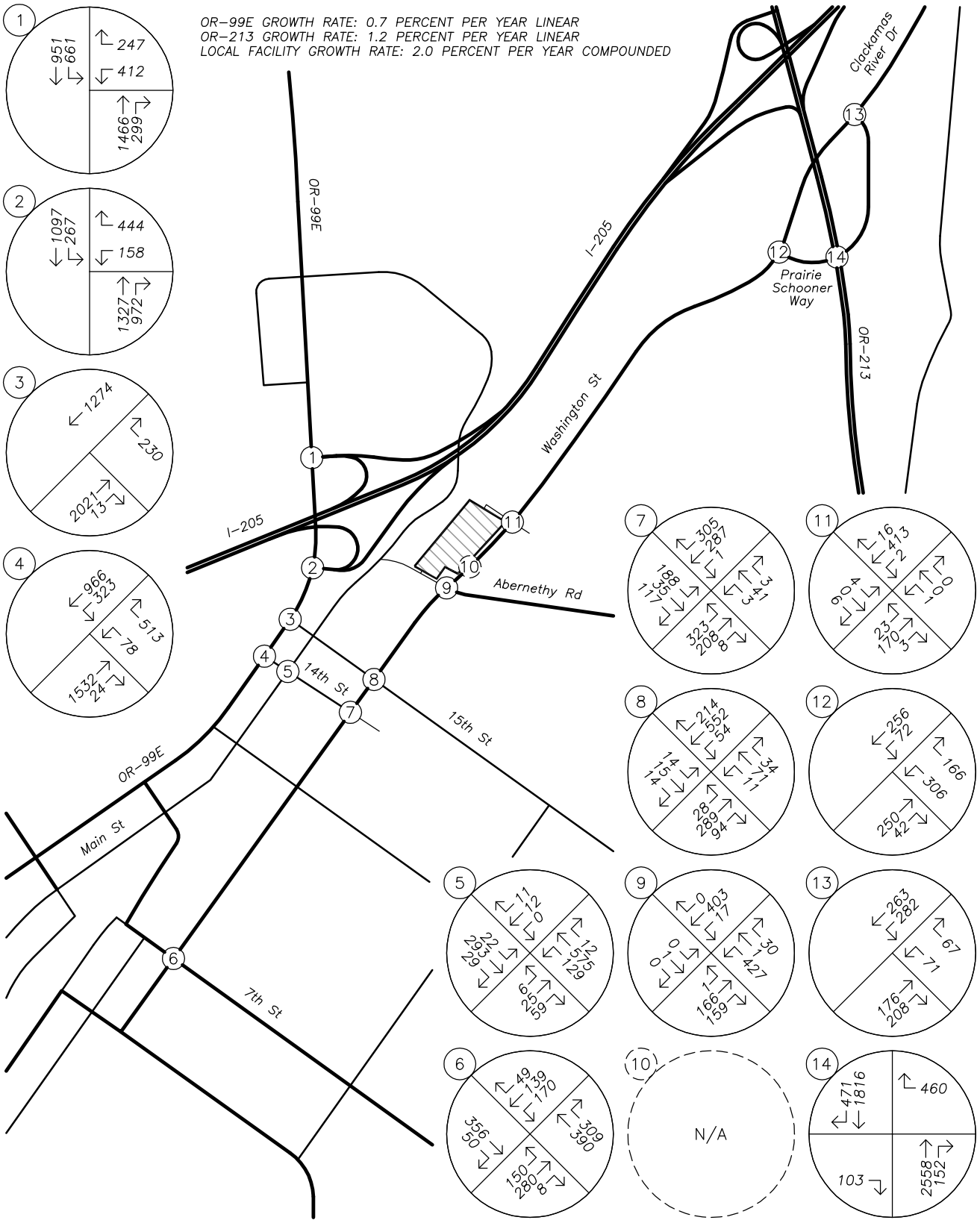
To estimate the future traffic volumes for ODOT facilities, a linear growth rates of 0.7 percent per year and 1.2 percent per year were calculated for the traffic volumes along OR-99E and OR-213, respectively, using ODOT's 2035 Future Volume Tables. This growth rate was applied to the measured existing traffic volumes over a five-year period to determine year 2022 background traffic volumes for the through traffic traveling along both ODOT roadways. A compounded growth rate of two percent per year for an assumed build-out condition of five years was applied to all other turning movement traffic volumes at study intersections along these ODOT roadways.

Figure 11 on page 26 and Figure 12 on page 27 show the projected year 2022 background traffic volumes at the study intersections during the morning and evening peak hours, respectively.

BACKGROUND VOLUMES PLUS SITE TRIPS

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2022 background traffic volumes to obtain the expected 2022 background volumes plus site trips.

Figure 13 on page 28 and Figure 14 on page 29 show the projected year 2022 peak hour background traffic volumes plus proposed development site trips at the study intersections during the morning and evening peak hours, respectively.

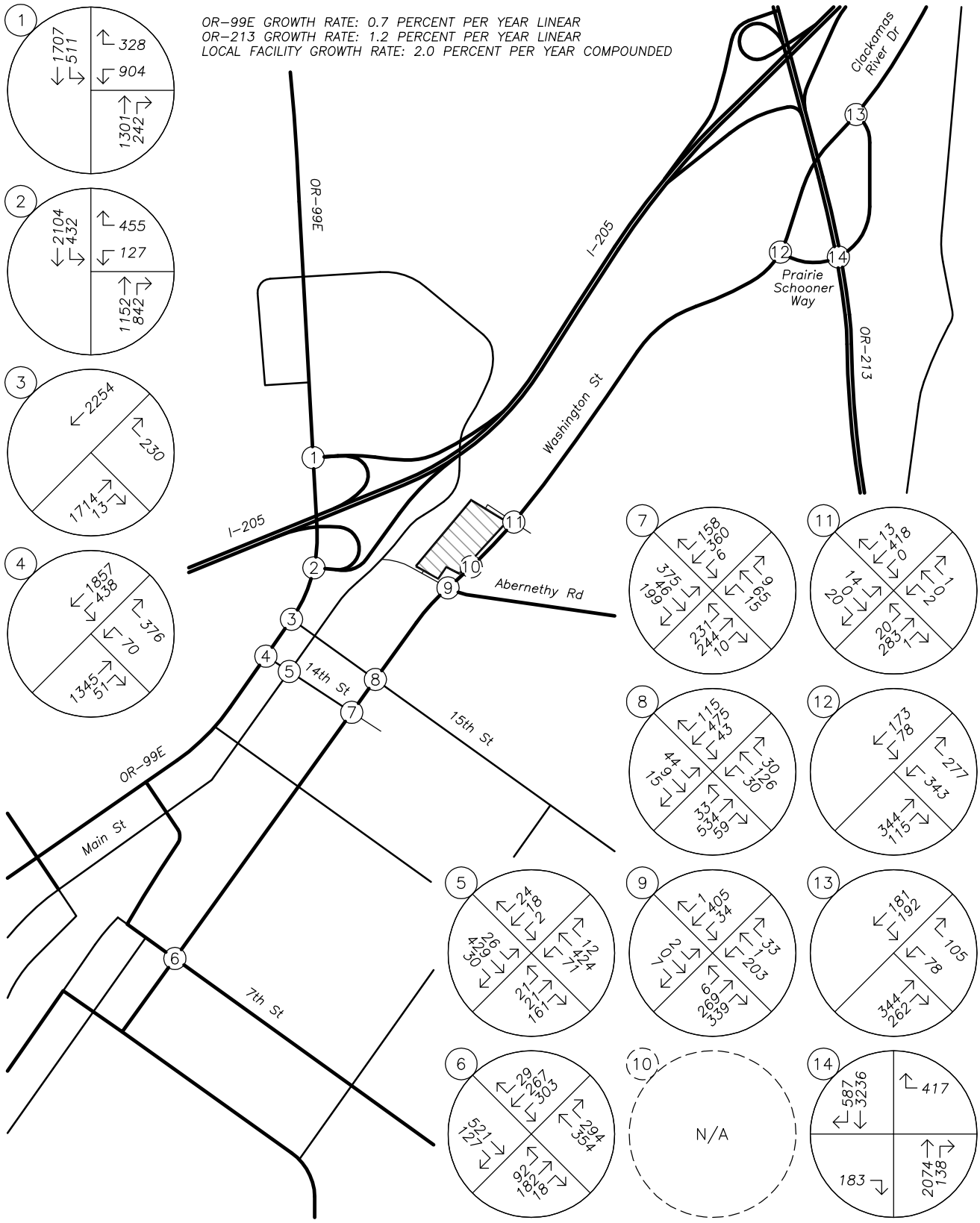


TRAFFIC VOLUMES
Year 2022 Background Conditions
AM Peak Hour

no scale

FIGURE 11

PAGE 26

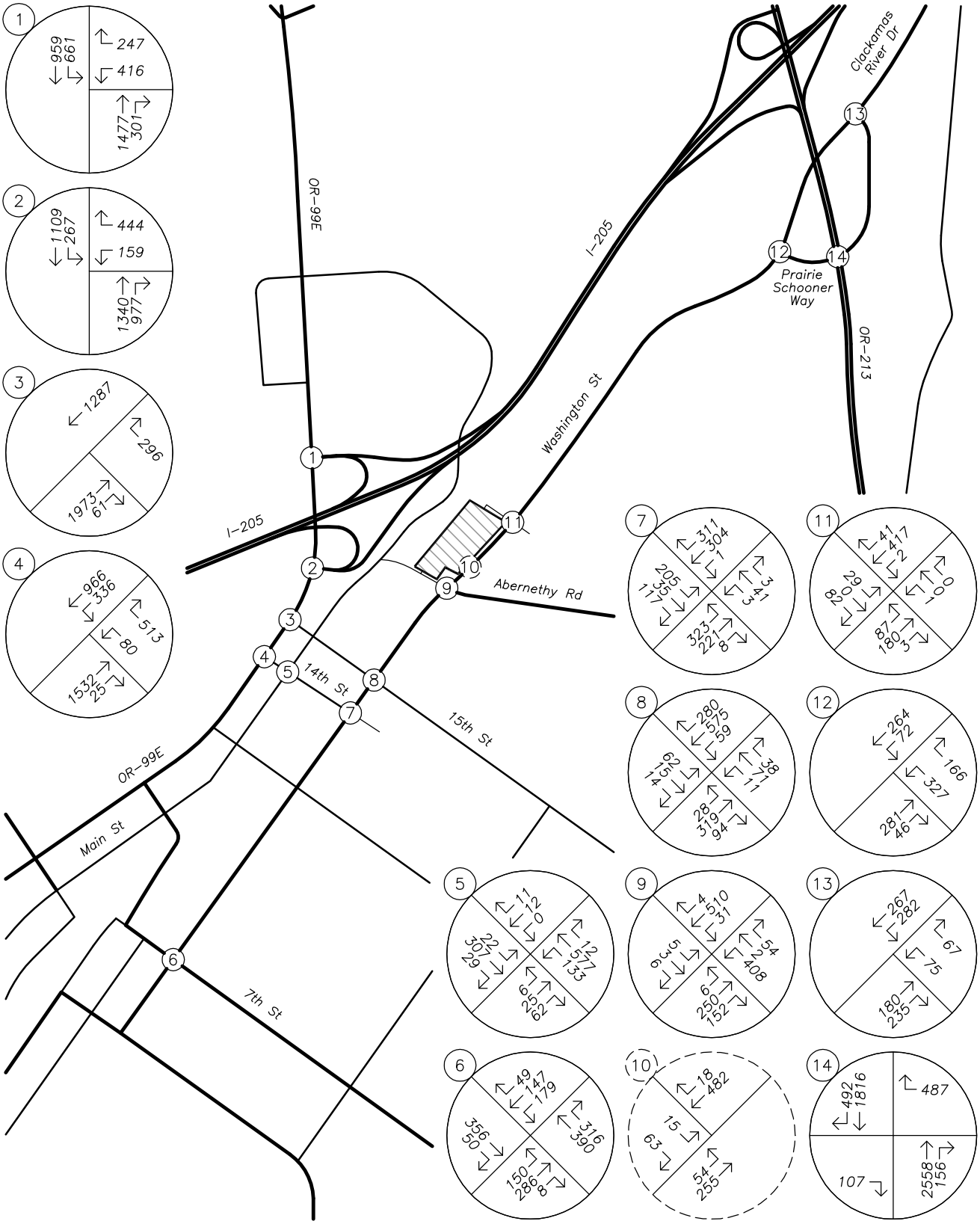


TRAFFIC VOLUMES
Year 2022 Background Conditions
PM Peak Hour

no scale

FIGURE 12

PAGE 27

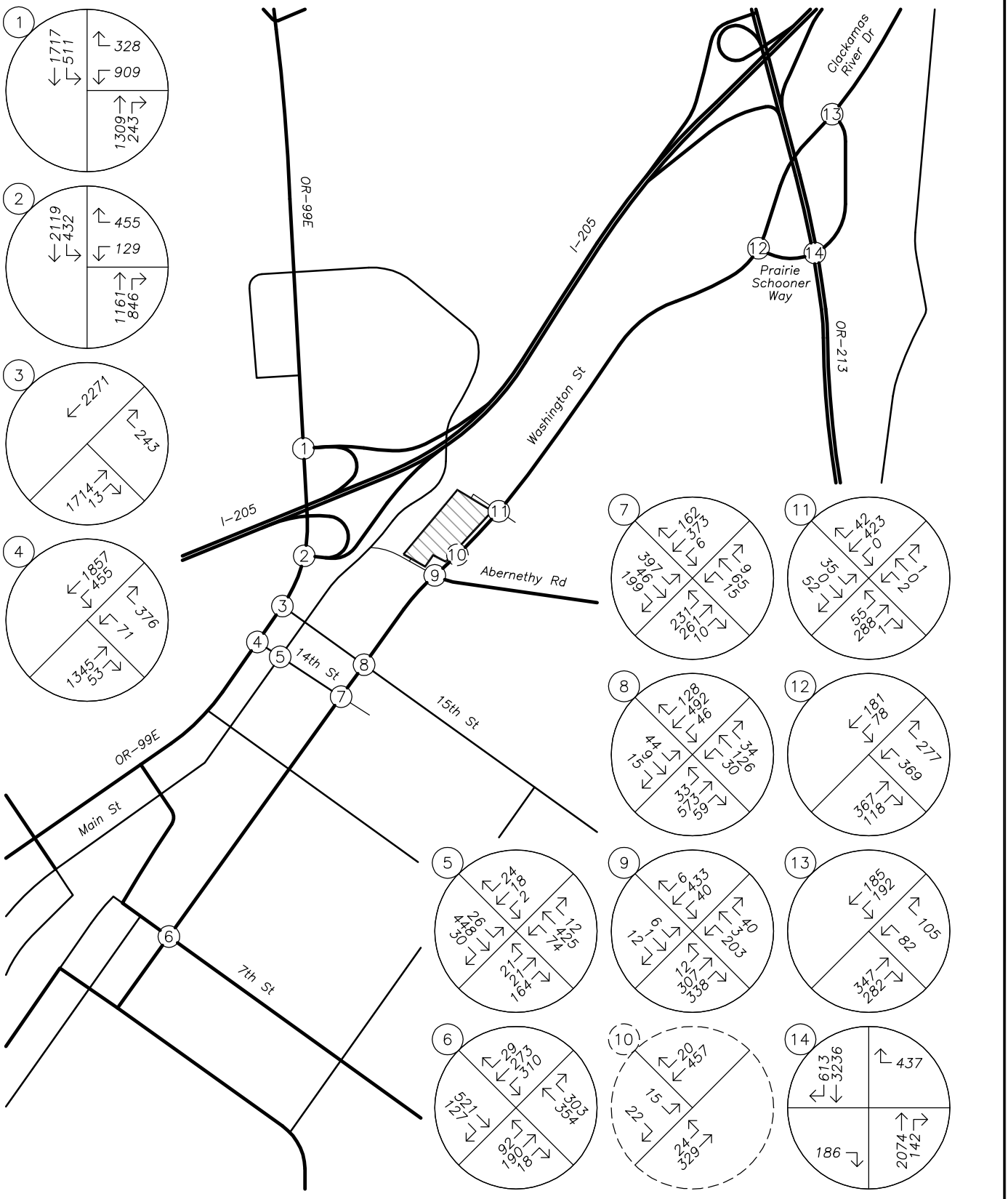


TRAFFIC VOLUMES
Year 2022 Background Conditions plus Site Trips
AM Peak Hour

no scale

FIGURE 13

PAGE 28



TRAFFIC VOLUMES
Year 2022 Background Conditions plus Site Trips
PM Peak Hour

no scale

FIGURE 14

CAPACITY ANALYSIS

A capacity and delay analysis was conducted for each of the study intersections. The analysis was conducted according to the signalized and unsignalized intersection analysis methodologies in the *HIGHWAY CAPACITY MANUAL* (HCM). The level-of-service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The v/c ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

Per Section 12.04.205 of the *Oregon City Municipal Code*, the following minimum acceptable operation standards apply when evaluating traffic impacts associated with the proposed land uses:

- For intersections within the Regional Center, a maximum v/c ratio of 1.10 is permissible during the peak hour, provided that during the second hour the v/c ratio is 0.99 or less. For signalized intersections, these standards apply to the intersection as a whole. For unsignalized intersections, these standards apply to the major-street approaches only. There is no performance standard for unsignalized minor street approaches.
- For intersections outside the Regional Center but designated on the Arterial and Throughway Network, a maximum v/c ratio of 0.99 shall be maintained. This standard applies to signalized intersections as a whole, and to the major-street approaches at unsignalized intersections. There is no performance standard for unsignalized minor street approaches.
- Signalized intersections located outside the Regional Center (Downtown Community Plan) boundaries and not designated on the Arterial and Throughway Network shall operate at LOS D or better for the intersection as a whole, no approach shall operate worse than LOS E, and the intersection shall operate with a v/c ratio no higher than 1.0 for the sum of critical movements.
- Unsignalized intersections located outside the Regional Center (Downtown Community Plan) boundaries and not designated on the Arterial and Throughway Network shall operate at LOS E or better for all approaches serving more than 20 peak hour vehicles. LOS F will be tolerated at movements serving no more than 20 vehicles during the peak hour.
- Until the City adopts new performance measures that identify alternative mobility targets, the City exempts proposed development that is permitted, either conditionally, outright, or through a detailed development master plan approval from compliance with the above mobility standards for identified intersections, including the intersections of OR-99E at the I-205 eastbound and westbound ramp terminals.

According to the City of Oregon City's Downtown Community Plan, the Regional Center encompasses all of the study intersections operating under City jurisdiction, except for Clackamas River Drive at Washington Street. Clackamas River Drive is, however, designated on the Arterial and Throughway Network.

The I-205 southbound ramps intersection at OR-99E is projected to operate with a v/c ratio of 1.02 during the morning peak hour and a v/c ratio of 0.98 during the evening peak hour under year 2022 background conditions. With the addition of site trips from the proposed development, the

intersection is projected to continue to operate with a v/c ratio of 1.02 during the morning peak and the v/c ratio is projected to increase to 0.99 during the evening peak hour.

The I-205 northbound ramps intersection at OR-99E is projected to operate with a v/c ratio of 0.90 during the morning peak hour and a v/c ratio of 0.81 during the evening peak hour under year 2022 background traffic conditions. With the addition of site trips from the proposed development, the intersection is projected to operate with a v/c ratio of 0.91 during the morning peak hour and 0.81 during the evening peak hour.

Under year 2022 background conditions the intersection of 15th Street at OR-99E is projected to operate with a v/c ratio of 0.85 during the morning peak hour and 0.71 during the evening peak hour. With the addition of site trips from the proposed development the intersection is projected to operate with a v/c ratio of 0.95 during the morning peak hour and 0.71 during the evening peak hour.

The intersection of 14th Street at OR-99E operates with a v/c ratio of 0.96 or less during the morning peak hour and 0.85 or less during the evening peak hour for all analysis scenarios.

The intersection of 14th Street at Main Street currently operates at LOS C with v/c ratios of 0.20 during the morning peak hour and 0.26 during the evening peak hour. Under year 2022 background conditions, the intersection is projected to operate at LOS E with a v/c ratio of 0.29 or less during the morning peak hour and at LOS E with a v/c ratio of 0.32 or less during the evening peak hour, regardless the addition of proposed development trips.

The intersection of 7th Street at Washington Street operates at LOS C with v/c ratios or 0.72 or less during the morning peak hour and 0.75 or less during the evening peak hour for all analysis scenarios.

The intersection of 14th Street at Washington Street is projected to operate at LOS C with v/c ratios of 0.86 or less during the morning peak hour and 0.89 or less during the evening peak hour through year 2022 background conditions. Upon build-out of the proposed development, the intersection is projected to operate at LOS D with v/c ratios of 0.90 during the morning peak hour and 0.95 during the evening peak hour.

The intersection of 15th Street at Washington Street operates at LOS B with v/c ratios of 0.79 or less during the morning peak hour and 0.64 or less during the evening peak hour for all analysis scenarios.

The intersection of Abernethy Road at Washington Street operates at LOS B with a v/c ratio of 0.82 or less during the morning peak hour and at LOS A with a v/c ratio of 0.55 or less during the evening peak hour for all analysis scenarios.

Upon build-out of the proposed development, the proposed site access intersection at Washington Street is projected to operate at LOS B with v/c ratios of 0.32 during the morning peak hour and 0.31 during the evening peak hour.

The Amtrak station access intersection at Washington Street currently operates at LOS B with a v/c ratio of 0.25 during both the morning and evening peak hours. Under year 2022 background

conditions, the intersection is projected to operate at LOS C with v/c ratios of 0.28 or less during the morning peak hour and 0.30 or less during the evening peak hour, regardless the addition of proposed development trips.

The intersection of Prairie Schooner Way at Washington Street operates at LOS A with a v/c ratio of 0.39 or less during the morning peak hour and at LOS B with a v/c ratio of 0.46 or less during the evening peak hour for all analysis scenarios.

The intersection of Clackamas River Drive at Washington Street operates at LOS B with v/c ratios of 0.62 or less during the morning peak hour and at level of service A with v/c ratios of 0.44 or less during the evening peak hour for all analysis scenarios.

The intersection of OR-213 at Clackamas River Drive operates at LOS B with v/c ratios of 0.84 or less during the morning peak hour and 0.90 or less during the evening peak hour for all analysis scenarios.

The v/c, delay, and LOS results of the capacity analysis are shown in Tables 3 and 4 for the morning and evening peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Based on the results of the operational analysis, all intersections are projected to operate acceptably per Oregon City standards through year 2022 either with or without the addition of site trips from the proposed development.

The intersections operating under ODOT jurisdiction are also projected to meet ODOT's respective performance standards, with the exception of OR 99-E at the I-205 ramp terminals. However, these intersections are specifically exempted from operational standards pursuant to OCMC 12.04.205(D).

Table 3 - Capacity Analysis Summary						
	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay	V/C	In	Out	Total
1. I-205 SB Ramps at OR-99E						
Existing Conditions	D	40	0.95	C	28	0.91
2022 Background Conditions	D	52	1.02	D	36	0.98
2022 Background plus Site Conditions	D	53	1.02	D	37	0.99
2. I-205 NB Ramps at OR-99E						
Existing Conditions	C	21	0.78	B	17	0.71
2022 Background Conditions	C	27	0.90	B	20	0.81
2022 Background plus Site Conditions	C	27	0.91	B	20	0.81
3. 15th St at OR-99E						
Existing Conditions	D	32	0.82	C	21	0.68
2022 Background Conditions	E	42	0.85	C	24	0.71
2022 Background plus Site Conditions	F	76	0.96	D	26	0.71
4. 14th St at OR-99E						
Existing Conditions	C	23	0.90	B	15	0.80
2022 Background Conditions	C	27	0.96	B	17	0.83
2022 Background plus Site Conditions	C	28	0.96	B	18	0.85
5. 14th St at Main St						
Existing Conditions	D	35	0.20	D	30	0.26
2022 Background Conditions	E	46	0.28	E	39	0.30
2022 Background plus Site Conditions	E	49	0.29	E	41	0.32
6. 7th St at Washington St						
Existing Conditions	C	20	0.65	C	21	0.68
2022 Background Conditions	C	22	0.71	C	24	0.74
2022 Background plus Site Conditions	C	23	0.72	C	24	0.75
7. 14th St at Washington St						
Existing Conditions	C	25	0.78	C	26	0.80
2022 Background Conditions	C	31	0.86	C	34	0.89
2022 Background plus Site Conditions	D	36	0.90	D	38	0.95
8. 15th St at Washington St						
Existing Conditions	B	11	0.66	B	11	0.58
2022 Background Conditions	B	11	0.70	B	13	0.62
2022 Background plus Site Conditions	B	17	0.79	B	14	0.64
9. Abernethy Rd at Washington St						
Existing Conditions	B	13	0.70	A	7	0.49
2022 Background Conditions	B	16	0.76	A	8	0.53
2022 Background plus Site Conditions	B	18	0.82	A	8	0.55

Table 4 - Capacity Analysis Summary (Continued)						
	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay	V/C	In	Out	Total
10. Site Access at Washington St						
2022 Background plus Site Conditions	B	15	0.32	B	15	0.31
11. Amtrak Station Access at Washington St						
Existing Conditions	B	15	0.25	B	14	0.25
2022 Background Conditions	C	16	0.27	C	15	0.28
2022 Background plus Site Conditions	C	23	0.29	C	18	0.30
12. Prairie Schooner Way at Washington St						
Existing Conditions	A	9	0.33	B	10	0.38
2022 Background Conditions	A	9	0.36	B	11	0.43
2022 Background plus Site Conditions	A	10	0.39	B	11	0.46
13. Clackamas River Dr at Washington St						
Existing Conditions	B	11	0.55	A	8	0.39
2022 Background Conditions	B	12	0.62	A	9	0.43
2022 Background plus Site Conditions	B	13	0.62	A	9	0.44
14. OR-213 at Clackamas River Dr						
Existing Conditions	B	10	0.77	B	11	0.84
2022 Background Conditions	B	12	0.83	B	14	0.89
2022 Background plus Site Conditions	B	12	0.84	B	14	0.90

Although not recommended in conjunction with the proposed development, it should be noted that according to Oregon City's Transportation System Plan (TSP), there is an identified project which would improve intersection operation at the intersection of OR-99E and the I-205 southbound ramps. The proposed improvement consists of installation of a second southbound left-turn lane, as well as providing a second eastbound receiving lane to accommodate the added turn lane. With installation of the additional turn lane, the intersection would be projected to operate with v/c ratios below 0.85 during the morning and evening peak hours either with or without the addition of site trips from the proposed development.

SAFETY ANALYSIS

CRASH DATA ANALYSIS

Using data obtained from the ODOT's Crash Analysis and Reporting Unit, a review of the most recent available five years of crash history (from January 2011 to December 2015) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak period represents 10 percent of average daily traffic (ADT) at the intersection. Crash rates in excess of one to two crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

I-205 Southbound Ramps Intersection at OR-99E

The I-205 southbound ramps intersection at OR-99E had 47 reported crashes during the analysis period. The crashes consisted of 25 rear-end collisions, 19 turning-movement collisions, one fixed-object collision, one collision involving a pedestrian, and one collision involving a bicyclist. Of the crashes reported, 20 were classified as "Property Damage Only" (*PDO*), 20 were classified as "Possible Injury – Complaint of Pain" (*Injury C*), six were classified as "Non-Incapacitating Injury" (*Injury B*), and one was classified as "Incapacitating Injury – Bleeding, Broken Bones" (*Injury A*). The crash rate at the intersection was calculated to be 0.55 CMEV.

Three of the reported crashes at the intersection involved a pedestrian, bicyclist, or was classified as an *Injury A* collision. The crash involving a pedestrian occurred when the driver of a westbound right-turning passenger car failed to yield right-of-way to a pedestrian who was utilizing some form of conveyance other than walking while in an intersection crosswalk. The driver of the vehicle had conducted a right-turn after coming to a stop at the intersection. The pedestrian sustained injuries consistent with *Injury B* classification while the driver of the vehicles was uninjured. The crash involving a bicyclist occurred when the driver of a westbound right-turning passenger car struck a southbound bicyclist who was traveling on the roadway shoulder against the flow of traffic. The bicyclist had disregarded the traffic signal and had entered the intersection illegally. The bicyclist sustained injuries consistent with *Injury B* classification while the driver of the vehicle was uninjured. The crash which resulted in injuries consistent with *Injury A* classification occurred when the driver of a northbound passenger car disregarded the traffic signal and collided with a westbound left-turning passenger car. The driver of the northbound vehicle sustained injuries while the other driver was uninjured.

I-205 Northbound Ramps Intersection at OR-99E

The I-205 northbound ramps intersection at OR-99E had 42 reported crashes during the analysis period. The crashes consisted of 28 rear-end collisions and 14 turning-movement collisions. Of the crashes reported, 23 were classified as *PDO*, 17 were classified as *Injury C*, one was classified as *Injury B*, and one was classified as *Injury A*. The crash rate at the intersection was calculated to be 0.48 CMEV.

One of the reported crashes at intersection was classified as an *Injury A* collision. The crash occurred when the driver of a westbound right-turning vehicle was following too close and rear-ended another passenger car that had stopped at the intersection. The driver of the vehicle that was rear-ended sustained injuries while the other driver was uninjured.

15th Street at OR-99E

The intersection of 15th Street at OR-99E had 20 reported crashes during the analysis period. The crashes consisted of 14 rear-end collisions, five turning-movement collisions, and one collision involving a bicyclist. Of the crashes reported, six were classified as *PDO*, 12 were classified as *Injury C*, one was classified as *Injury B*, and one was classified as *Injury A*. The crash rate at the intersection was calculated to be 0.27 CMEV.

One of the reported crashes at the intersection was classified as an *Injury A* collision. The crash occurred when the driver of a northwest-bound right-turning passenger car failed to yield right-of-way to a bicyclist crossing through the intersection. The driver of the passenger car had proceeded through the intersection after stopping, however had their vision obscured by some roadside obstruction. The bicyclist sustained injuries while the driver of the vehicle was uninjured.

14th Street at OR-99E

The intersection of 14th Street at OR-99E had 49 reported crashes during the analysis period. The crashes consisted of 24 turning-movement collisions, 23 rear-end collisions, and two collisions involving bicyclists. Of the crashes reported, 15 were classified as *PDO*, 25 were classified as *Injury C*, and nine were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.68 CMEV.

Two of the reported crashes at the intersection involved a bicyclist. One of the bicycle related crashes occurred when the driver of a southwest-bound left-turning passenger car was struck by a bicyclist who disregarded the traffic signal and had entered the intersection illegally. The driver of the vehicle was uninjured while the bicyclist sustained injuries consistent with *Injury B* classification. The second bicycle related crash occurred when the driver of a northeast-bound right-turning passenger car failed to yield right-of-way to a bicyclist. The driver of the vehicle was uninjured while the bicyclist sustained injuries consistent with *Injury B* classification.

14th Street at Main Street

The intersection of 14th Street at Main Street had 30 reported crashes during the analysis period. The crashes consisted of 21 angle-type collisions, six turning-movement collisions, two collisions involving bicyclists, and one collision involving a pedestrian. Of the crashes reported, 15 were

classified as *PDO*, 11 were classified as *Injury C*, and four were classified as *Injury B*. The crash rate at the intersection was calculated to be 1.46 CMEV.

Based on the calculated crash rate being in excess of one crash per million entering vehicles, additional investigation regarding the safety of the intersection is appropriate. It was noted that Oregon City's Transportation System Plan includes a recommendation to convert this intersection to all-way stop control as mitigation for the high incidence of crashes at the intersection. The intersection crash history shows five or more crashes per year that are susceptible to correction by installation of all-way stop control for each of the three most recent years analyzed (2013, 2014 and 2015). Accordingly, all-way stop control is both warranted and recommended based on the crash history. No other specific safety mitigations are recommended based on the crash history. A more detailed discussion of this potential safety mitigation including operational and queuing impacts is provided on page 40.

7th Street at Washington Street

The intersection of 7th Street at Washington Street had nine reported crashes during the analysis period. The crashes consisted of four angle-type collisions, four turning-movement collisions, and one rear-end collision. Of the crashes reported, five were classified as *PDO* and four were classified as *Injury C*. The crash rate at the intersection was calculated to be 0.25 CMEV.

14th Street at Washington Street

The intersection of 14th at Washington Street had nine reported crashes during the analysis period. The crashes consisted of four turning-movement collisions, three rear-end collisions, one fixed-object collision, and one angle-type collision. Of the crashes reported, four were classified as *PDO* and five were classified as *Injury C*. The crash rate at the intersection was calculated to be 0.32 CMEV.

15th Street at Washington Street

The intersection of 15th Street at Washington Street had 20 reported crashes during the analysis period. The crashes consisted of ten turning-movement collisions, six angle-type collisions, three rear-end collisions, and one collision involving a bicyclist. Of the crashes reported, nine were classified as *PDO*, nine were classified as *Injury C*, and two were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.80 CMEV.

One of the reported crashes at the intersection involved a bicyclist. The crash occurred when the driver of a southeast-bound left-turning passenger car failed to yield right-of-way to a bicyclist. The driver of the passenger car had their vision obscured by some roadside obstruction. The bicyclist sustained injuries consistent with *Injury C* classification while the driver of the vehicle was uninjured.

Abernethy Road at Washington Street

The intersection of Abernethy Road at Washington Street had no reported crashes during the analysis period.

Amtrak Station Access at Washington Street

The Amtrak station access intersection at Washington Street had no reported crashes during the analysis period.

Prairie Schooner Way at Washington Street

The intersection of Prairie Schooner Way at Washington Street had three reported crashes during the analysis period. All three crashes were turning-movement collisions, two of which were classified as *PDO* while one was classified as *Injury B*. Since the intersection was recently constructed near the end of year 2012, the crash rate was calculated to be 0.23 CMEV based on three years of complete crash history.

Clackamas River Drive at Washington Street

The intersection of Clackamas River Drive at Washington Street had two reported crashes during the analysis period. One of the crashes was a rear-end collision while the other was a turning-movement collision. Both crashes were classified as *PDO*. Since the intersection was recently constructed near the end of year 2012, the crash rate was calculated to be 0.17 CMEV based on three years of complete crash history.

OR-213 at Clackamas River Drive

The intersection of OR-213 at Clackamas River Drive was recently reconstructed near the end of year 2012. Prior to reconstruction, the intersection allowed full turning-movements for all approaches. Currently, the intersection allows only right-in/right-out movements for the minor-street approaches while bi-directional traffic along the major-street is separated by a raised median.

Since significant changes to traffic controls had occurred at the intersection, it's reasonable to assume that crash patterns have also significantly changed. Prior to reconstruction of the intersection, over a duration of two years (between 2011 and 2012) a total of 19 crashes were reported at the intersection. After construction was completed, over a duration of three years (between 2013 and 2015) a total of 15 crashes were reported. Based on this information, on average 9.5 crashes per year had occurred at the intersection prior to reconstruction while 5.0 crashes per year had occurred after construction had ended. In order to more accurately assess safety at the intersection, only three years of crash data between years 2013 and 2015 was reviewed instead of five years.

Based on the three years of crash history, the intersection had 15 reported crashes during the analysis period. The crashes consisted of eight rear-end collisions, two turning-movement collisions, two overturning collisions, one angle-type collision, one fixed-object collision, and one sideswipe collision. Of the crashes reported, four were classified as *PDO*, eight were classified as *Injury C*, and three were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.22 CMEV.

Based on the detailed crash data for the study intersections, it is recommended that the intersection of 14th Street at Main Street be converted to all-way stop control. No other specific mitigations are recommended for the study area intersections based on the crash history.

SIGHT DISTANCE

Sight distance was examined for the proposed site access intersection along Washington Street. The proposed access will be located at/near the existing driveway access that currently serves tax lot 1300 of the project site. Intersection sight distance was measured and evaluated in accordance with the standards established in *A Policy on Geometric Design of Highways and Streets*[2]. According to AASHTO, the driver's eye is assumed to be 15 feet from the near edge of the nearest travel lane of the intersecting street and at a height of 3.5 feet above the approach street pavement. The major-street approaching vehicle driver's eye-height is assumed to be 3.5 feet above the cross-street pavement.

The posted speed along Washington Street changes between 25 mph and 35 mph at the proposed access location; 25 mph to the southwest of the proposed access and 35 mph to the northeast. Based on the posted speeds along Washington Street, the minimum required intersection sight distances for maintaining relatively uninterrupted traffic flow along the roadway are 280 feet for northeast-bound approaching vehicles and 390 for southwest-bound approach vehicles. At the proposed site access, intersection sight distance was measured to be in excess of 700 feet to the northeast and 378 feet to the southwest, limited by a crest in the vertical curvature of the roadway.

Based on the detailed analysis, adequate sight distance is available for the proposed site access intersection. No sight distance mitigation is necessary or recommended.

WARRANT ANALYSIS

Left-turn lane and traffic signal warrants were examined for the study intersections where such treatments would be applicable.

A left-turn refuge lane is primarily a safety consideration for the major street, removing left-turning vehicles from the through traffic stream. The left-turn lane warrants used were developed from the National Cooperative Highway Research Project's (NCHRP) Report 457. Turn lane warrants were evaluated based on the number of advancing and opposing vehicles as well as the number of turning vehicles, the travel speed, and the number of through lanes.

Left-turn lane warrants are project to be met for the following two intersection approaches:

- Northeast-bound approach at the intersection of 14th Street at Main Street under existing conditions during the morning and evening peak hours.
- Northwest-bound approach at the site access intersection at Washington Street under year 2022 build-out conditions during the morning peak hour.

The intersection of 14th Street at Main Street is included within Oregon City's TSP and is planned for conversion to all-way stop control in the short-term. Typically, conversion of an intersection to all-way stop control means that the left-turn lane warrants are no longer applicable. However, based on

[2] American Association of State Highways and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 6th Edition, 2011.

the operational analysis of intersection operation under all-way stop control it is recommended that a northwest-bound left-turn lane be provided at the intersection even under all-way stop control in order to ensure that all approaches will continue to operate within capacity.

Traffic signal warrants were examined for unsignalized stop-controlled study intersections to determine whether the installation of any new traffic signal will be warranted at the intersections upon completion of the proposed development and change in zoning. Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met for any of the unsignalized stop-controlled study intersections under any of the analysis scenarios.

ACCESS SPACING STANDARDS

The proposed development will either construct a new access near or utilize an existing access driveway, which currently serves tax lot 1300 of the project site, located along Washington Street. In order to assess whether access spacing standards can be met at the proposed access location, code section 12.04.195 – *Spacing Standards* from Oregon City's municipal code was referenced.

According to Table 12.04.195.B – *Minimum Driveway Spacing Standards*, the *"minimum distance from a street corner to a driveway of all uses and minimum distance between driveways for uses other than single and two-family dwellings"* along Minor Arterial roadways shall be 175 feet. The nearest driveways/public roadways to the project site along northwestern side of Washington Street are the Amtrak station access immediately to the northeast and an automotive repair shop's driveway approximately 75 feet to the southwest. The project site has approximately 520 feet of frontage along Washington Street, 245 feet of which could have a site access built while satisfying City access spacing standards. Therefore, a proposed site access may be constructed along Washington Street while meeting Oregon City standards.

MITIGATION ANALYSIS

Although the operational analysis did not demonstrate the need for any operational mitigation in order to meet city standards, the high historical crash rate for the intersection of 14th Street at Main Street is indicative of the need for safety mitigation.

In conformance with the city's Transportation System Plan, the intersection was identified as a candidate location for conversion to all-way stop control. Providing all-way stop control would be expected to reduce the frequency of the reported crash types. However, introduction of stop signs along 14th Street could also result in increased queue lengths. Given the short distance between Main Street and OR-99E along 14th Street, special consideration of the potential capacity and queuing impacts of all-way stop control is appropriate at this location.

Based on the operational analysis, conversion to all-way stop control absent other improvements would be projected to result in eastbound queues on 14th Street backing up onto OR-99E. Installation of eastbound and westbound left-turn lanes along 14th Street at Main Street was also determined to be insufficient to mitigate queueing and capacity concerns along the 14th Street corridor with stop control at Main Street.

In order to improve operation and reduce queue lengths, two additional improvements are recommended in conjunction with conversion to all-way stop control. The first is to convert the eastbound and westbound approaches on 14th Street at Main Street to each have a shared left/through lane and a shared through/right lane. This lane configuration provides two eastbound lanes in which through traffic can queue, significantly increasing the available eastbound queue storage between Main Street and OR-99E. With two receiving lanes, the eastbound storage is sufficient to accommodate platoons of vehicles making southbound left turns from OR-99E onto 14th Street. This improvement thus ensures that acceptable operation can be maintained during the evening peak hour, when eastbound volumes are highest on 14th Street.

The second improvement addresses operation during the morning peak hour. Even with two westbound lanes provided along 14th Street, long queues would be projected to develop in the right lane since most eastbound drivers turn right onto OR-99E. Introduction of all-way stop control would limit the number of vehicles that could enter OR-99E during the green indication, since vehicles that currently could be served may be stuck at the stop sign at Main Street. In order to balance traffic volumes between the two eastbound lanes and maximize the number of vehicles that can enter OR-99E during each green indication, it is recommended that the westbound approach on 14th Street to OR-99E be converted to have a shared left/right turn lane and a dedicated right turn lane.

A Synchro/SimTraffic analysis was conducted for the proposed improvements, including conversion to all-way stop control for safety as well as reconfiguration of the intersection approaches on 14th Street as described.

Based on the operational analysis, the intersection of Highway 99E at 14th Street is projected to operate at level of service C and with a v/c ratio of 0.94 during the morning peak hour under year 2022 traffic conditions with the addition of site trips from the proposed development and the proposed safety, queuing, and capacity improvements in place. During the evening peak hour, the intersection is projected to operate at level of service C with a v/c ratio of 0.91.

Under year 2022 traffic conditions with the addition of site trips from the proposed development and the proposed safety, capacity and queuing improvements in place, the intersection of 14th Street at Main Street is projected to operate at level of service C during the morning peak hour, with a v/c ratio of 0.72 for the critical approach. During the evening peak hour, the intersection is projected to operate at level of service C, with a v/c ratio of 0.54 for the critical movement. Notably, the v/c ratio for the eastbound 14th Street approaches is projected to be less than 0.50 during both the morning and evening peak hours.

Based on the queuing analysis, the average queue length projected on the eastbound 14th Street approach to Main Street was projected to be 70 feet during the morning peak hour and 84 feet during the evening peak hour. Observation of the queueing simulation showed that although the available queue storage eastbound often filled, the queues immediately clear following each cycle of the traffic signal at OR-99E, and the queues of southbound vehicles turning left from OR-99E onto 14th Street also clear regularly. Additionally, although westbound queues develop during the morning peak hour on 14th Street approaching Main Street, the queues do not extend to Washington Street and result in congestion on the local street network.

Based on the analysis, installation of all-way stop control can be recommended as a safety mitigation for the intersection of 14th Street at Main Street provided that the eastbound and westbound approaches on 14th Street approached Main Street are converted to each have a shared left/through lane and a shared through/right lane, and the westbound 14th Street approach to OR-99E is converted to have a shared left/right lane and a dedicated right-turn lane at the signal.

It should also be noted as an alternative to the above-recommended improvements that the city's Transportation System Plan also includes an alternative improvement consisting of conversion of 14th Street to one-way eastbound from OR-99E to John Adams Street and conversion of 15th Street to one-way westbound from Washington Street to OR-99E. This option would result in more significant changes to trip routing within the study area. It would also likely necessitate installation of a new traffic signal at the intersection of Highway 99E and 15th Street, since this would become the intersection that accommodates westbound left-turns onto OR-99E. Although this alternative improvement can be considered by the city and ODOT, the associated impacts and costs are well beyond what can reasonably be expected as mitigation for development of the subject property.

PROPORTIONALITY ANALYSIS

In order to determine the relative impacts of the proposed development at locations requiring mitigation, a proportionality analysis was prepared. Generally, any requested mitigation must have a logical connection or "nexus" to the proposed development, and the requested mitigation must be roughly proportional to the impacts of the proposed development.

For this project, two primary mitigations were recommended based on the safety analysis. These consist of installation of a northbound left-turn lane at the site access and a collection of improvements near the intersection of 14th Street and Main Street to improve safety while maintaining acceptable operation of the impacted intersections.

The northbound left-turn lane recommended at the site access serves site traffic and is located along the site frontage. Accordingly, there is a logical nexus between the proposed development and the safety mitigation. Since the access will serve exclusively site traffic, it is reasonable to request that the improvement be funded by the proposed development. Based on the analysis, this improvement should be constructed prior to occupancy of Phase 2 of the proposed development.

The improvements intended to address existing safety concerns at the intersection of 14th Street and Main Street are not directly contiguous to the site, and the proposed development is not causing the safety problem since it is occurring under existing conditions. However, the site will add trips through the intersection. Accordingly, there is also a logical nexus between this improvement need and the proposed development.

In order to assess the proportionate impacts of the proposed development on the intersection, traffic volumes were considered for existing and year 2022 conditions. These volumes were compared to the projected number of site trips added to the intersection under Phase 1 development of the 99-room hotel as well as at full site build-out. Currently, the intersection accommodates 1,062 entering vehicles during the morning peak hour and 1,123 entering vehicles during the evening peak hour. Under year 2022 background plus site trips conditions, the intersection is projected to accommodate

1,196 entering vehicles during the morning peak hour and 1,265 entering vehicles during the evening peak hour.

Based on the site trip generation and distribution, Phase 1 of the proposed development would be projected to add 8 site trips to the intersection during the morning peak hour and 10 site trips during the evening peak hour. At full site build-out, the development is projected to add 23 trips to the intersection during the morning peak hour and 26 trips during the evening peak hour in total.

Based on the analysis, the added trips from Phase 1 are projected to represent less than one percent of the traffic passing through the intersection under year 2022 conditions, and the total impact from Phases 1 and 2 is projected to represent two percent of the traffic passing through the intersection.

Often, proportionality analysis is conducted not based on the total intersection volumes as compared to the site traffic volumes, but instead on the portion of the projected traffic increase that is attributable to the proposed development. In this case, it is probably not appropriate to assess relative impacts in this manner, since the historical safety problem is entirely attributable to existing traffic rather than the projected traffic increases. Nevertheless, if the proportionality analysis were conducted based on only the projected increase in trips, the proposed development would represent 6% of the increase during the morning peak hour and 7% of the increase during the evening peak hour for Phase 1. The cumulative impact of Phases 1 and 2 would represent 17% of the increased traffic volumes during the morning peak hour and 18% of the increase during the evening peak hour.

Based on this analysis, it is reasonable to conclude that the proposed development should not be solely responsible for the costs associated with the recommended safety improvements for the intersection of 14th Street at Main Street. If the city desires to require mitigation from the proposed development, it may therefore be appropriate to request a proportionate share payment based on the impacts of the proposed development rather than requesting construction of the recommended improvements.

CONCLUSIONS

Based on the operational analysis, all study area intersections are projected to operate acceptably per Oregon City code standards through 2022 either with or without the addition of site trips from the proposed development.

Based on the crash analysis, the intersection of 14th Street at Main Street was identified as having a high crash rate. It is recommended that the intersection be converted to all-way stop control to address this safety concern. It is recommended that concurrent with conversion to all-way stop control the eastbound and westbound approaches on 14th Street be converted to have a shared left/through lane and a shared through/right lane. Additionally, it is recommended that the westbound approach to Highway 99E be converted to have a shared left/right turn lane and a dedicated right-turn lane. With these improvements in place, it is anticipated that the safety of the intersection will be improved while maintaining acceptable operation of the affected intersections.

It should be noted that the city's Transportation System Plan includes an alternative improvement that could address safety concerns at the intersection of 14th Street and Main Street, consisting of conversion of 14th Street to one-way eastbound from OR-99E to John Adams Street and conversion of 15th Street to one-way westbound from Washington Street to OR-99E. This alternative treatment would likely necessitate installation of a new traffic signal for the intersection of Highway 99E at 15th Street.

Intersection sight distance is adequate at the site access intersections. No sight distance mitigation is recommended.

Based on the left-turn lane warrant analysis, installation of a northbound left-turn lane on Washington Street at the site access is recommended in conjunction with development of Phase 2.

Since the westbound 14th Street approach to Main Street currently meets left-turn lane warrants, it is recommended that a northwest-bound left-turn lane be provided even if the intersection is not converted to all-way stop control.

Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met for any of the unsignalized stop-controlled study intersections under any of the analysis scenarios.

The proposed site access intersection at Washington Street can be constructed to meet the minimum access spacing standards required by the Oregon City Municipal Code.

Based on the proportionality analysis, it was determined that a requirement to construct a left-turn lane serving the site access would be proportionate to the impacts of the proposed development. However, a requirement for construction of safety improvements at the intersection of 14th Street and Main Street would not proportionate to the impacts of the development. If the city desires to require mitigation from the proposed development, it may therefore be appropriate to request a proportionate share payment based on the impacts of the proposed development rather than requesting construction of the recommended improvements.

APPENDIX



ABERNETHY PLACE MASTER PLAN

OREGON CITY, OREGON

0 15' 30' 60'

HILL ARCHITECTS

MIXED USE CONCEPTUAL SITE PLAN **1.1**

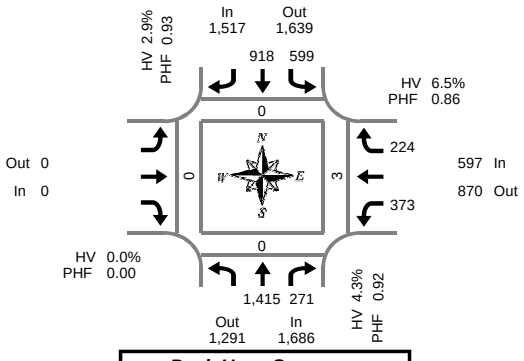
NOVEMBER 4, 2016

1750 BLANKENSHIP ROAD • SUITE 400 • WEST LINN • OREGON 97068

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Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Hwy 99 & I-205 SB Ramp

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	101	36	0		47	56		0				0	37		18	0	295	0	0	2	0
7:05 AM	95	33	0		44	81		0				0	19		19	0	291	0	0	0	0
7:10 AM	89	24	0		55	67		1				0	23		13	0	271	0	0	0	0
7:15 AM	106	28	0		46	63		0				0	37		12	0	292	0	0	1	0
7:20 AM	107	20	0		51	67		0				0	30		21	0	296	0	0	0	0
7:25 AM	92	21	0		61	61		0				0	29		9	0	273	0	0	0	0
7:30 AM	128	27	0		45	66		0				0	34		9	0	309	0	0	0	0
7:35 AM	145	15	0		50	73		0				0	26		23	0	332	0	0	2	0
7:40 AM	112	17	0		56	85		0				0	30		18	0	318	0	0	0	0
7:45 AM	136	25	0		44	86		0				0	43		22	0	356	0	0	0	0
7:50 AM	145	21	0		52	86		0				0	20		25	0	349	0	0	0	0
7:55 AM	115	17	0		48	92		0				0	30		27	0	329	0	0	0	0
8:00 AM	128	27	0		42	87		0				0	47		22	0	353	0	0	0	0
8:05 AM	112	29	0		49	85		0				0	24		23	0	322	0	0	0	0
8:10 AM	88	22	0		46	69		0				0	23		21	0	269	0	0	1	0
8:15 AM	102	18	0		32	74		0				0	33		32	0	291	0	0	0	0
8:20 AM	87	20	0		31	85		0				0	22		27	0	272	0	0	0	0
8:25 AM	76	17	0		35	79		0				0	21		17	0	245	0	0	1	0
8:30 AM	97	17	0		44	81		0				0	45		23	0	307	0	0	0	0
8:35 AM	77	13	0		48	81		0				0	33		30	0	282	0	0	0	0
8:40 AM	79	16	0		44	73		0				0	31		30	0	273	0	0	0	0
8:45 AM	105	22	0		41	74		0				0	46		26	0	314	0	0	0	0
8:50 AM	97	18	0		35	80		0				0	31		31	0	292	0	0	1	0
8:55 AM	79	14	0		36	55		0				0	25		22	0	231	0	0	0	0
Total Survey	2,498	517	0		1,082	1,806		1				0	739		520	0	7,162	0	0	8	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	285	93	0		146	204		1				0	79		50	0	857	0	0	2	0
7:15 AM	305	69	0		158	191		0				0	96		42	0	861	0	0	1	0
7:30 AM	385	59	0		151	224		0				0	90		50	0	959	0	0	2	0
7:45 AM	396	63	0		144	264		0				0	93		74	0	1,034	0	0	0	0
8:00 AM	328	78	0		137	241		0				0	94		66	0	944	0	0	1	0
8:15 AM	265	55	0		98	238		0				0	76		76	0	808	0	0	1	0
8:30 AM	253	46	0		136	235		0				0	109		83	0	862	0	0	0	0
8:45 AM	281	54	0		112	209		0				0	102		79	0	837	0	0	1	0
Total Survey	2,498	517	0		1,082	1,806		1				0	739		520	0	7,162	0	0	8	0

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,686	1,291	2,977	0	1,517	1,639	3,156	1	0	0	0	0	597	870	1,467	0	3,800	0	0	3	0
%HV	4.3%				2.9%				0.0%				6.5%				4.1%				
PHF	0.92				0.93				0.00				0.86				0.92				

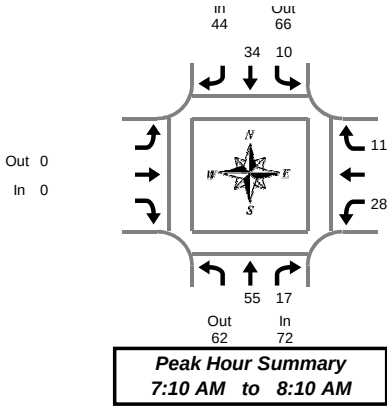
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		1,415	271	1,686	599	918		1,517				0	373		224	597	3,800
%HV	NA	3.9%	6.3%	4.3%	1.7%	3.7%	NA	2.9%	NA	NA	NA	0.0%	7.5%	NA	4.9%	6.5%	4.1%
PHF		0.89	0.93	0.92	0.95	0.87		0.93				0.00	0.92		0.76	0.86	0.92

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	1,371	284	0		599	883		1				0	358		216	0	3,711	0	0	5	0
7:15 AM	1,414	269	0		590	920		0				0	373		232	0	3,798	0	0	4	0
7:30 AM	1,374	255	0		530	967		0				0	353		266	0	3,745	0	0	4	0
7:45 AM	1,242	242	0		515	978		0				0	372		299	0	3,648	0	0	2	0
8:00 AM	1,127	233	0		483	923		0				0	381		304	0	3,451	0	0	3	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 SB Ramp

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		3	2	5	0	3		3				0	2		3	5	13
7:05 AM		1	1	2	2	3		5				0	1		0	1	8
7:10 AM		1	2	3	1	2		3				0	1		1	2	8
7:15 AM		6	0	6	0	3		3				0	1		2	3	12
7:20 AM		4	2	6	0	6		6				0	2		0	2	14
7:25 AM		4	1	5	1	2		3				0	2		0	2	10
7:30 AM		5	4	9	1	2		3				0	3		0	3	15
7:35 AM		5	1	6	1	1		2				0	1		3	4	12
7:40 AM		5	0	5	1	3		4				0	2		1	3	12
7:45 AM		4	1	5	0	3		3				0	2		2	4	12
7:50 AM		6	2	8	1	2		3				0	2		0	2	13
7:55 AM		5	0	5	2	3		5				0	6		1	7	17
8:00 AM		6	0	6	0	2		2				0	3		0	3	11
8:05 AM		4	4	8	2	5		7				0	3		1	4	19
8:10 AM		6	3	9	0	7		7				0	1		1	2	18
8:15 AM		9	2	11	0	4		4				0	3		3	6	21
8:20 AM		6	2	8	2	5		7				0	3		3	6	21
8:25 AM		5	0	5	3	7		10				0	3		0	3	18
8:30 AM		5	2	7	0	5		5				0	3		1	4	16
8:35 AM		3	0	3	1	1		2				0	3		1	4	9
8:40 AM		3	0	3	2	5		7				0	5		3	8	18
8:45 AM		5	2	7	4	4		8				0	3		2	5	20
8:50 AM		1	2	3	1	7		8				0	2		0	2	13
8:55 AM		4	0	4	2	3		5				0	1		1	2	11
Total Survey		106	33	139	27	88		115				0	58		29	87	341

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		5	5	10	3	8		11				0	4		4	8	29
7:15 AM		14	3	17	1	11		12				0	5		2	7	36
7:30 AM		15	5	20	3	6		9				0	6		4	10	39
7:45 AM		15	3	18	3	8		11				0	10		3	13	42
8:00 AM		16	7	23	2	14		16				0	7		2	9	48
8:15 AM		20	4	24	5	16		21				0	9		6	15	60
8:30 AM		11	2	13	3	11		14				0	11		5	16	43
8:45 AM		10	4	14	7	14		21				0	6		3	9	44
Total Survey		106	33	139	27	88		115				0	58		29	87	341

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound I-205 SB Ramp			Westbound I-205 SB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	72	62	134	44	66	110	0	0	0	39	27	66	155
PHF	0.90			0.79			0.00			0.70			0.82

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		55	17	72	10	34		44				0	28		11	39	155
PHF		0.81	0.61	0.90	0.63	0.77		0.79				0.00	0.58		0.46	0.70	0.82

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

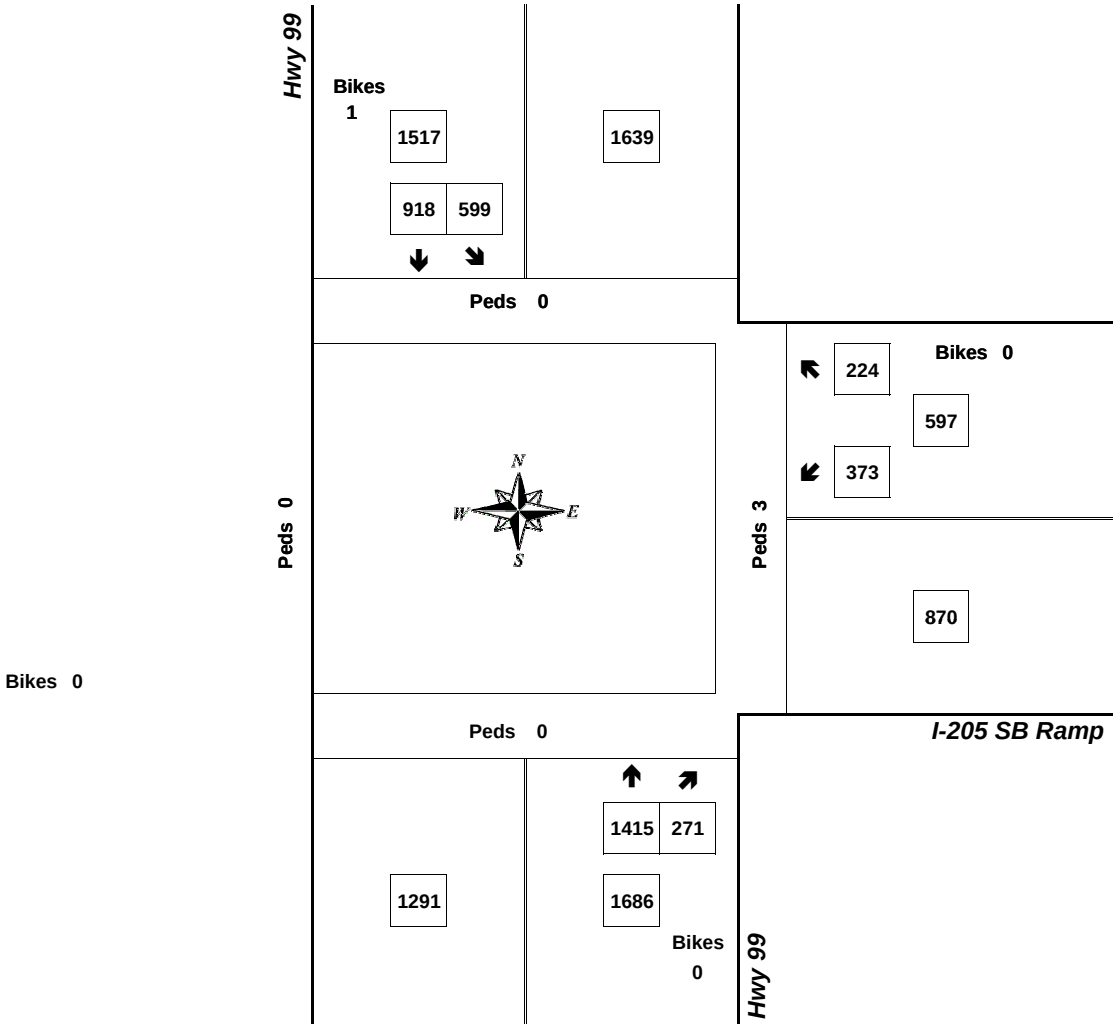
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		49	16	65	10	33		43				0	25		13	38	146
7:15 AM		60	18	78	9	39		48				0	28		11	39	165
7:30 AM		66	19	85	13	44		57				0	32		15	47	189
7:45 AM		62	16	78	13	49		62				0	37		16	53	193
8:00 AM		57	17	74	17	55		72				0	33		16	49	195

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & I-205 SB Ramp

7:10 AM to 8:10 AM
Thursday, January 26, 2017

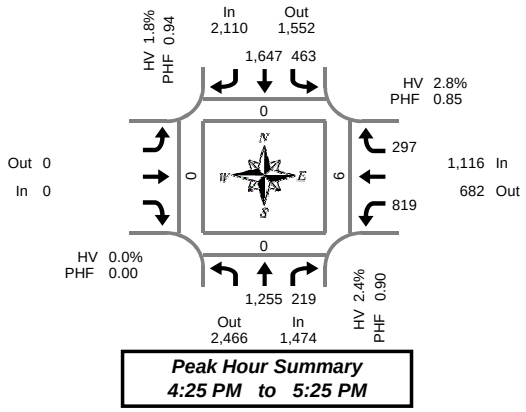


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.86	6.5%	597
NB	0.92	4.3%	1,686
SB	0.93	2.9%	1,517
Intersection	0.92	4.1%	3,800

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 SB Ramp

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:25 PM to 5:25 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	74	20	0		46	123		0				0	74		33	0	370	0	0	0	0
4:05 PM	117	17	0		39	137		0				0	47		27	0	384	0	0	1	0
4:10 PM	117	16	0		40	137		0				0	82		21	0	413	0	0	1	0
4:15 PM	95	19	0		44	117		0				0	86		16	0	377	0	0	0	0
4:20 PM	85	15	0		38	119		0				0	73		28	0	358	0	0	0	0
4:25 PM	110	17	0		42	162		0				0	76		32	0	439	0	0	1	0
4:30 PM	97	22	0		37	135		0				0	74		23	0	388	0	0	0	0
4:35 PM	76	19	0		41	123		0				0	88		36	0	383	0	0	0	0
4:40 PM	110	17	0		38	169		0				0	53		22	0	409	0	0	0	0
4:45 PM	101	18	0		44	147		0				0	60		21	0	391	0	0	0	0
4:50 PM	107	16	0		23	121		0				0	71		16	0	354	0	0	0	0
4:55 PM	82	8	1		38	112		0				0	81		24	0	345	0	0	0	0
5:00 PM	122	16	0		45	141		0				0	54		26	0	404	0	0	1	0
5:05 PM	109	16	0		35	142		0				0	73		25	0	400	0	0	0	0
5:10 PM	113	26	0		35	116		0				0	66		22	0	378	0	0	1	0
5:15 PM	101	21	0		44	140		0				0	69		25	0	400	0	0	1	0
5:20 PM	127	23	0		41	139		0				0	54		25	0	409	0	0	2	0
5:25 PM	113	25	0		29	121		0				0	61		20	0	369	0	0	1	0
5:30 PM	73	23	0		42	98		0				0	81		26	0	343	0	0	0	0
5:35 PM	108	16	0		48	147		0				0	52		19	0	390	0	0	0	0
5:40 PM	104	15	0		30	133		0				0	63		18	0	363	0	0	0	0
5:45 PM	105	20	0		35	112		0				0	77		23	0	372	0	0	1	0
5:50 PM	87	13	0		46	102		0				0	70		24	0	342	0	0	0	0
5:55 PM	106	10	0		39	117		0				0	64		18	0	354	0	0	1	0
Total Survey	2,439	428	1		939	3,110		0				0	1,649		570	0	9,135	0	0	11	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	308	53	0		125	397		0				0	203		81	0	1,167	0	0	2	0
4:15 PM	290	51	0		124	398		0				0	235		76	0	1,174	0	0	1	0
4:30 PM	283	58	0		116	427		0				0	215		81	0	1,180	0	0	0	0
4:45 PM	290	42	1		105	380		0				0	212		61	0	1,090	0	0	0	0
5:00 PM	344	58	0		115	399		0				0	193		73	0	1,182	0	0	2	0
5:15 PM	341	69	0		114	400		0				0	184		70	0	1,178	0	0	4	0
5:30 PM	285	54	0		120	378		0				0	196		63	0	1,096	0	0	0	0
5:45 PM	298	43	0		120	331		0				0	211		65	0	1,068	0	0	2	0
Total Survey	2,439	428	1		939	3,110		0				0	1,649		570	0	9,135	0	0	11	0

Peak Hour Summary
4:25 PM to 5:25 PM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,474	2,466	3,940	1	2,110	1,552	3,662	0	0	0	0	0	1,116	682	1,798	0	4,700	0	0	6	0
%HV		2.4%				1.8%				0.0%				2.8%			2.3%				
PHF		0.90				0.94				0.00				0.85			0.97				

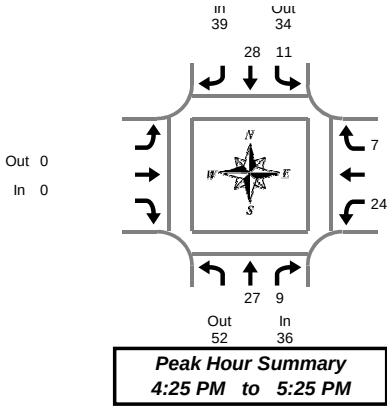
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,255	219	1,474		463	1,647		2,110				0	819		297	1,116	4,700
%HV	NA	2.2%	4.1%	2.4%	2.4%	1.7%	NA	1.8%	NA	NA	NA	0.0%	2.9%	NA	2.4%	2.8%	2.3%
PHF		0.91	0.78	0.90	0.94	0.94		0.94				0.00	0.86		0.82	0.85	0.97

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	1,171	204	1		470	1,602		0				0	865		299	0	4,611	0	0	3	0
4:15 PM	1,207	209	1		460	1,604		0				0	855		291	0	4,626	0	0	3	0
4:30 PM	1,258	227	1		450	1,606		0				0	804		285	0	4,630	0	0	6	0
4:45 PM	1,260	223	1		454	1,557		0				0	785		267	0	4,546	0	0	6	0
5:00 PM	1,268	224	0		469	1,508		0				0	784		271	0	4,524	0	0	8	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 SB Ramp

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:25 PM to 5:25 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		1	0	1	0	3		3				0	4		1	5	9
4:05 PM		2	1	3	2	4		6				0	3		0	3	12
4:10 PM		2	2	4	3	4		7				0	0		0	0	11
4:15 PM		4	2	6	0	2		2				0	1		2	3	11
4:20 PM		0	2	2	1	4		5				0	3		1	4	11
4:25 PM		6	1	7	3	2		5				0	2		1	3	15
4:30 PM		5	1	6	1	4		5				0	1		1	2	13
4:35 PM		1	0	1	2	1		3				0	3		0	3	7
4:40 PM		2	0	2	2	1		3				0	2		1	3	8
4:45 PM		1	2	3	0	2		2				0	3		1	4	9
4:50 PM		1	0	1	0	3		3				0	1		0	1	5
4:55 PM		1	0	1	1	3		4				0	0		0	0	5
5:00 PM		1	1	2	1	3		4				0	1		0	1	7
5:05 PM		1	0	1	0	4		4				0	2		0	2	7
5:10 PM		2	0	2	0	1		1				0	4		0	4	7
5:15 PM		3	1	4	0	1		1				0	3		3	6	11
5:20 PM		3	3	6	1	3		4				0	2		0	2	12
5:25 PM		3	0	3	0	3		3				0	3		0	3	9
5:30 PM		1	1	2	0	2		2				0	1		0	1	5
5:35 PM		1	0	1	0	3		3				0	1		1	2	6
5:40 PM		3	0	3	1	2		3				0	1		0	1	7
5:45 PM		2	0	2	0	2		2				0	1		1	2	6
5:50 PM		0	1	1	1	0		1				0	2		1	3	5
5:55 PM		2	0	2	2	2		4				0	0		0	0	6
Total Survey		48	18	66	21	59		80				0	44		14	58	204

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		5	3	8	5	11		16				0	7		1	8	32
4:15 PM		10	5	15	4	8		12				0	6		4	10	37
4:30 PM		8	1	9	5	6		11				0	6		2	8	28
4:45 PM		3	2	5	1	8		9				0	4		1	5	19
5:00 PM		4	1	5	1	8		9				0	7		0	7	21
5:15 PM		9	4	13	1	7		8				0	8		3	11	32
5:30 PM		5	1	6	1	7		8				0	3		1	4	18
5:45 PM		4	1	5	3	4		7				0	3		2	5	17
Total Survey		48	18	66	21	59		80				0	44		14	58	204

Heavy Vehicle Peak Hour Summary
4:25 PM to 5:25 PM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound I-205 SB Ramp			Westbound I-205 SB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	36	52	88	39	34	73	0	0	0	31	20	51	106
PHF	0.64			0.75			0.00			0.65			0.76

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		27	9	36	11	28		39				0	24		7	31	106
PHF		0.56	0.56	0.64	0.46	0.70		0.75				0.00	0.67		0.58	0.65	0.76

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

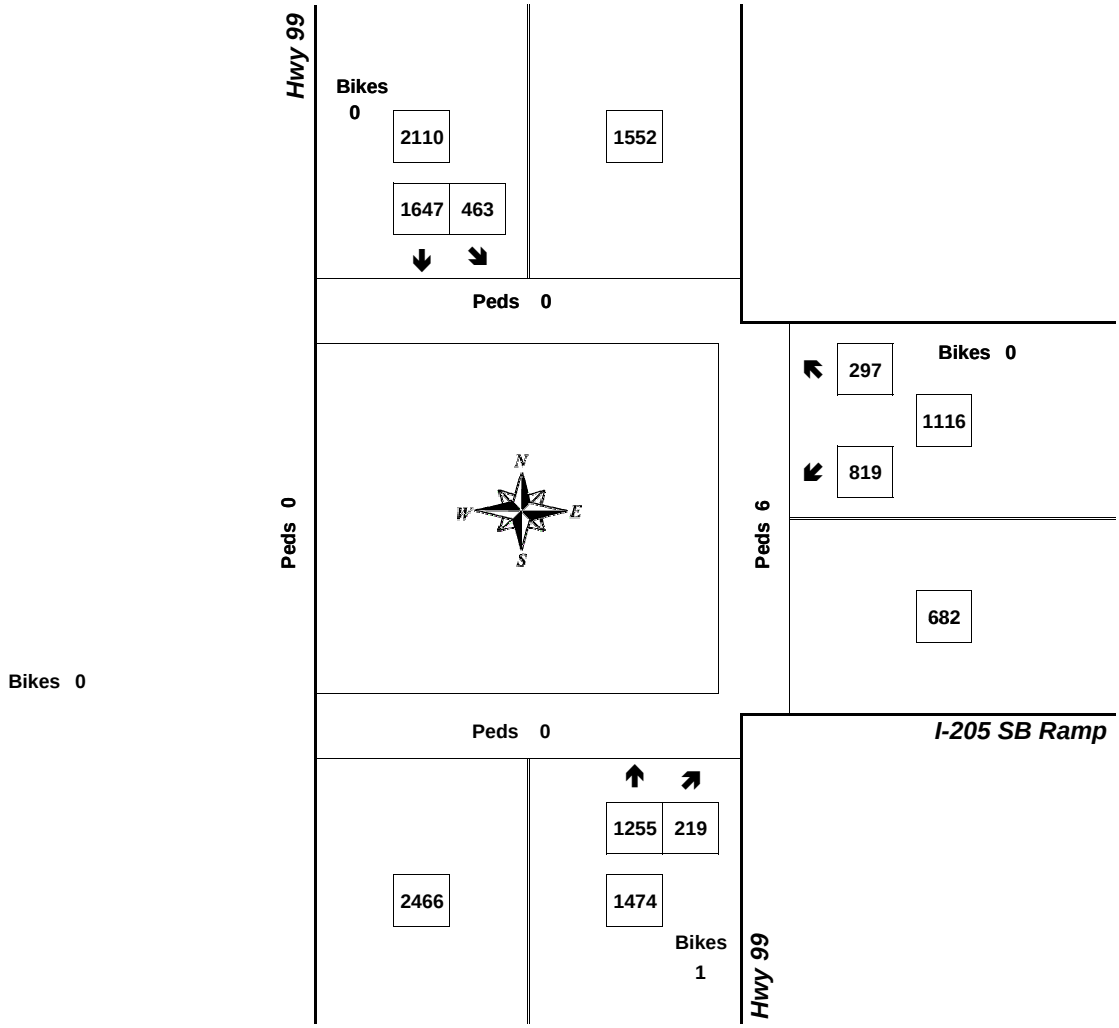
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		26	11	37	15	33		48				0	23		8	31	116
4:15 PM		25	9	34	11	30		41				0	23		7	30	105
4:30 PM		24	8	32	8	29		37				0	25		6	31	100
4:45 PM		21	8	29	4	30		34				0	22		5	27	90
5:00 PM		22	7	29	6	26		32				0	21		6	27	88

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & I-205 SB Ramp

4:25 PM to 5:25 PM
Wednesday, January 25, 2017

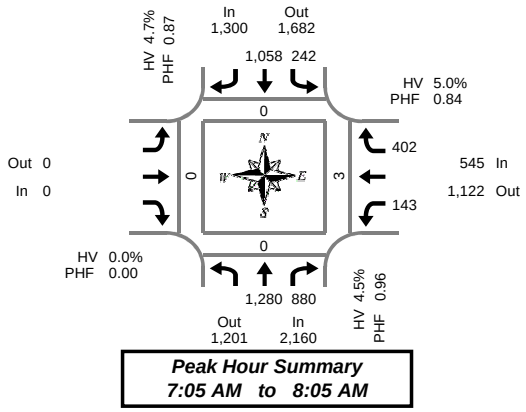


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.85	2.8%	1,116
NB	0.90	2.4%	1,474
SB	0.94	1.8%	2,110
Intersection	0.97	2.3%	4,700

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 NB Ramp

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	105	69	0		15	61		0				0	9		27	0	286	0	0	0	0
7:05 AM	103	87	0		26	70		0				0	8		26	0	320	0	0	0	0
7:10 AM	92	73	0		31	83		0				0	4		24	0	307	0	0	1	0
7:15 AM	102	77	0		13	80		1				0	11		25	0	308	0	0	0	0
7:20 AM	102	78	0		18	76		0				0	7		32	0	313	0	0	0	0
7:25 AM	92	81	0		17	88		0				0	11		32	0	321	0	0	0	0
7:30 AM	113	72	0		18	72		0				0	11		42	0	328	0	0	0	0
7:35 AM	121	81	0		15	80		0				0	11		42	0	350	0	0	0	0
7:40 AM	104	69	0		22	97		0				0	13		38	0	343	0	0	2	0
7:45 AM	128	56	0		16	103		0				0	19		39	0	361	0	0	0	0
7:50 AM	117	68	0		25	85		0				0	20		31	0	346	0	0	0	0
7:55 AM	104	71	0		18	115		0				0	13		31	0	352	0	0	0	0
8:00 AM	102	67	0		23	109		0				0	15		40	0	356	0	0	0	0
8:05 AM	101	60	0		15	100		0				0	12		31	0	319	0	0	0	0
8:10 AM	88	62	0		25	80		0				0	18		28	0	301	0	0	0	0
8:15 AM	90	56	0		13	93		0				0	5		31	0	288	0	0	0	0
8:20 AM	78	76	0		19	77		0				0	12		38	0	300	0	0	0	0
8:25 AM	66	51	0		23	98		0				0	22		37	0	297	0	0	0	0
8:30 AM	73	66	0		23	98		0				0	13		27	0	300	0	0	1	0
8:35 AM	66	53	0		15	100		0				0	9		30	0	273	0	0	0	0
8:40 AM	63	36	0		20	78		0				0	10		40	0	247	0	0	0	0
8:45 AM	87	53	0		31	91		0				0	23		31	0	316	0	0	0	0
8:50 AM	77	54	0		20	93		0				0	12		35	0	291	0	0	1	0
8:55 AM	60	46	0		16	75		0				0	12		39	0	248	0	0	0	0
Total Survey	2,234	1,562	0		477	2,102		1				0	300		796	0	7,471	0	0	5	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	300	229	0		72	214		0				0	21		77	0	913	0	0	1	0
7:15 AM	296	236	0		48	244		1				0	29		89	0	942	0	0	0	0
7:30 AM	338	222	0		55	249		0				0	35		122	0	1,021	0	0	2	0
7:45 AM	349	195	0		59	303		0				0	52		101	0	1,059	0	0	0	0
8:00 AM	291	189	0		63	289		0				0	45		99	0	976	0	0	0	0
8:15 AM	234	183	0		55	268		0				0	39		106	0	885	0	0	0	0
8:30 AM	202	155	0		58	276		0				0	32		97	0	820	0	0	1	0
8:45 AM	224	153	0		67	259		0				0	47		105	0	855	0	0	1	0
Total Survey	2,234	1,562	0		477	2,102		1				0	300		796	0	7,471	0	0	5	0

Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	2,160	1,201	3,361	0	1,300	1,682	2,982	1	0	0	0	0	545	1,122	1,667	0	4,005	0	0	3	0
%HV	4.5%				4.7%				0.0%				5.0%				4.6%				
PHF	0.96				0.87				0.00				0.84				0.95				

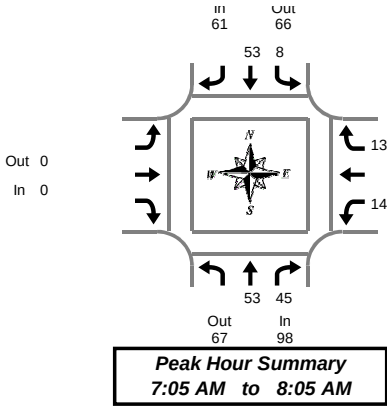
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,280	880	2,160		242	1,058		1,300				0	143		402	545	4,005
%HV	NA	4.1%	5.1%	4.5%	3.3%	5.0%	NA	4.7%	NA	NA	NA	0.0%	9.8%	NA	3.2%	5.0%	4.6%
PHF		0.91	0.93	0.96	0.86	0.86		0.87				0.00	0.69		0.82	0.84	0.95

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	1,283	882	0		234	1,010		1				0	137		389	0	3,935	0	0	3	0
7:15 AM	1,274	842	0		225	1,085		1				0	161		411	0	3,998	0	0	2	0
7:30 AM	1,212	789	0		232	1,109		0				0	171		428	0	3,941	0	0	2	0
7:45 AM	1,076	722	0		235	1,136		0				0	168		403	0	3,740	0	0	1	0
8:00 AM	951	680	0		243	1,092		0				0	163		407	0	3,536	0	0	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 NB Ramp

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:05 AM to 8:05 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		3	3	6	1	3		4				0	0		1	1	11
7:05 AM		2	1	3	1	3		4				0	1		1	2	9
7:10 AM		3	1	4	0	4		4				0	0		0	0	8
7:15 AM		3	5	8	1	3		4				0	2		1	3	15
7:20 AM		6	3	9	0	10		10				0	0		1	1	20
7:25 AM		1	4	5	1	3		4				0	1		3	4	13
7:30 AM		9	1	10	0	4		4				0	1		0	1	15
7:35 AM		5	3	8	0	2		2				0	1		1	2	12
7:40 AM		4	5	9	2	3		5				0	1		2	3	17
7:45 AM		4	3	7	0	3		3				0	3		0	3	13
7:50 AM		7	4	11	2	2		4				0	1		2	3	18
7:55 AM		3	8	11	1	10		11				0	2		0	2	24
8:00 AM		6	7	13	0	6		6				0	1		2	3	22
8:05 AM		7	8	15	3	3		6				0	2		1	3	24
8:10 AM		7	1	8	3	7		10				0	2		3	5	23
8:15 AM		8	3	11	0	7		7				0	0		3	3	21
8:20 AM		5	4	9	1	4		5				0	1		4	5	19
8:25 AM		2	5	7	1	9		10				0	3		5	8	25
8:30 AM		3	5	8	1	7		8				0	1		1	2	18
8:35 AM		2	5	7	1	5		6				0	2		1	3	16
8:40 AM		1	2	3	0	8		8				0	0		2	2	13
8:45 AM		5	4	9	0	5		5				0	3		1	4	18
8:50 AM		3	6	9	0	9		9				0	1		1	2	20
8:55 AM		2	6	8	1	4		5				0	1		2	3	16
Total Survey		101	97	198	20	124		144				0	30		38	68	410

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		8	5	13	2	10		12				0	1		2	3	28
7:15 AM		10	12	22	2	16		18				0	3		5	8	48
7:30 AM		18	9	27	2	9		11				0	3		3	6	44
7:45 AM		14	15	29	3	15		18				0	6		2	8	55
8:00 AM		20	16	36	6	16		22				0	5		6	11	69
8:15 AM		15	12	27	2	20		22				0	4		12	16	65
8:30 AM		6	12	18	2	20		22				0	3		4	7	47
8:45 AM		10	16	26	1	18		19				0	5		4	9	54
Total Survey		101	97	198	20	124		144				0	30		38	68	410

Heavy Vehicle Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound I-205 NB Ramp			Westbound I-205 NB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	98	67	165	61	66	127	0	0	0	27	53	80	186
PHF	0.70			0.73			0.00			0.75			0.73

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		53	45	98	8	53		61				0	14		13	27	186
PHF		0.74	0.59	0.70	0.50	0.74		0.73				0.00	0.58		0.65	0.75	0.73

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

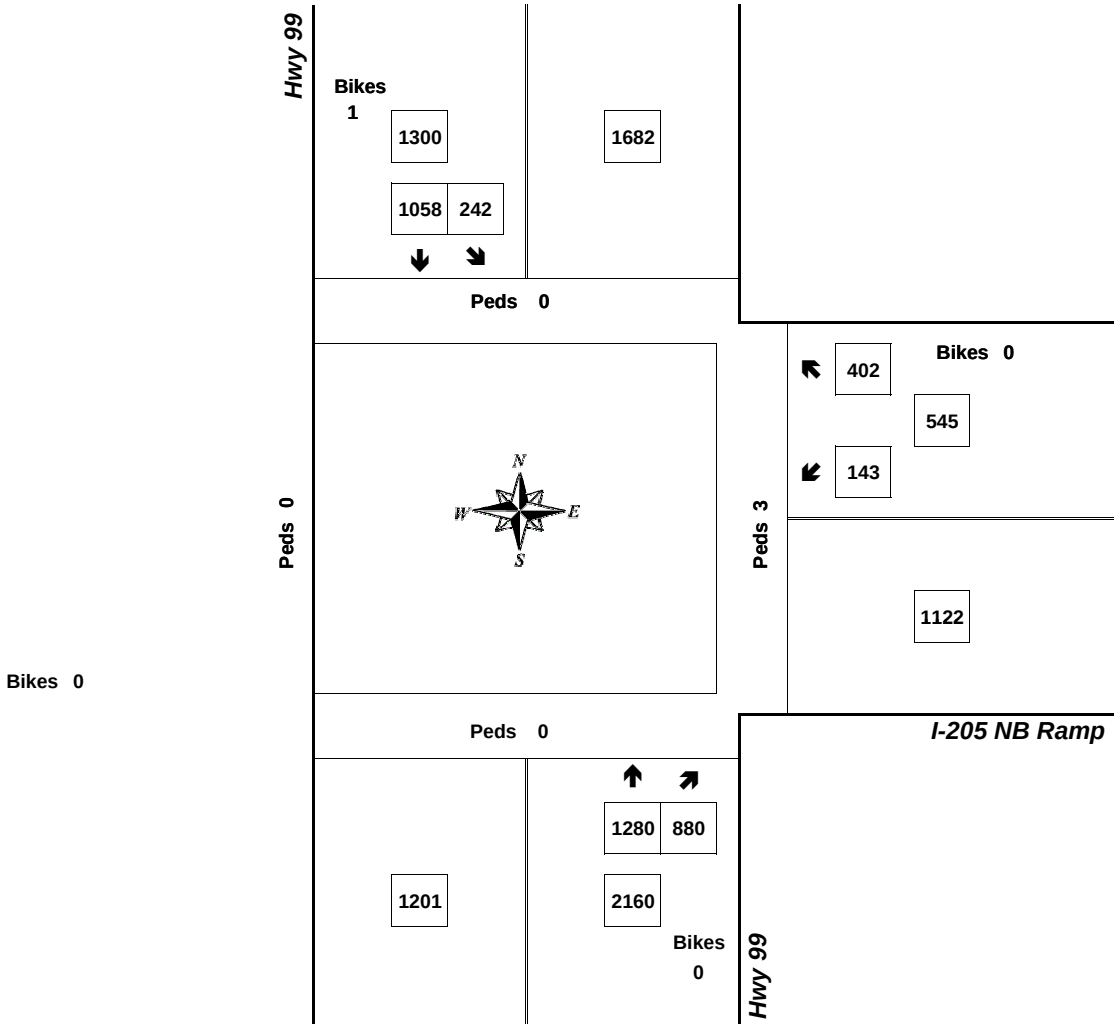
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		50	41	91	9	50		59				0	13		12	25	175
7:15 AM		62	52	114	13	56		69				0	17		16	33	216
7:30 AM		67	52	119	13	60		73				0	18		23	41	233
7:45 AM		55	55	110	13	71		84				0	18		24	42	236
8:00 AM		51	56	107	11	74		85				0	17		26	43	235

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & I-205 NB Ramp

7:05 AM to 8:05 AM
Thursday, January 26, 2017

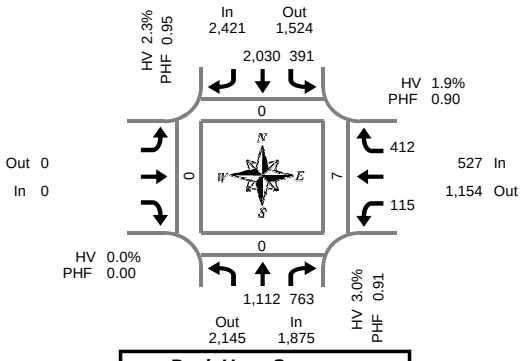


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.84	5.0%	545
NB	0.96	4.5%	2,160
SB	0.87	4.7%	1,300
Intersection	0.95	4.6%	4,005

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:30 PM to 5:30 PM

Hwy 99 & I-205 NB Ramp

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	73	59	0		33	175		0				0	12		38	0	390	0	0	1	0
4:05 PM	89	64	0		30	150		0				0	9		47	0	389	0	0	1	0
4:10 PM	89	67	0		21	171		0				0	6		36	0	390	0	0	0	0
4:15 PM	97	56	0		57	168		0				0	8		35	0	421	0	0	0	0
4:20 PM	60	75	0		31	175		0				0	15		44	0	400	0	0	0	0
4:25 PM	89	61	0		28	185		0				0	6		36	0	405	0	0	1	0
4:30 PM	106	60	0		25	163		0				0	15		31	0	400	0	0	0	0
4:35 PM	87	68	0		42	172		0				0	9		35	0	413	0	0	0	0
4:40 PM	85	57	0		48	185		0				0	6		39	0	420	0	0	0	0
4:45 PM	78	69	0		28	153		0				0	15		40	0	383	0	0	1	0
4:50 PM	96	53	0		21	155		0				0	10		29	0	364	0	0	0	0
4:55 PM	62	62	0		47	167		0				0	16		35	0	389	0	0	1	0
5:00 PM	97	57	0		33	181		0				0	11		45	0	424	0	0	0	0
5:05 PM	94	76	0		20	161		0				0	10		28	0	389	0	0	1	0
5:10 PM	98	57	0		38	164		0				0	6		45	0	408	0	0	1	0
5:15 PM	94	59	0		35	182		0				0	10		30	0	410	0	0	0	0
5:20 PM	108	76	0		23	177		0				0	2		27	0	413	0	0	0	0
5:25 PM	107	69	0		31	170		0				0	5		28	0	410	0	0	3	0
5:30 PM	80	61	0		35	162		0				0	4		39	0	381	0	0	0	0
5:35 PM	81	68	0		32	175		0				0	8		30	0	394	0	0	0	0
5:40 PM	95	70	0		16	174		0				0	4		36	0	395	0	0	1	0
5:45 PM	86	47	0		45	155		0				0	10		28	0	371	0	0	0	0
5:50 PM	67	48	0		45	156		0				0	8		33	0	357	0	0	0	0
5:55 PM	70	50	0		32	159		0				0	2		32	0	345	0	0	0	0
Total Survey	2,088	1,489	0		796	4,035		0				0	207		846	0	9,461	0	0	11	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	251	190	0		84	496		0				0	27		121	0	1,169	0	0	2	0
4:15 PM	246	192	0		116	528		0				0	29		115	0	1,226	0	0	1	0
4:30 PM	278	185	0		115	520		0				0	30		105	0	1,233	0	0	0	0
4:45 PM	236	184	0		96	475		0				0	41		104	0	1,136	0	0	2	0
5:00 PM	289	190	0		91	506		0				0	27		118	0	1,221	0	0	2	0
5:15 PM	309	204	0		89	529		0				0	17		85	0	1,233	0	0	3	0
5:30 PM	256	199	0		83	511		0				0	16		105	0	1,170	0	0	1	0
5:45 PM	223	145	0		122	470		0				0	20		93	0	1,073	0	0	0	0
Total Survey	2,088	1,489	0		796	4,035		0				0	207		846	0	9,461	0	0	11	0

Peak Hour Summary
4:30 PM to 5:30 PM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,875	2,145	4,020	0	2,421	1,524	3,945	0	0	0	0	0	527	1,154	1,681	0	4,823	0	0	7	0
%HV	3.0%				2.3%				0.0%				1.9%				2.6%				
PHF	0.91				0.95				0.00				0.90				0.98				

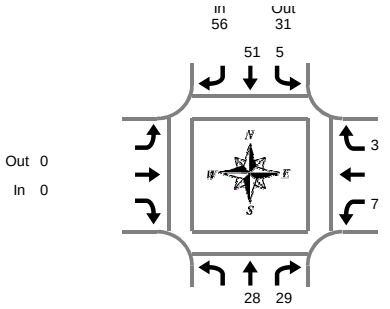
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		1,112	763	1,875	391	2,030		2,421				0	115		412	527	4,823
%HV	NA	2.5%	3.8%	3.0%	1.3%	2.5%	NA	2.3%	NA	NA	NA	0.0%	6.1%	NA	0.7%	1.9%	2.6%
PHF		0.90	0.94	0.91	0.83	0.96		0.95				0.00	0.70		0.87	0.90	0.98

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	1,011	751	0		411	2,019		0				0	127		445	0	4,764	0	0	5	0
4:15 PM	1,049	751	0		418	2,029		0				0	127		442	0	4,816	0	0	5	0
4:30 PM	1,112	763	0		391	2,030		0				0	115		412	0	4,823	0	0	7	0
4:45 PM	1,090	777	0		359	2,021		0				0	101		412	0	4,760	0	0	8	0
5:00 PM	1,077	738	0		385	2,016		0				0	80		401	0	4,697	0	0	6	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 NB Ramp

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:30 PM to 5:30 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		1	3	4	1	7		8				0	2		0	2	14
4:05 PM		3	4	7	2	7		9				0	1		0	1	17
4:10 PM		4	2	6	1	1		2				0	0		0	0	8
4:15 PM		4	3	7	1	4		5				0	1		0	1	13
4:20 PM		2	2	4	0	5		5				0	2		1	3	12
4:25 PM		5	4	9	2	5		7				0	0		1	1	17
4:30 PM		4	1	5	0	4		4				0	2		1	3	12
4:35 PM		3	5	8	1	5		6				0	1		0	1	15
4:40 PM		1	2	3	1	2		3				0	0		0	0	6
4:45 PM		3	1	4	0	4		4				0	1		0	1	9
4:50 PM		1	1	2	0	3		3				0	0		0	0	5
4:55 PM		1	4	5	1	4		5				0	1		0	1	11
5:00 PM		1	3	4	0	5		5				0	0		0	0	9
5:05 PM		2	2	4	0	6		6				0	0		0	0	10
5:10 PM		1	1	2	0	4		4				0	0		1	1	7
5:15 PM		4	3	7	0	2		2				0	1		0	1	10
5:20 PM		5	3	8	1	5		6				0	1		0	1	15
5:25 PM		2	3	5	1	7		8				0	0		1	1	14
5:30 PM		2	2	4	0	3		3				0	0		0	0	7
5:35 PM		1	2	3	0	4		4				0	0		0	0	7
5:40 PM		4	1	5	0	3		3				0	0		0	0	8
5:45 PM		1	2	3	0	2		2				0	2		0	2	7
5:50 PM		2	2	4	0	3		3				0	0		1	1	8
5:55 PM		0	1	1	0	3		3				0	0		0	0	4
Total Survey		57	57	114	12	98		110				0	15		6	21	245

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		8	9	17	4	15		19				0	3		0	3	39
4:15 PM		11	9	20	3	14		17				0	3		2	5	42
4:30 PM		8	8	16	2	11		13				0	3		1	4	33
4:45 PM		5	6	11	1	11		12				0	2		0	2	25
5:00 PM		4	6	10	0	15		15				0	0		1	1	26
5:15 PM		11	9	20	2	14		16				0	2		1	3	39
5:30 PM		7	5	12	0	10		10				0	0		0	0	22
5:45 PM		3	5	8	0	8		8				0	2		1	3	19
Total Survey		57	57	114	12	98		110				0	15		6	21	245

Heavy Vehicle Peak Hour Summary
4:30 PM to 5:30 PM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound I-205 NB Ramp			Westbound I-205 NB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	57	58	115	56	31	87	0	0	0	10	34	44	123
PHF	0.71			0.88			0.00			0.63			0.79

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		28	29	57	5	51		56				0	7		3	10	123
PHF		0.64	0.81	0.71	0.63	0.85		0.88				0.00	0.58		0.75	0.63	0.79

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

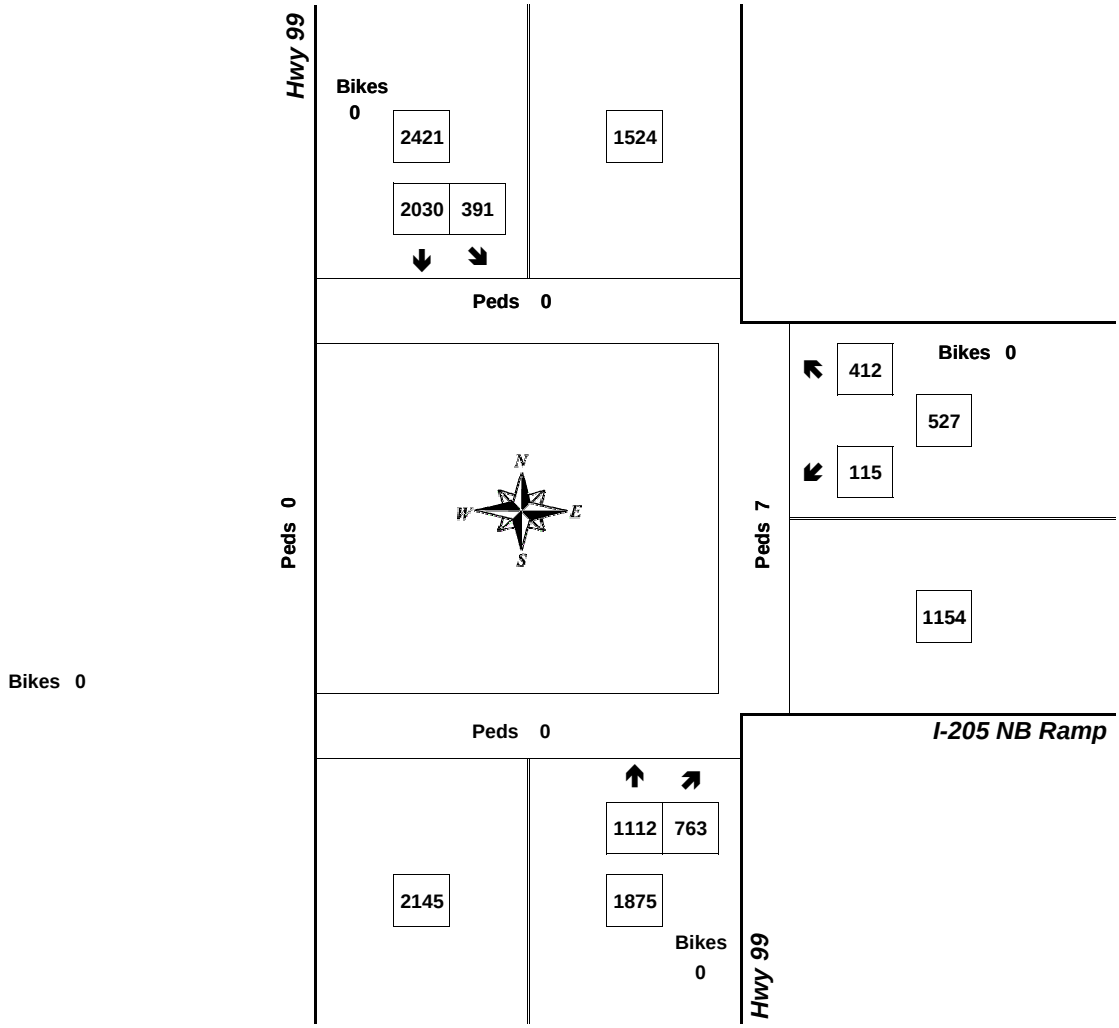
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		32	32	64	10	51		61				0	11		3	14	139
4:15 PM		28	29	57	6	51		57				0	8		4	12	126
4:30 PM		28	29	57	5	51		56				0	7		3	10	123
4:45 PM		27	26	53	3	50		53				0	4		2	6	112
5:00 PM		25	25	50	2	47		49				0	4		3	7	106

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & I-205 NB Ramp

4:30 PM to 5:30 PM
Wednesday, January 25, 2017

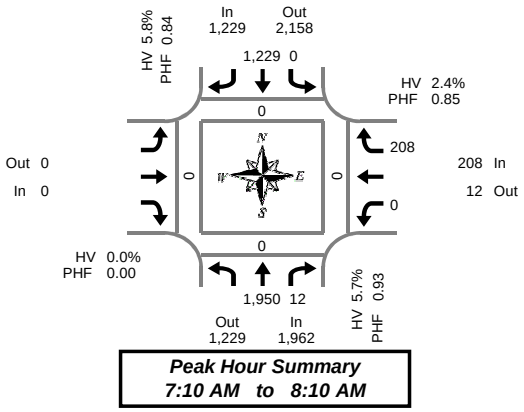


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.90	1.9%	527
NB	0.91	3.0%	1,875
SB	0.95	2.3%	2,421
Intersection	0.98	2.6%	4,823

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Hwy 99 & 15th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T	Bikes				Bikes		L	R	Bikes			North	South	East	West
7:00 AM	153	1	0		0	69	0				0		0	17	0		240	0	0	0	0
7:05 AM	165	0	0		0	80	0				0		0	18	0		263	0	0	0	0
7:10 AM	149	1	0		0	89	0				0		0	22	0		261	0	0	0	0
7:15 AM	166	2	0		0	91	1				0		0	14	0		273	0	0	0	0
7:20 AM	161	1	0		0	81	0				0		0	12	0		255	0	0	0	0
7:25 AM	164	2	0		0	99	0				0		0	13	0		278	0	0	0	0
7:30 AM	173	1	0		0	82	0				0		0	14	0		270	0	0	0	0
7:35 AM	185	0	0		0	89	0				0		0	14	0		288	0	0	0	0
7:40 AM	159	0	0		0	110	0				0		0	23	0		292	0	0	0	0
7:45 AM	164	1	0		0	118	0				0		0	20	0		303	0	0	0	0
7:50 AM	165	1	0		0	103	0				0		0	18	0		287	0	0	0	0
7:55 AM	162	2	0		0	134	0				0		0	21	0		319	0	0	0	0
8:00 AM	160	0	0		0	120	0				0		0	20	0		300	0	0	0	0
8:05 AM	142	1	0		0	113	0				0		0	17	0		273	0	0	0	0
8:10 AM	131	1	0		0	99	0				0		0	21	0		252	0	0	0	0
8:15 AM	124	1	0		0	100	0				0		0	20	0		245	0	0	0	0
8:20 AM	127	0	0		0	89	0				0		0	20	0		236	0	0	0	0
8:25 AM	97	3	0		0	121	0				0		0	27	0		248	0	0	0	0
8:30 AM	122	0	0		0	115	0				0		0	21	0		258	0	0	0	0
8:35 AM	96	2	0		0	105	0				0		0	17	0		220	0	0	0	0
8:40 AM	75	2	0		0	92	0				0		0	25	0		194	0	0	0	0
8:45 AM	135	2	0		0	113	0				0		0	19	0		269	0	0	0	0
8:50 AM	97	1	0		0	104	0				0		0	22	0		224	0	0	0	0
8:55 AM	93	2	0		0	90	0				0		0	19	0		204	0	0	0	0
Total Survey	3,365	27	0		0	2,406	1				0		0	454	0		6,252	0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T	Bikes				Bikes		L	R	Bikes			North	South	East	West
7:00 AM	467	2	0		0	238	0				0		0	57	0		764	0	0	0	0
7:15 AM	491	5	0		0	271	1				0		0	39	0		806	0	0	0	0
7:30 AM	517	1	0		0	281	0				0		0	51	0		850	0	0	0	0
7:45 AM	491	4	0		0	355	0				0		0	59	0		909	0	0	0	0
8:00 AM	433	2	0		0	332	0				0		0	58	0		825	0	0	0	0
8:15 AM	348	4	0		0	310	0				0		0	67	0		729	0	0	0	0
8:30 AM	293	4	0		0	312	0				0		0	63	0		672	0	0	0	0
8:45 AM	325	5	0		0	307	0				0		0	60	0		697	0	0	0	0
Total Survey	3,365	27	0		0	2,406	1				0		0	454	0		6,252	0	0	0	0

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,962	1,229	3,191	0	1,229	2,158	3,387	1	0	0	0	0	208	12	220	0	3,399	0	0	0	0
%HV	5.7%				5.8%				0.0%				2.4%				5.5%				
PHF	0.93				0.84				0.00				0.85				0.93				

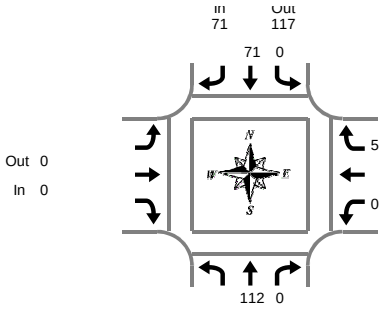
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,950	12	1,962		0	1,229		1,229				0	0		208	208	3,399
%HV	NA	5.7%	0.0%	5.7%	0.0%	5.8%	NA	5.8%	NA	NA	NA	0.0%	0.0%	NA	2.4%	2.4%	5.5%
PHF		0.93	0.60	0.93	0.00	0.84		0.84				0.00	0.00		0.85	0.85	0.93

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T	Bikes				Bikes		L	R	Bikes			North	South	East	West
7:00 AM	1,966	12	0		0	1,145	1				0		0	206	0		3,329	0	0	0	0
7:15 AM	1,932	12	0		0	1,239	1				0		0	207	0		3,390	0	0	0	0
7:30 AM	1,789	11	0		0	1,278	0				0		0	235	0		3,313	0	0	0	0
7:45 AM	1,565	14	0		0	1,309	0				0		0	247	0		3,135	0	0	0	0
8:00 AM	1,399	15	0		0	1,261	0				0		0	248	0		2,923	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & 15th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		6	0	6	0	3		3				0	0		1	1	10
7:05 AM		4	0	4	0	5		5				0	0		0	0	9
7:10 AM		3	0	3	0	3		3				0	0		0	0	6
7:15 AM		8	0	8	0	5		5				0	0		1	1	14
7:20 AM		10	0	10	0	9		9				0	0		0	0	19
7:25 AM		5	0	5	0	5		5				0	0		0	0	10
7:30 AM		10	0	10	0	6		6				0	0		1	1	17
7:35 AM		9	0	9	0	3		3				0	0		0	0	12
7:40 AM		8	0	8	0	5		5				0	0		1	1	14
7:45 AM		8	0	8	0	6		6				0	0		0	0	14
7:50 AM		15	0	15	0	3		3				0	0		0	0	18
7:55 AM		9	0	9	0	14		14				0	0		0	0	23
8:00 AM		13	0	13	0	7		7				0	0		1	1	21
8:05 AM		14	0	14	0	5		5				0	0		1	1	20
8:10 AM		8	0	8	0	9		9				0	0		0	0	17
8:15 AM		7	0	7	0	7		7				0	0		3	3	17
8:20 AM		6	0	6	0	4		4				0	0		3	3	13
8:25 AM		5	1	6	0	14		14				0	0		0	0	20
8:30 AM		8	0	8	0	8		8				0	0		0	0	16
8:35 AM		7	0	7	0	7		7				0	0		0	0	14
8:40 AM		1	0	1	0	8		8				0	0		2	2	11
8:45 AM		8	0	8	0	8		8				0	0		1	1	17
8:50 AM		6	0	6	0	10		10				0	0		3	3	19
8:55 AM		7	0	7	0	4		4				0	0		0	0	11
Total Survey		185	1	186	0	158		158				0	0		18	18	362

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		13	0	13	0	11		11				0	0		1	1	25
7:15 AM		23	0	23	0	19		19				0	0		1	1	43
7:30 AM		27	0	27	0	14		14				0	0		2	2	43
7:45 AM		32	0	32	0	23		23				0	0		0	0	55
8:00 AM		35	0	35	0	21		21				0	0		2	2	58
8:15 AM		18	1	19	0	25		25				0	0		6	6	50
8:30 AM		16	0	16	0	23		23				0	0		2	2	41
8:45 AM		21	0	21	0	22		22				0	0		4	4	47
Total Survey		185	1	186	0	158		158				0	0		18	18	362

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound			Westbound 15th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	112	71	183	71	117	188	0	0	0	5	0	5	188
PHF	0.76			0.68			0.00			0.63			0.73

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		112	0	112	0	71		71				0	0		5	5	188
PHF		0.76	0.00	0.76	0.00	0.68		0.68				0.00	0.00		0.63	0.63	0.73

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

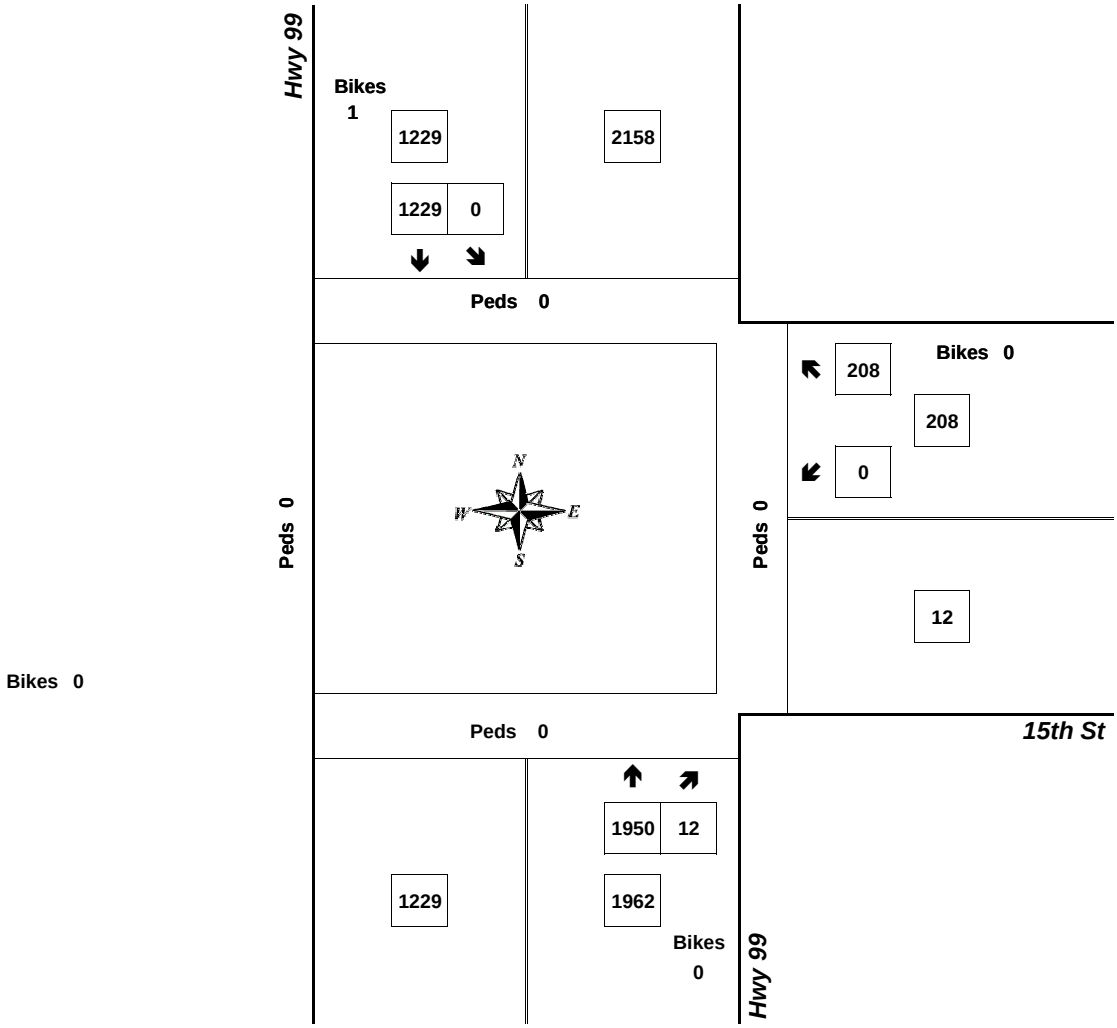
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		95	0	95	0	67		67				0	0		4	4	166
7:15 AM		117	0	117	0	77		77				0	0		5	5	199
7:30 AM		112	1	113	0	83		83				0	0		10	10	206
7:45 AM		101	1	102	0	92		92				0	0		10	10	204
8:00 AM		90	1	91	0	91		91				0	0		14	14	196

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & 15th St

7:10 AM to 8:10 AM
Thursday, January 26, 2017



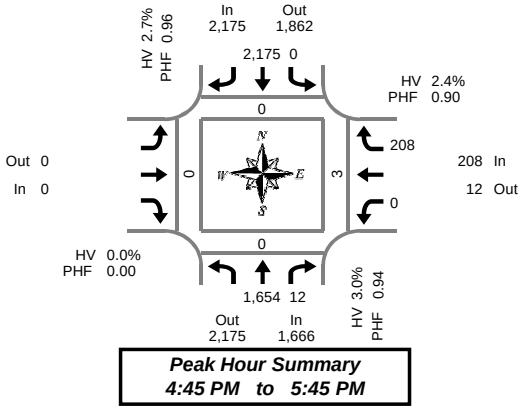
Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.85	2.4%	208
NB	0.93	5.7%	1,962
SB	0.84	5.8%	1,229
Intersection	0.93	5.5%	3,399

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 99 & 15th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	121	2	0		0	188		0				0	0		18	0	329	0	0	0	0
4:05 PM	122	2	0		0	154		0				0	0		21	0	299	0	0	1	0
4:10 PM	133	3	0		0	166		0				0	0		15	0	317	0	0	0	0
4:15 PM	143	0	0		0	173		0				0	0		20	0	336	0	0	0	0
4:20 PM	134	2	0		0	186		0				0	0		15	0	337	0	0	0	0
4:25 PM	116	2	0		0	188		0				0	0		21	0	327	0	0	1	0
4:30 PM	144	0	0		0	172		0				0	0		16	0	332	0	0	0	0
4:35 PM	140	0	0		0	185		0				0	0		18	0	343	0	0	0	0
4:40 PM	116	0	0		0	186		0				0	0		27	0	329	0	0	1	0
4:45 PM	125	0	0		0	168		0				0	0		18	0	311	0	0	0	0
4:50 PM	127	1	0		0	146		0				0	0		21	0	295	0	0	1	0
4:55 PM	125	1	0		0	182		0				0	0		19	0	327	0	0	0	0
5:00 PM	136	2	0		0	191		0				0	0		16	0	345	0	0	0	0
5:05 PM	153	1	0		0	180		0				0	0		15	0	349	0	0	1	0
5:10 PM	132	0	0		0	180		0				0	0		18	0	330	0	0	0	0
5:15 PM	133	2	0		0	197		0				0	0		17	0	349	0	0	0	0
5:20 PM	165	0	0		0	189		0				0	0		12	0	366	0	0	0	0
5:25 PM	143	1	0		0	180		0				0	0		21	0	345	0	0	0	0
5:30 PM	133	1	0		0	186		0				0	0		18	0	338	0	0	0	0
5:35 PM	134	2	0		0	188		0				0	0		19	0	343	0	0	0	0
5:40 PM	148	1	0		0	188		0				0	0		14	0	351	0	0	1	0
5:45 PM	117	1	0		0	165		0				0	0		13	0	296	0	0	0	0
5:50 PM	109	1	0		0	182		0				0	0		15	0	307	0	0	0	0
5:55 PM	90	4	0		0	165		0				0	0		15	0	274	0	0	0	0
Total Survey	3,139	29	0		0	4,285		0				0	0		422	0	7,875	0	0	6	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	376	7	0		0	508		0				0	0		54	0	945	0	0	1	0
4:15 PM	393	4	0		0	547		0				0	0		56	0	1,000	0	0	1	0
4:30 PM	400	0	0		0	543		0				0	0		61	0	1,004	0	0	1	0
4:45 PM	377	2	0		0	496		0				0	0		58	0	933	0	0	1	0
5:00 PM	421	3	0		0	551		0				0	0		49	0	1,024	0	0	1	0
5:15 PM	441	3	0		0	566		0				0	0		50	0	1,060	0	0	0	0
5:30 PM	415	4	0		0	562		0				0	0		51	0	1,032	0	0	1	0
5:45 PM	316	6	0		0	512		0				0	0		43	0	877	0	0	0	0
Total Survey	3,139	29	0		0	4,285		0				0	0		422	0	7,875	0	0	6	0

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,666	2,175	3,841	0	2,175	1,862	4,037	0	0	0	0	0	208	12	220	0	4,049	0	0	3	0
%HV	3.0%				2.7%				0.0%				2.4%				2.8%				
PHF	0.94				0.96				0.00				0.90				0.95				

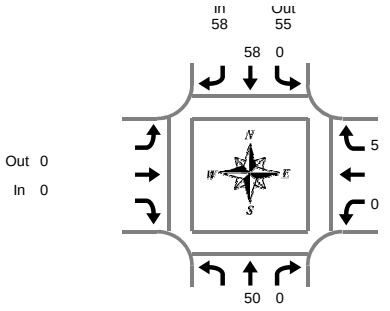
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,654	12	1,666		0	2,175		2,175				0	0		208	208	4,049
%HV	NA	3.0%	0.0%	3.0%	0.0%	2.7%	NA	2.7%	NA	NA	NA	0.0%	0.0%	NA	2.4%	2.4%	2.8%
PHF		0.94	0.75	0.94	0.00	0.96		0.96				0.00	0.00		0.90	0.90	0.95

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	1,546	13	0		0	2,094		0				0	0		229	0	3,882	0	0	4	0
4:15 PM	1,591	9	0		0	2,137		0				0	0		224	0	3,961	0	0	4	0
4:30 PM	1,639	8	0		0	2,156		0				0	0		218	0	4,021	0	0	3	0
4:45 PM	1,654	12	0		0	2,175		0				0	0		208	0	4,049	0	0	3	0
5:00 PM	1,593	16	0		0	2,191		0				0	0		193	0	3,993	0	0	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & 15th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:45 PM to 5:45 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		4	0	4	0	10		10				0	0		0	0	14
4:05 PM		7	1	8	0	8		8				0	0		0	0	16
4:10 PM		6	0	6	0	1		1				0	0		0	0	7
4:15 PM		8	0	8	0	4		4				0	0		1	1	13
4:20 PM		3	0	3	0	7		7				0	0		2	2	12
4:25 PM		8	0	8	0	5		5				0	0		1	1	14
4:30 PM		5	0	5	0	6		6				0	0		0	0	11
4:35 PM		7	0	7	0	6		6				0	0		1	1	14
4:40 PM		3	0	3	0	2		2				0	0		0	0	5
4:45 PM		3	0	3	0	7		7				0	0		1	1	11
4:50 PM		2	0	2	0	3		3				0	0		1	1	6
4:55 PM		4	0	4	0	6		6				0	0		1	1	11
5:00 PM		3	0	3	0	5		5				0	0		0	0	8
5:05 PM		5	0	5	0	5		5				0	0		0	0	10
5:10 PM		2	0	2	0	4		4				0	0		0	0	6
5:15 PM		6	0	6	0	3		3				0	0		0	0	9
5:20 PM		9	0	9	0	6		6				0	0		1	1	16
5:25 PM		5	0	5	0	7		7				0	0		0	0	12
5:30 PM		5	0	5	0	4		4				0	0		0	0	9
5:35 PM		2	0	2	0	5		5				0	0		0	0	7
5:40 PM		4	0	4	0	3		3				0	0		1	1	8
5:45 PM		3	0	3	0	4		4				0	0		0	0	7
5:50 PM		4	0	4	0	2		2				0	0		0	0	6
5:55 PM		1	0	1	0	2		2				0	0		0	0	3
Total Survey		109	1	110	0	115		115				0	0		10	10	235

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		17	1	18	0	19		19				0	0		0	0	37
4:15 PM		19	0	19	0	16		16				0	0		4	4	39
4:30 PM		15	0	15	0	14		14				0	0		1	1	30
4:45 PM		9	0	9	0	16		16				0	0		3	3	28
5:00 PM		10	0	10	0	14		14				0	0		0	0	24
5:15 PM		20	0	20	0	16		16				0	0		1	1	37
5:30 PM		11	0	11	0	12		12				0	0		1	1	24
5:45 PM		8	0	8	0	8		8				0	0		0	0	16
Total Survey		109	1	110	0	115		115				0	0		10	10	235

Heavy Vehicle Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound			Westbound 15th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	50	58	108	58	55	113	0	0	0	5	0	5	113
PHF	0.63			0.85			0.00			0.42			0.76

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		50	0	50	0	58		58				0	0		5	5	113
PHF		0.63	0.00	0.63	0.00	0.85		0.85				0.00	0.00		0.42	0.42	0.76

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

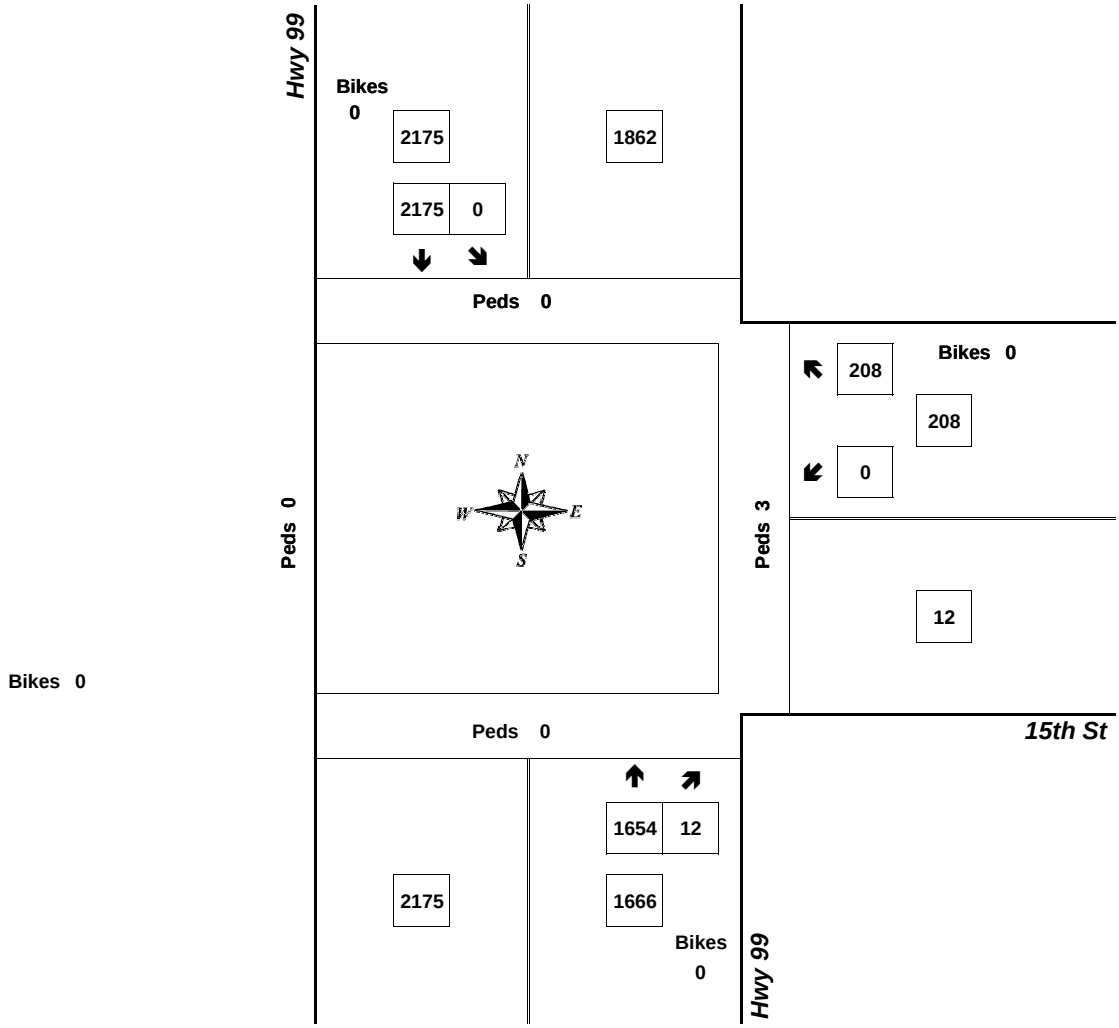
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		60	1	61	0	65		65				0	0		8	8	134
4:15 PM		53	0	53	0	60		60				0	0		8	8	121
4:30 PM		54	0	54	0	60		60				0	0		5	5	119
4:45 PM		50	0	50	0	58		58				0	0		5	5	113
5:00 PM		49	0	49	0	50		50				0	0		2	2	101

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & 15th St

4:45 PM to 5:45 PM
Wednesday, January 25, 2017



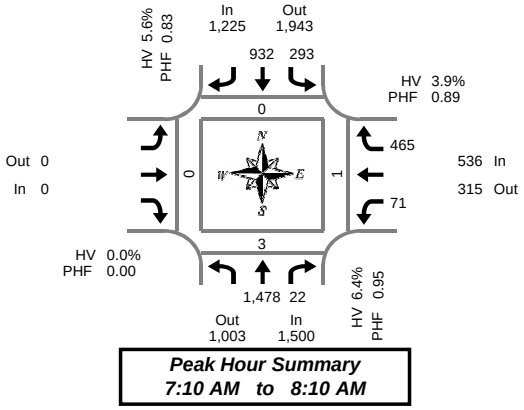
Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.90	2.4%	208
NB	0.94	3.0%	1,666
SB	0.96	2.7%	2,175
Intersection	0.95	2.8%	4,049

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 99 & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	121	5	0		17	55		0				0	5		37	0	240	0	0	0	0
7:05 AM	141	1	0		19	58		0				0	2		25	0	246	0	0	0	0
7:10 AM	115	0	0		23	58		0				0	10		33	0	239	0	0	0	0
7:15 AM	123	3	0		19	79		0				0	6		39	0	269	0	0	0	0
7:20 AM	126	6	0		24	58		0				0	2		38	0	254	0	0	0	0
7:25 AM	116	1	0		25	72		0				0	8		50	0	272	0	0	0	0
7:30 AM	128	2	0		14	70		0				0	6		41	0	261	0	0	0	0
7:35 AM	146	1	0		21	67		0				0	3		41	0	279	0	0	0	0
7:40 AM	111	2	0		27	73		0				0	11		49	0	273	0	0	0	0
7:45 AM	127	1	0		29	95		0				0	6		38	0	296	0	2	0	0
7:50 AM	130	0	0		22	81		0				0	6		31	0	270	0	0	0	0
7:55 AM	115	2	0		42	93		0				0	5		44	0	301	0	0	0	0
8:00 AM	133	4	0		20	106		0				0	5		27	0	295	0	0	0	0
8:05 AM	108	0	0		27	80		0				0	3		34	0	252	0	1	1	0
8:10 AM	103	2	0		34	67		0				0	2		31	0	239	0	0	0	0
8:15 AM	96	9	0		25	74		0				0	5		25	0	234	0	1	0	0
8:20 AM	110	5	0		26	63		0				0	6		18	0	228	0	0	0	0
8:25 AM	73	1	0		38	87		0				0	6		26	0	231	0	0	0	0
8:30 AM	97	7	0		25	85		0				0	3		20	0	237	0	0	0	0
8:35 AM	83	4	0		27	78		0				0	7		18	0	217	0	0	0	0
8:40 AM	65	3	0		32	68		0				0	10		14	0	192	0	0	0	0
8:45 AM	111	7	0		24	94		0				0	4		26	0	266	0	0	0	0
8:50 AM	82	5	0		26	71		0				0	1		21	0	206	0	0	0	0
8:55 AM	73	3	0		34	64		0				0	6		21	0	201	0	0	0	0
Total Survey	2,633	74	0		620	1,796		0				0	128		747	0	5,998	0	4	1	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	377	6	0		59	171		0				0	17		95	0	725	0	0	0	0
7:15 AM	365	10	0		68	209		0				0	16		127	0	795	0	0	0	0
7:30 AM	385	5	0		62	210		0				0	20		131	0	813	0	0	0	0
7:45 AM	372	3	0		93	269		0				0	17		113	0	867	0	2	0	0
8:00 AM	344	6	0		81	253		0				0	10		92	0	786	0	1	1	0
8:15 AM	279	15	0		89	224		0				0	17		69	0	693	0	1	0	0
8:30 AM	245	14	0		84	231		0				0	20		52	0	646	0	0	0	0
8:45 AM	266	15	0		84	229		0				0	11		68	0	673	0	0	0	0
Total Survey	2,633	74	0		620	1,796		0				0	128		747	0	5,998	0	4	1	0

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,500	1,003	2,503	0	1,225	1,943	3,168	0	0	0	0	0	536	315	851	0	3,261	0	3	1	0
%HV	6.4%				5.6%				0.0%				3.9%				5.7%				
PHF	0.95				0.83				0.00				0.89				0.94				

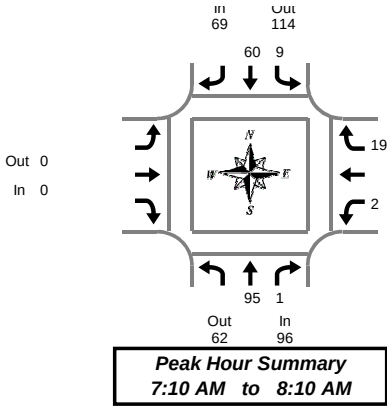
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,478	22	1,500		293	932		1,225				0	71		465	536	3,261
%HV	NA	6.4%	4.5%	6.4%	3.1%	6.4%	NA	5.6%	NA	NA	NA	0.0%	2.8%	NA	4.1%	3.9%	5.7%
PHF		0.95	0.55	0.95	0.79	0.83		0.83				0.00	0.77		0.88	0.89	0.94

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	1,499	24	0		282	859		0				0	70		466	0	3,200	0	2	0	0
7:15 AM	1,466	24	0		304	941		0				0	63		463	0	3,261	0	3	1	0
7:30 AM	1,380	29	0		325	956		0				0	64		405	0	3,159	0	4	1	0
7:45 AM	1,240	38	0		347	977		0				0	64		326	0	2,992	0	4	1	0
8:00 AM	1,134	50	0		338	937		0				0	58		281	0	2,798	0	2	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Hwy 99 & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		7	2	9	1	4		5				0	0		0	0	14
7:05 AM		3	0	3	0	5		5				0	0		0	0	8
7:10 AM		2	0	2	0	2		2				0	0		1	1	5
7:15 AM		8	0	8	0	6		6				0	0		0	0	14
7:20 AM		8	1	9	3	5		8				0	0		2	2	19
7:25 AM		2	0	2	1	5		6				0	1		3	4	12
7:30 AM		9	0	9	0	5		5				0	0		2	2	16
7:35 AM		6	0	6	0	3		3				0	0		2	2	11
7:40 AM		8	0	8	0	3		3				0	0		2	2	13
7:45 AM		7	0	7	2	6		8				0	0		1	1	16
7:50 AM		13	0	13	1	2		3				0	0		2	2	18
7:55 AM		10	0	10	0	12		12				0	1		1	2	24
8:00 AM		10	0	10	2	5		7				0	0		1	1	18
8:05 AM		12	0	12	0	6		6				0	0		2	2	20
8:10 AM		7	0	7	4	5		9				0	0		1	1	17
8:15 AM		7	0	7	1	4		5				0	0		0	0	12
8:20 AM		4	2	6	3	3		6				0	0		0	0	12
8:25 AM		6	0	6	3	10		13				0	0		0	0	19
8:30 AM		5	0	5	3	6		9				0	0		1	1	15
8:35 AM		6	0	6	0	6		6				0	1		1	2	14
8:40 AM		1	0	1	3	6		9				0	0		0	0	10
8:45 AM		4	0	4	1	7		8				0	0		3	3	15
8:50 AM		7	0	7	1	8		9				0	0		1	1	17
8:55 AM		6	0	6	2	4		6				0	1		0	1	13
Total Survey		158	5	163	31	128		159				0	4		26	30	352

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		12	2	14	1	11		12				0	0		1	1	27
7:15 AM		18	1	19	4	16		20				0	1		5	6	45
7:30 AM		23	0	23	0	11		11				0	0		6	6	40
7:45 AM		30	0	30	3	20		23				0	1		4	5	58
8:00 AM		29	0	29	6	16		22				0	0		4	4	55
8:15 AM		17	2	19	7	17		24				0	0		0	0	43
8:30 AM		12	0	12	6	18		24				0	1		2	3	39
8:45 AM		17	0	17	4	19		23				0	1		4	5	45
Total Survey		158	5	163	31	128		159				0	4		26	30	352

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	96	62	158	69	114	183	0	0	0	21	10	31	186
PHF	0.73			0.69			0.00			0.66			0.75

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		95	1	96	9	60		69				0	2		19	21	186
PHF		0.72	0.25	0.73	0.56	0.65		0.69				0.00	0.50		0.68	0.66	0.75

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

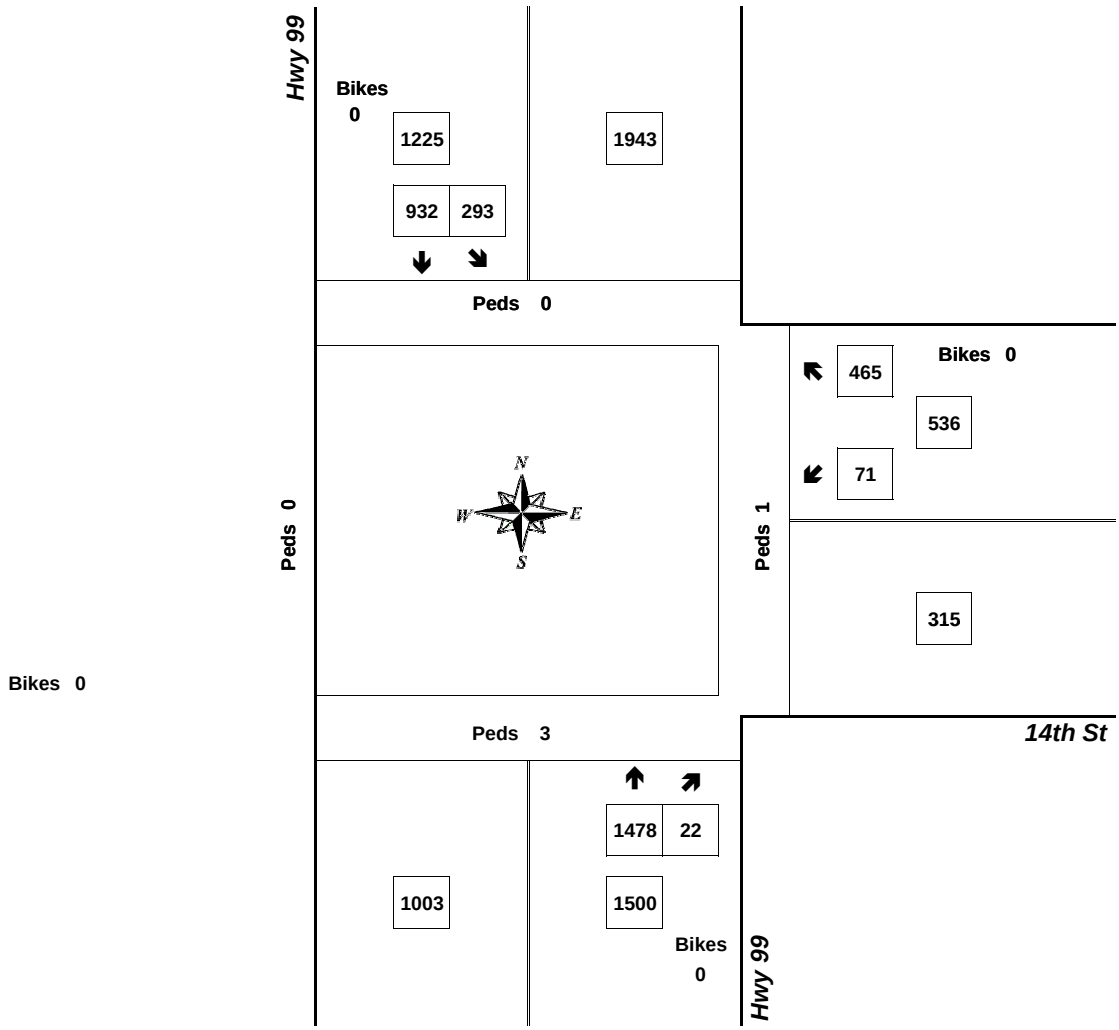
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		83	3	86	8	58		66				0	2		16	18	170
7:15 AM		100	1	101	13	63		76				0	2		19	21	198
7:30 AM		99	2	101	16	64		80				0	1		14	15	196
7:45 AM		88	2	90	22	71		93				0	2		10	12	195
8:00 AM		75	2	77	23	70		93				0	2		10	12	182

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & 14th St

7:10 AM to 8:10 AM
Thursday, January 26, 2017

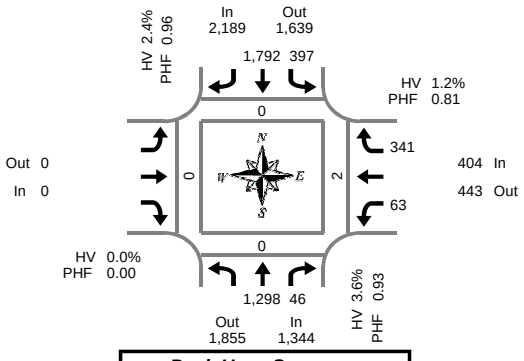


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.89	3.9%	536
NB	0.95	6.4%	1,500
SB	0.83	5.6%	1,225
Intersection	0.94	5.7%	3,261

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:40 PM to 5:40 PM

Hwy 99 & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	95	2	0		40	156		0				0	4		25	0	322	0	0	0	0
4:05 PM	95	4	0		34	131		0				0	5		33	0	302	0	0	1	0
4:10 PM	117	5	0		21	128		0				0	7		21	0	299	1	0	0	0
4:15 PM	106	3	0		35	154		0				0	7		32	0	337	0	0	0	0
4:20 PM	111	5	0		39	164		0				0	3		26	0	348	0	0	0	0
4:25 PM	103	3	0		32	143		0				0	5		17	0	303	0	0	0	0
4:30 PM	118	4	0		31	149		0				0	5		27	0	334	0	0	0	0
4:35 PM	99	1	0		36	153		0				0	5		37	0	331	0	0	0	0
4:40 PM	92	7	0		39	153		0				0	7		26	0	324	0	0	0	0
4:45 PM	104	2	0		32	144		0				0	5		23	0	310	0	0	0	0
4:50 PM	109	6	0		25	130		0				0	3		17	0	290	0	0	1	0
4:55 PM	96	5	0		38	154		0				0	8		31	0	332	0	0	0	0
5:00 PM	105	4	0		33	155		0				0	1		33	0	331	0	0	0	0
5:05 PM	126	5	0		22	149		0				0	6		31	0	339	0	0	1	0
5:10 PM	90	3	0		37	154		0				0	3		38	0	325	0	0	0	0
5:15 PM	107	3	0		30	160		0				0	7		32	0	339	0	0	0	0
5:20 PM	120	2	0		29	135		0				0	5		39	0	330	0	0	0	0
5:25 PM	120	4	0		33	153		0				0	2		27	0	339	0	0	0	0
5:30 PM	113	4	0		40	147		0				0	9		19	0	332	0	0	0	0
5:35 PM	116	1	0		39	158		0				0	7		25	0	346	0	0	0	0
5:40 PM	126	5	0		27	137		0				0	5		21	0	321	0	0	1	0
5:45 PM	98	3	0		38	139		0				0	2		21	0	301	0	0	0	0
5:50 PM	92	2	0		33	135		0				0	5		21	0	288	0	0	0	0
5:55 PM	75	6	0		37	125		0				0	5		16	0	264	0	0	0	0
Total Survey	2,533	89	0		800	3,506		0				0	121		638	0	7,687	1	0	4	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	307	11	0		95	415		0				0	16		79	0	923	1	0	1	0
4:15 PM	320	11	0		106	461		0				0	15		75	0	988	0	0	0	0
4:30 PM	309	12	0		106	455		0				0	17		90	0	989	0	0	0	0
4:45 PM	309	13	0		95	428		0				0	16		71	0	932	0	0	1	0
5:00 PM	321	12	0		92	458		0				0	10		102	0	995	0	0	1	0
5:15 PM	347	9	0		92	448		0				0	14		98	0	1,008	0	0	0	0
5:30 PM	355	10	0		106	442		0				0	21		65	0	999	0	0	1	0
5:45 PM	265	11	0		108	399		0				0	12		58	0	853	0	0	0	0
Total Survey	2,533	89	0		800	3,506		0				0	121		638	0	7,687	1	0	4	0

Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,344	1,855	3,199	0	2,189	1,639	3,828	0	0	0	0	0	404	443	847	0	3,937	0	0	2	0
%HV		3.6%				2.4%				0.0%				1.2%			2.7%				
PHF		0.93				0.96				0.00				0.81			0.97				

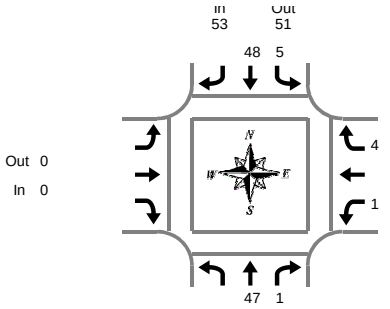
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		1,298	46	1,344	397	1,792		2,189				0	63		341	404	3,937
%HV	NA	3.6%	2.2%	3.6%	1.3%	2.7%	NA	2.4%	NA	NA	NA	0.0%	1.6%	NA	1.2%	1.2%	2.7%
PHF		0.92	0.77	0.93	0.89	0.97		0.96				0.00	0.88		0.78	0.81	0.97

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	1,245	47	0		402	1,759		0				0	64		315	0	3,832	1	0	2	0
4:15 PM	1,259	48	0		399	1,802		0				0	58		338	0	3,904	0	0	2	0
4:30 PM	1,286	46	0		385	1,789		0				0	57		361	0	3,924	0	0	2	0
4:45 PM	1,332	44	0		385	1,776		0				0	61		336	0	3,934	0	0	3	0
5:00 PM	1,288	42	0		398	1,747		0				0	57		323	0	3,855	0	0	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:40 PM to 5:40 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		4	0	4	1	8		9				0	0		0	0	13
4:05 PM		8	0	8	0	8		8				0	1		0	1	17
4:10 PM		6	0	6	0	3		3				0	1		0	1	10
4:15 PM		7	0	7	3	2		5				0	0		0	0	12
4:20 PM		3	0	3	0	6		6				0	0		0	0	9
4:25 PM		7	0	7	1	3		4				0	0		1	1	12
4:30 PM		3	0	3	1	7		8				0	0		2	2	13
4:35 PM		7	0	7	1	6		7				0	0		0	0	14
4:40 PM		3	0	3	0	2		2				0	0		0	0	5
4:45 PM		4	0	4	0	4		4				0	0		0	0	8
4:50 PM		2	0	2	1	4		5				0	0		0	0	7
4:55 PM		3	1	4	1	3		4				0	1		0	1	9
5:00 PM		4	0	4	1	5		6				0	0		0	0	10
5:05 PM		4	0	4	0	5		5				0	0		0	0	9
5:10 PM		2	0	2	0	4		4				0	0		0	0	6
5:15 PM		7	0	7	0	3		3				0	0		0	0	10
5:20 PM		5	0	5	1	4		5				0	0		4	4	14
5:25 PM		5	0	5	1	4		5				0	0		0	0	10
5:30 PM		5	0	5	0	5		5				0	0		0	0	10
5:35 PM		3	0	3	0	5		5				0	0		0	0	8
5:40 PM		4	0	4	1	2		3				0	0		0	0	7
5:45 PM		3	0	3	0	4		4				0	0		0	0	7
5:50 PM		3	0	3	0	2		2				0	0		1	1	6
5:55 PM		1	0	1	0	1		1				0	1		0	1	3
Total Survey		103	1	104	13	100		113				0	4		8	12	229

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		18	0	18	1	19		20				0	2		0	2	40
4:15 PM		17	0	17	4	11		15				0	0		1	1	33
4:30 PM		13	0	13	2	15		17				0	0		2	2	32
4:45 PM		9	1	10	2	11		13				0	1		0	1	24
5:00 PM		10	0	10	1	14		15				0	0		0	0	25
5:15 PM		17	0	17	2	11		13				0	0		4	4	34
5:30 PM		12	0	12	1	12		13				0	0		0	0	25
5:45 PM		7	0	7	0	7		7				0	1		1	2	16
Total Survey		103	1	104	13	100		113				0	4		8	12	229

Heavy Vehicle Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	48	49	97	53	51	104	0	0	0	5	6	11	106
PHF	0.71			0.88			0.00			0.31			0.78

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		47	1	48	5	48		53				0	1		4	5	106
PHF		0.69	0.25	0.71	0.42	0.86		0.88				0.00	0.25		0.25	0.31	0.78

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

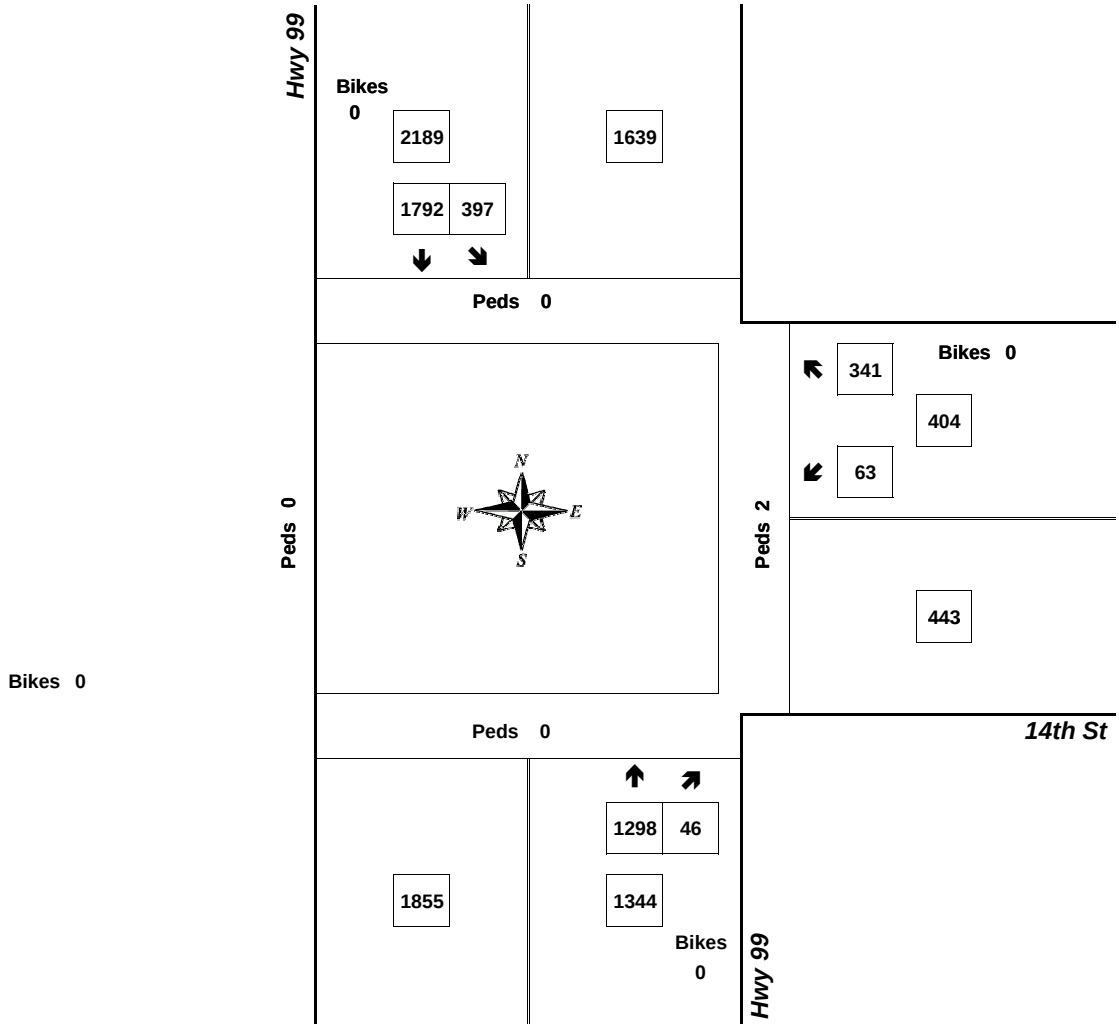
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		57	1	58	9	56		65				0	3		3	6	129
4:15 PM		49	1	50	9	51		60				0	1		3	4	114
4:30 PM		49	1	50	7	51		58				0	1		6	7	115
4:45 PM		48	1	49	6	48		54				0	1		4	5	108
5:00 PM		46	0	46	4	44		48				0	1		5	6	100

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & 14th St

4:40 PM to 5:40 PM
Wednesday, January 25, 2017

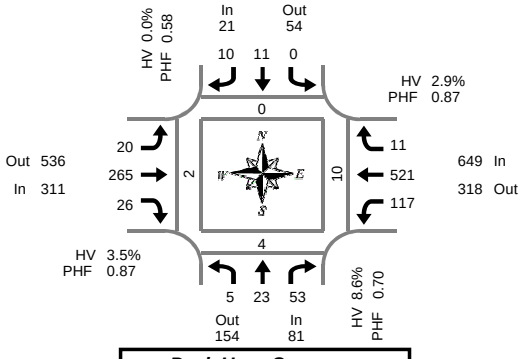


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.81	1.2%	404
NB	0.93	3.6%	1,344
SB	0.96	2.4%	2,189
Intersection	0.97	2.7%	3,937

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Main St & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	1	4	0	0	0	2	0	0	19	3	0	9	42	0	0	80	0	1	1	0
7:05 AM	1	0	4	0	0	1	0	0	3	17	0	0	9	29	1	0	65	0	1	1	0
7:10 AM	2	4	6	0	0	1	0	0	3	17	4	0	6	40	0	1	83	0	1	1	1
7:15 AM	0	0	2	0	0	1	0	0	1	21	1	0	14	44	0	0	84	0	0	0	0
7:20 AM	0	1	4	0	0	0	0	0	1	26	2	0	5	43	0	0	82	0	0	1	0
7:25 AM	0	3	2	0	0	1	1	0	2	20	2	0	11	57	1	0	100	0	0	0	0
7:30 AM	0	1	5	0	0	0	0	0	1	18	1	0	11	47	2	0	86	0	0	0	0
7:35 AM	0	0	3	0	0	1	1	0	1	21	0	0	12	44	1	0	84	0	2	1	0
7:40 AM	0	4	2	0	0	1	0	0	3	24	2	0	7	54	0	0	97	0	0	2	1
7:45 AM	0	1	7	0	0	2	1	0	1	23	6	0	6	42	1	0	90	0	0	0	0
7:50 AM	1	3	6	0	0	2	1	0	3	17	1	0	9	42	0	0	85	0	0	2	0
7:55 AM	0	4	7	0	0	1	2	0	1	32	5	0	11	43	3	0	109	0	0	1	0
8:00 AM	0	2	6	0	0	1	2	0	3	22	0	0	10	33	1	0	80	0	1	2	0
8:05 AM	2	0	3	0	0	0	2	0	0	24	2	0	15	32	2	0	82	0	0	0	0
8:10 AM	2	1	8	0	0	4	0	0	5	27	4	0	6	24	1	0	82	0	1	2	0
8:15 AM	0	0	2	0	0	0	1	0	3	30	2	0	6	33	0	0	77	0	1	1	0
8:20 AM	0	3	2	0	0	1	1	0	3	27	1	0	11	22	1	0	72	0	0	0	0
8:25 AM	1	1	3	0	0	2	0	1	9	29	1	0	6	30	1	0	83	0	0	0	0
8:30 AM	0	4	5	0	0	5	1	0	2	26	2	0	9	26	2	0	82	0	0	0	0
8:35 AM	1	3	5	0	0	3	1	0	5	21	4	0	9	22	2	0	76	0	0	0	1
8:40 AM	0	1	4	0	0	2	2	0	4	25	2	0	7	19	2	0	68	0	0	0	0
8:45 AM	4	1	7	0	1	1	0	0	0	28	3	0	13	28	3	0	89	1	0	1	1
8:50 AM	0	1	6	0	0	1	2	0	0	28	2	0	5	21	0	0	66	0	1	1	0
8:55 AM	0	1	3	0	0	1	2	1	7	26	5	0	9	25	0	0	79	2	0	0	0
Total Survey	14	40	106	0	1	32	22	2	61	568	55	0	216	842	24	1	1,981	3	9	17	4

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	3	5	14	0	0	2	2	0	6	53	7	0	24	111	1	1	228	0	3	3	1
7:15 AM	0	4	8	0	0	2	1	0	4	67	5	0	30	144	1	0	266	0	0	1	0
7:30 AM	0	5	10	0	0	2	1	0	5	63	3	0	30	145	3	0	267	0	2	3	1
7:45 AM	1	8	20	0	0	5	4	0	5	72	12	0	26	127	4	0	284	0	0	3	0
8:00 AM	4	3	17	0	0	5	4	0	8	73	6	0	31	89	4	0	244	0	2	4	0
8:15 AM	1	4	7	0	0	3	2	1	15	86	4	0	23	85	2	0	232	0	1	1	0
8:30 AM	1	8	14	0	0	10	4	0	11	72	8	0	25	67	6	0	226	0	0	0	1
8:45 AM	4	3	16	0	1	3	4	1	7	82	10	0	27	74	3	0	234	3	1	2	1
Total Survey	14	40	106	0	1	32	22	2	61	568	55	0	216	842	24	1	1,981	3	9	17	4

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	81	154	235	0	21	54	75	0	311	536	847	0	649	318	967	1	1,062	0	4	10	2
%HV	8.6%				0.0%				3.5%				2.9%				3.5%				
PHF	0.70				0.58				0.87				0.87				0.93				

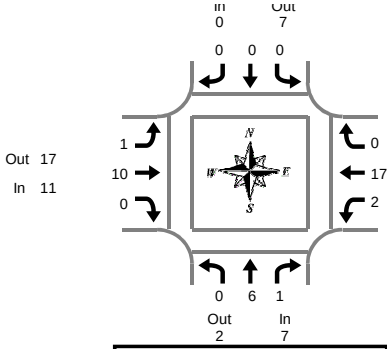
By Movement	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	5	23	53	81	0	11	10	21	20	265	26	311	117	521	11	649	1,062
%HV	0.0%	26.1%	1.9%	8.6%	0.0%	0.0%	0.0%	0.0%	5.0%	3.8%	0.0%	3.5%	1.7%	3.3%	0.0%	2.9%	3.5%
PHF	0.63	0.64	0.66	0.70	0.00	0.55	0.42	0.58	0.71	0.85	0.54	0.87	0.81	0.88	0.46	0.87	0.93

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	4	22	52	0	0	11	8	0	20	255	27	0	110	527	9	1	1,045	0	5	10	2
7:15 AM	5	20	55	0	0	14	10	0	22	275	26	0	117	505	12	0	1,061	0	4	11	1
7:30 AM	6	20	54	0	0	15	11	1	33	294	25	0	110	446	13	0	1,027	0	5	11	1
7:45 AM	7	23	58	0	0	23	14	1	39	303	30	0	105	368	16	0	986	0	3	8	1
8:00 AM	10	18	54	0	1	21	14	2	41	313	28	0	106	315	15	0	936	3	4	7	2

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Main St & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:20 AM	0	1	0	1	0	0	0	0	0	4	0	4	0	2	0	2	7
7:25 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	1	0	1	3
7:30 AM	0	0	1	1	0	0	0	0	0	1	0	1	1	2	0	3	5
7:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
7:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3
7:50 AM	0	2	0	2	0	0	0	0	1	0	0	1	0	2	0	2	5
7:55 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	1	0	2	3
8:00 AM	0	1	0	1	0	0	0	0	0	2	0	2	0	1	0	1	4
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:10 AM	0	1	1	2	0	0	0	0	1	3	0	4	0	1	0	1	7
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2
8:20 AM	0	1	0	1	0	0	0	0	1	5	0	6	0	0	0	0	7
8:25 AM	0	0	0	0	0	0	0	0	1	2	0	3	0	1	0	1	4
8:30 AM	0	1	1	2	0	0	0	0	1	1	0	2	0	1	0	1	5
8:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3
8:40 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	1	3	0	4	6
8:50 AM	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	4
8:55 AM	0	0	0	0	0	0	1	1	0	1	1	2	1	0	0	1	4
Total Survey	0	10	3	13	0	1	1	2	6	29	1	36	6	27	0	33	84

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	2	0	2	4
7:15 AM	0	2	0	2	0	0	0	0	0	5	0	5	0	4	0	4	11
7:30 AM	0	0	1	1	0	0	0	0	0	1	0	1	1	6	0	7	9
7:45 AM	0	3	0	3	0	0	0	0	1	2	0	3	1	4	0	5	11
8:00 AM	0	2	1	3	0	0	0	0	1	5	0	6	0	3	0	3	12
8:15 AM	0	1	0	1	0	0	0	0	2	8	0	10	1	1	0	2	13
8:30 AM	0	1	1	2	0	0	0	0	2	2	0	4	1	3	0	4	10
8:45 AM	0	1	0	1	0	1	1	2	0	4	1	5	2	4	0	6	14
Total Survey	0	10	3	13	0	1	1	2	6	29	1	36	6	27	0	33	84

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Main St			Southbound Main St			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	2	9	0	7	7	11	17	28	19	11	30	37
PHF	0.44			0.00			0.46			0.68			0.62

By Movement	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	6	1	7	0	0	0	0	1	10	0	11	2	17	0	19	37
PHF	0.00	0.38	0.25	0.44	0.00	0.00	0.00	0.00	0.25	0.42	0.00	0.46	0.50	0.71	0.00	0.68	0.62

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

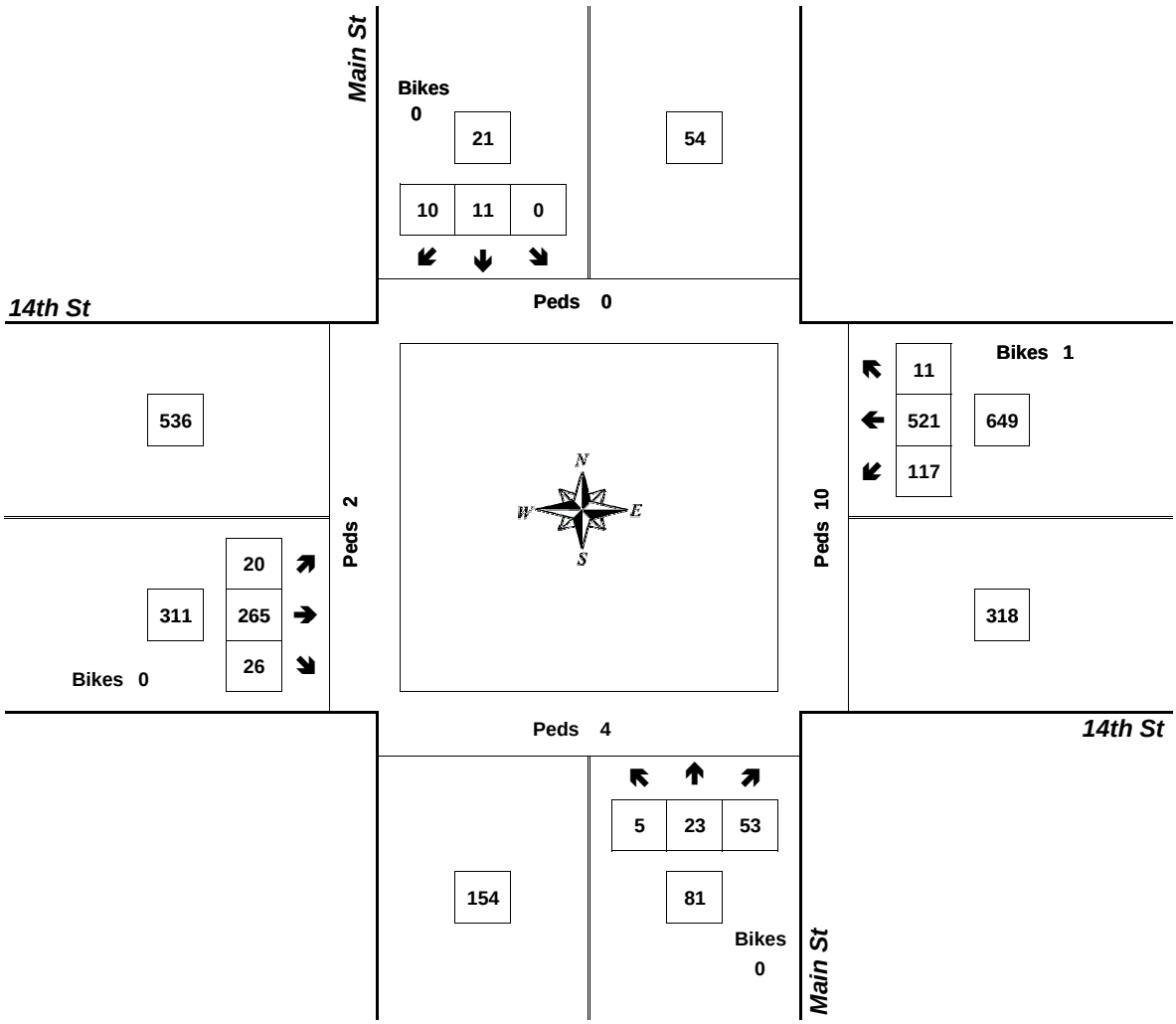
Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	5	1	6	0	0	0	0	1	10	0	11	2	16	0	18	35
7:15 AM	0	7	2	9	0	0	0	0	2	13	0	15	2	17	0	19	43
7:30 AM	0	6	2	8	0	0	0	0	4	16	0	20	3	14	0	17	45
7:45 AM	0	7	2	9	0	0	0	0	6	17	0	23	3	11	0	14	46
8:00 AM	0	5	2	7	0	1	1	2	5	19	1	25	4	11	0	15	49

Peak Hour Summary

Clay Carney
(503) 833-2740

Main St & 14th St

7:10 AM to 8:10 AM
Thursday, January 26, 2017

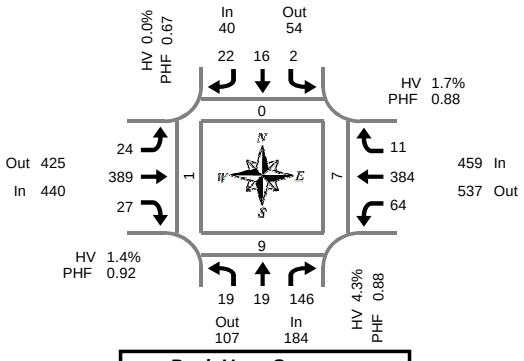


Approach	PHF	HV%	Volume
EB	0.87	3.5%	311
WB	0.87	2.9%	649
NB	0.70	8.6%	81
SB	0.58	0.0%	21
Intersection	0.93	3.5%	1,062

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:35 PM to 5:35 PM

Main St & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	5	2	8	0	1	3	1	0	1	37	3	0	8	23	4	0	96	0	0	1	1
4:05 PM	2	2	13	0	0	4	2	0	3	35	0	0	7	32	3	0	103	0	0	0	0
4:10 PM	2	1	10	0	0	1	1	0	2	25	0	0	4	28	2	0	76	0	1	1	1
4:15 PM	2	3	10	0	0	0	2	0	4	34	0	0	4	36	0	0	95	0	1	2	0
4:20 PM	4	1	9	0	1	1	1	0	3	40	2	0	1	19	3	0	85	0	0	2	0
4:25 PM	1	2	16	0	0	3	3	0	2	32	0	0	3	17	0	0	79	0	0	0	2
4:30 PM	0	3	18	0	0	1	3	0	2	28	2	0	5	34	0	0	96	1	0	1	0
4:35 PM	1	3	10	0	0	1	2	0	1	36	2	0	5	36	2	0	99	0	0	0	0
4:40 PM	0	0	10	0	0	2	2	0	1	42	3	0	4	30	3	0	97	0	1	2	0
4:45 PM	2	2	14	0	2	1	0	0	5	28	1	0	5	26	1	0	87	0	2	1	0
4:50 PM	2	3	9	0	0	3	1	0	1	26	2	0	4	24	1	1	76	0	1	0	0
4:55 PM	2	0	11	0	0	0	0	0	3	39	1	0	9	32	2	0	99	0	0	0	0
5:00 PM	2	1	14	0	0	1	0	0	2	30	6	2	2	35	0	0	93	0	0	0	0
5:05 PM	2	1	12	0	0	1	4	0	1	24	2	0	7	33	1	0	88	0	3	0	0
5:10 PM	3	2	15	0	0	2	3	0	0	36	3	0	6	36	1	0	107	0	2	2	1
5:15 PM	1	1	13	0	0	4	1	0	1	30	1	0	6	39	0	0	97	0	0	0	0
5:20 PM	1	2	13	0	0	1	4	0	3	26	1	0	7	36	0	0	94	0	0	0	0
5:25 PM	2	1	10	0	0	0	5	0	4	32	2	0	4	26	0	0	86	0	0	2	0
5:30 PM	1	3	15	0	0	0	0	0	2	40	3	0	5	31	0	0	100	0	0	0	0
5:35 PM	0	1	9	0	1	3	4	0	3	35	2	0	2	22	0	0	82	0	0	0	1
5:40 PM	2	1	9	0	0	2	2	0	1	30	1	0	6	20	0	0	74	0	0	0	0
5:45 PM	1	1	11	0	1	2	1	0	2	39	0	0	8	23	0	0	89	0	0	0	0
5:50 PM	1	2	16	0	0	2	0	0	3	35	2	0	9	24	1	0	95	0	0	1	1
5:55 PM	1	1	8	0	0	0	0	0	3	35	2	0	7	17	0	0	74	0	1	1	3
Total Survey	40	39	283	0	6	38	42	0	53	794	41	2	128	679	24	1	2,167	1	12	16	10

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	9	5	31	0	1	8	4	0	6	97	3	0	19	83	9	0	275	0	1	2	2
4:15 PM	7	6	35	0	1	4	6	0	9	106	2	0	8	72	3	0	259	0	1	4	2
4:30 PM	1	6	38	0	0	4	7	0	4	106	7	0	14	100	5	0	292	1	1	3	0
4:45 PM	6	5	34	0	2	4	1	0	9	93	4	0	18	82	4	1	262	0	3	1	0
5:00 PM	7	4	41	0	0	4	7	0	3	90	11	2	15	104	2	0	288	0	5	2	1
5:15 PM	4	4	36	0	0	5	10	0	8	88	4	0	17	101	0	0	277	0	0	2	0
5:30 PM	3	5	33	0	1	5	6	0	6	105	6	0	13	73	0	0	256	0	0	0	1
5:45 PM	3	4	35	0	1	4	1	0	8	109	4	0	24	64	1	0	258	0	1	2	4
Total Survey	40	39	283	0	6	38	42	0	53	794	41	2	128	679	24	1	2,167	1	12	16	10

Peak Hour Summary
4:35 PM to 5:35 PM

By Approach	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	184	107	291	0	40	54	94	0	440	425	865	2	459	537	996	1	1,123	0	9	7	1
%HV	4.3%				0.0%				1.4%				1.7%				2.0%				
PHF	0.88				0.67				0.92				0.88				0.94				

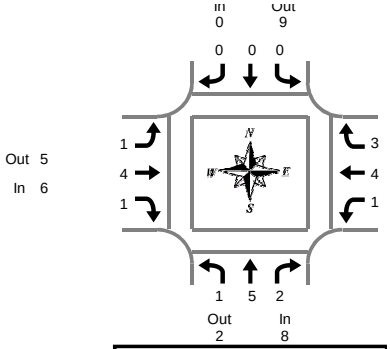
By Movement	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	19	19	146	184	2	16	22	40	24	389	27	440	64	384	11	459	1,123
%HV	5.3%	26.3%	1.4%	4.3%	0.0%	0.0%	0.0%	0.0%	4.2%	1.0%	3.7%	1.4%	1.6%	1.0%	27.3%	1.7%	2.0%
PHF	0.68	0.79	0.89	0.88	0.25	0.57	0.55	0.67	0.67	0.92	0.61	0.92	0.84	0.86	0.46	0.88	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	23	22	138	0	4	20	18	0	28	402	16	0	59	337	21	1	1,088	1	6	10	4
4:15 PM	21	21	148	0	3	16	21	0	25	395	24	2	55	358	14	1	1,101	1	10	10	3
4:30 PM	18	19	149	0	2	17	25	0	24	377	26	2	64	387	11	1	1,119	1	9	8	1
4:45 PM	20	18	144	0	3	18	24	0	26	376	25	2	63	360	6	1	1,083	0	8	5	2
5:00 PM	17	17	145	0	2	18	24	0	25	392	25	2	69	342	3	0	1,079	0	6	6	6

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Main St & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:35 PM to 5:35 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	1	2	0	0	0	0	0	1	0	1	2	0	0	2	5
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:15 PM	0	0	1	1	0	0	0	0	1	2	0	3	0	0	0	0	4
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
4:30 PM	0	2	0	2	0	0	0	0	1	0	0	1	0	2	0	2	5
4:35 PM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	2	2	4
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
4:50 PM	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
4:55 PM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:10 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
5:20 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	3	0	3	4
5:25 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:30 PM	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:45 PM	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:50 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Survey	1	10	5	16	0	0	0	0	3	9	1	13	3	11	3	17	46

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	1	2	0	0	0	0	0	1	0	1	2	2	0	4	7
4:15 PM	0	0	1	1	0	0	0	0	1	3	0	4	0	1	0	1	6
4:30 PM	0	2	1	3	0	0	0	0	1	1	0	2	0	2	2	4	9
4:45 PM	1	1	0	2	0	0	0	0	1	1	0	2	0	0	1	1	5
5:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	1	0	0	1	3
5:15 PM	0	1	0	1	0	0	0	0	0	1	1	2	0	4	0	4	7
5:30 PM	0	2	1	3	0	0	0	0	0	1	0	1	0	0	0	0	4
5:45 PM	0	2	1	3	0	0	0	0	0	0	0	0	0	2	0	2	5
Total Survey	1	10	5	16	0	0	0	0	3	9	1	13	3	11	3	17	46

Heavy Vehicle Peak Hour Summary
4:35 PM to 5:35 PM

By Approach	Northbound Main St			Southbound Main St			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	8	2	10	0	9	9	6	5	11	8	6	14	22
PHF	0.67			0.00			0.50			0.50			0.69

By Movement	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	5	2	8	0	0	0	0	1	4	1	6	1	4	3	8	22
PHF	0.25	0.63	0.50	0.67	0.00	0.00	0.00	0.00	0.25	0.50	0.25	0.50	0.25	0.25	0.25	0.50	0.69

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

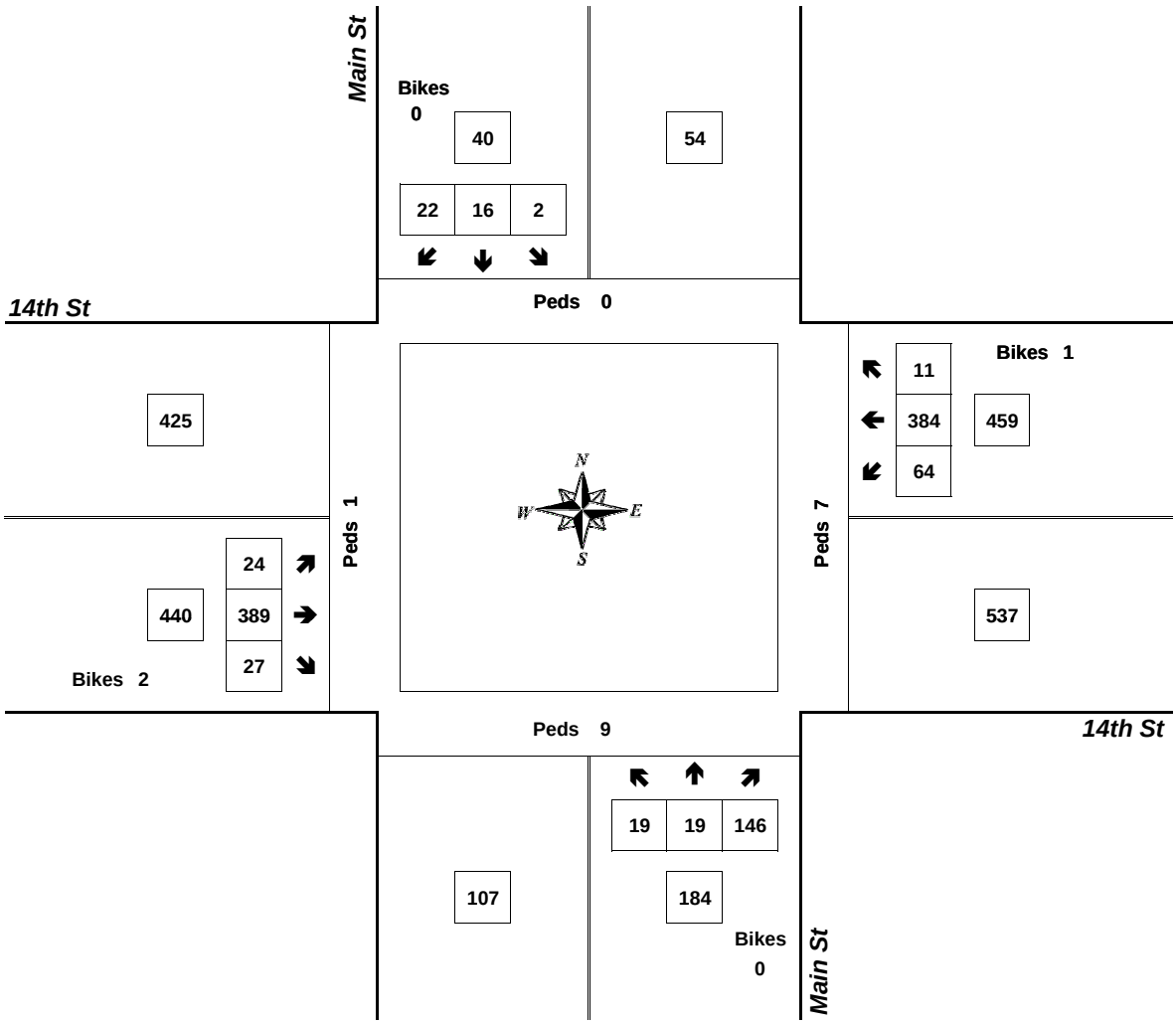
Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	4	3	8	0	0	0	0	3	6	0	9	2	5	3	10	27
4:15 PM	1	4	2	7	0	0	0	0	3	6	0	9	1	3	3	7	23
4:30 PM	1	5	1	7	0	0	0	0	2	4	1	7	1	6	3	10	24
4:45 PM	1	5	1	7	0	0	0	0	1	4	1	6	1	4	1	6	19
5:00 PM	0	6	2	8	0	0	0	0	0	3	1	4	1	6	0	7	19

Peak Hour Summary

Clay Carney
(503) 833-2740

Main St & 14th St

4:35 PM to 5:35 PM
Wednesday, January 25, 2017

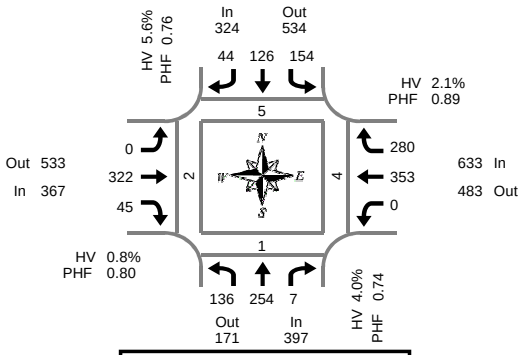


Approach	PHF	HV%	Volume
EB	0.92	1.4%	440
WB	0.88	1.7%	459
NB	0.88	4.3%	184
SB	0.67	0.0%	40
Intersection	0.94	2.0%	1,123

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:20 AM to 8:20 AM

Washington St & 7th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	18	17	0	0	8	5	2	0	0	11	5	0	0	28	22	0	116	0	1	0	0
7:05 AM	12	13	2	0	7	8	0	0	0	10	3	0	0	31	23	0	109	1	0	0	0
7:10 AM	10	17	1	0	7	3	2	0	0	12	3	0	0	23	26	0	104	0	1	0	0
7:15 AM	8	13	0	0	6	2	1	0	0	9	1	0	0	35	27	0	102	0	0	0	0
7:20 AM	13	19	1	0	7	10	3	0	0	18	3	0	0	32	22	0	128	0	0	0	0
7:25 AM	5	14	0	0	6	8	3	0	0	25	3	0	0	31	28	0	123	2	0	0	0
7:30 AM	17	28	0	0	17	6	5	0	0	25	2	0	0	31	26	0	157	1	1	1	0
7:35 AM	13	23	0	0	8	10	3	0	0	24	3	0	0	30	25	0	139	0	0	0	0
7:40 AM	10	21	0	0	15	12	3	0	0	20	7	0	0	34	31	0	153	0	0	1	0
7:45 AM	19	27	1	0	19	14	7	0	0	30	3	0	0	29	27	0	176	0	0	0	0
7:50 AM	16	31	1	0	12	18	7	0	0	35	3	0	0	30	21	0	174	0	0	0	0
7:55 AM	13	25	1	0	15	7	2	0	0	38	2	0	0	30	23	0	156	1	0	0	0
8:00 AM	4	14	2	0	15	11	3	0	0	33	4	0	0	32	14	0	132	1	0	1	0
8:05 AM	9	20	1	0	12	7	5	0	0	26	4	0	0	23	23	0	130	0	0	1	0
8:10 AM	12	16	0	0	9	14	2	0	0	22	3	0	0	16	19	0	113	0	0	0	1
8:15 AM	5	16	0	0	19	9	1	0	0	26	8	0	0	35	21	0	140	0	0	0	1
8:20 AM	6	17	1	0	13	12	2	0	0	21	2	0	0	25	12	0	111	1	1	0	2
8:25 AM	5	11	1	0	18	11	3	0	0	21	4	0	0	33	19	0	126	1	0	0	0
8:30 AM	13	16	0	0	11	9	3	0	0	49	0	0	0	26	17	0	144	0	0	0	0
8:35 AM	12	10	1	0	19	5	7	0	0	30	2	0	0	27	11	0	124	1	0	1	0
8:40 AM	3	16	2	0	17	11	1	0	0	29	3	0	0	29	14	0	125	0	0	0	0
8:45 AM	5	14	0	0	13	9	2	0	0	34	1	0	0	28	15	0	121	0	0	0	0
8:50 AM	15	10	2	0	7	9	4	0	1	40	4	0	0	26	22	0	140	0	1	0	0
8:55 AM	0	13	2	0	20	5	4	0	0	27	1	0	0	15	16	0	103	0	1	0	1
Total Survey	243	421	19	0	300	215	75	0	1	615	74	0	0	679	504	0	3,146	9	6	5	5

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	40	47	3	0	22	16	4	0	0	33	11	0	0	82	71	0	329	1	2	0	0
7:15 AM	26	46	1	0	19	20	7	0	0	52	7	0	0	98	77	0	353	2	0	0	0
7:30 AM	40	72	0	0	40	28	11	0	0	69	12	0	0	95	82	0	449	1	1	2	0
7:45 AM	48	83	3	0	46	39	16	0	0	103	8	0	0	89	71	0	506	1	0	0	0
8:00 AM	25	50	3	0	36	32	10	0	0	81	11	0	0	71	56	0	375	1	0	2	1
8:15 AM	16	44	2	0	50	32	6	0	0	68	14	0	0	93	52	0	377	2	1	0	3
8:30 AM	28	42	3	0	47	25	11	0	0	108	5	0	0	82	42	0	393	1	0	1	0
8:45 AM	20	37	4	0	40	23	10	0	1	101	6	0	0	69	53	0	364	0	2	0	1
Total Survey	243	421	19	0	300	215	75	0	1	615	74	0	0	679	504	0	3,146	9	6	5	5

Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	397	171	568	0	324	534	858	0	367	533	900	0	633	483	1,116	0	1,721	5	1	4	2
%HV	4.0%				5.6%				0.8%				2.1%				2.9%				
PHF	0.74				0.76				0.80				0.89				0.85				

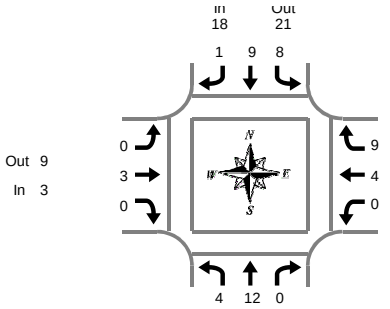
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	136	254	7	397	154	126	44	324	0	322	45	367	0	353	280	633	1,721
%HV	2.9%	4.7%	0.0%	4.0%	5.2%	7.1%	2.3%	5.6%	0.0%	0.9%	0.0%	0.8%	0.0%	1.1%	3.2%	2.1%	2.9%
PHF	0.71	0.77	0.44	0.74	0.84	0.72	0.65	0.76	0.00	0.76	0.75	0.80	0.00	0.93	0.84	0.89	0.85

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	154	248	7	0	127	103	38	0	0	257	38	0	0	364	301	0	1,637	5	3	2	0
7:15 AM	139	251	7	0	141	119	44	0	0	305	38	0	0	353	286	0	1,683	5	1	4	1
7:30 AM	129	249	8	0	172	131	43	0	0	321	45	0	0	348	261	0	1,707	5	2	4	4
7:45 AM	117	219	11	0	179	128	43	0	0	360	38	0	0	335	221	0	1,651	5	1	3	4
8:00 AM	89	173	12	0	173	112	37	0	1	358	36	0	0	315	203	0	1,509	4	3	3	5

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & 7th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:20 AM to 8:20 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	0	0	1	1	0	0	1	0	0	0	0	0	0	1	1	3
7:05 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	1	1	3
7:10 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	1	0	1	3
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	2	3
7:20 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	1	1	4
7:25 AM	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	2
7:30 AM	1	4	0	5	1	0	0	1	0	0	0	0	0	0	3	3	9
7:35 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	2	0	2	0	2	0	2	0	1	0	1	0	0	1	1	6
7:50 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1	3
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
8:00 AM	1	0	0	1	2	1	0	3	0	0	0	0	0	1	0	1	5
8:05 AM	2	2	0	4	0	1	0	1	0	1	0	1	0	0	2	2	8
8:10 AM	0	1	0	1	1	1	0	2	0	1	0	1	0	2	0	2	6
8:15 AM	0	0	0	0	3	1	0	4	0	0	0	0	0	1	0	1	5
8:20 AM	1	1	0	2	1	2	0	3	0	0	0	0	0	0	1	1	6
8:25 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
8:30 AM	0	1	0	1	4	1	0	5	0	0	0	0	0	2	1	3	9
8:35 AM	1	1	0	2	2	0	0	2	0	0	0	0	0	0	0	0	4
8:40 AM	0	1	0	1	2	0	0	2	0	0	0	0	0	0	1	1	4
8:45 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	3	3	6
8:50 AM	0	1	0	1	1	0	0	1	0	0	0	0	0	1	2	3	5
8:55 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
Total Survey	7	18	1	26	22	17	1	40	0	4	0	4	0	9	21	30	100

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	0	1	2	2	2	0	4	0	0	0	0	0	1	2	3	9
7:15 AM	0	1	0	1	1	2	1	4	0	1	0	1	0	1	2	3	9
7:30 AM	1	5	0	6	1	0	0	1	0	0	0	0	0	0	3	3	10
7:45 AM	0	3	0	3	0	3	0	3	0	1	0	1	0	0	3	3	10
8:00 AM	3	3	0	6	3	3	0	6	0	2	0	2	0	3	2	5	19
8:15 AM	1	1	0	2	5	4	0	9	0	0	0	0	0	1	1	2	13
8:30 AM	1	3	0	4	8	1	0	9	0	0	0	0	0	2	2	4	17
8:45 AM	0	2	0	2	2	2	0	4	0	0	0	0	0	1	6	7	13
Total Survey	7	18	1	26	22	17	1	40	0	4	0	4	0	9	21	30	100

Heavy Vehicle Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 7th St			Westbound 7th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	16	9	25	18	21	39	3	9	12	13	11	24	50
PHF	0.67			0.64			0.38			0.65			0.66

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	4	12	0	16	8	9	1	18	0	3	0	3	0	4	9	13	50
PHF	0.33	0.60	0.00	0.67	0.50	0.75	0.25	0.64	0.00	0.38	0.00	0.38	0.00	0.33	0.56	0.65	0.66

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

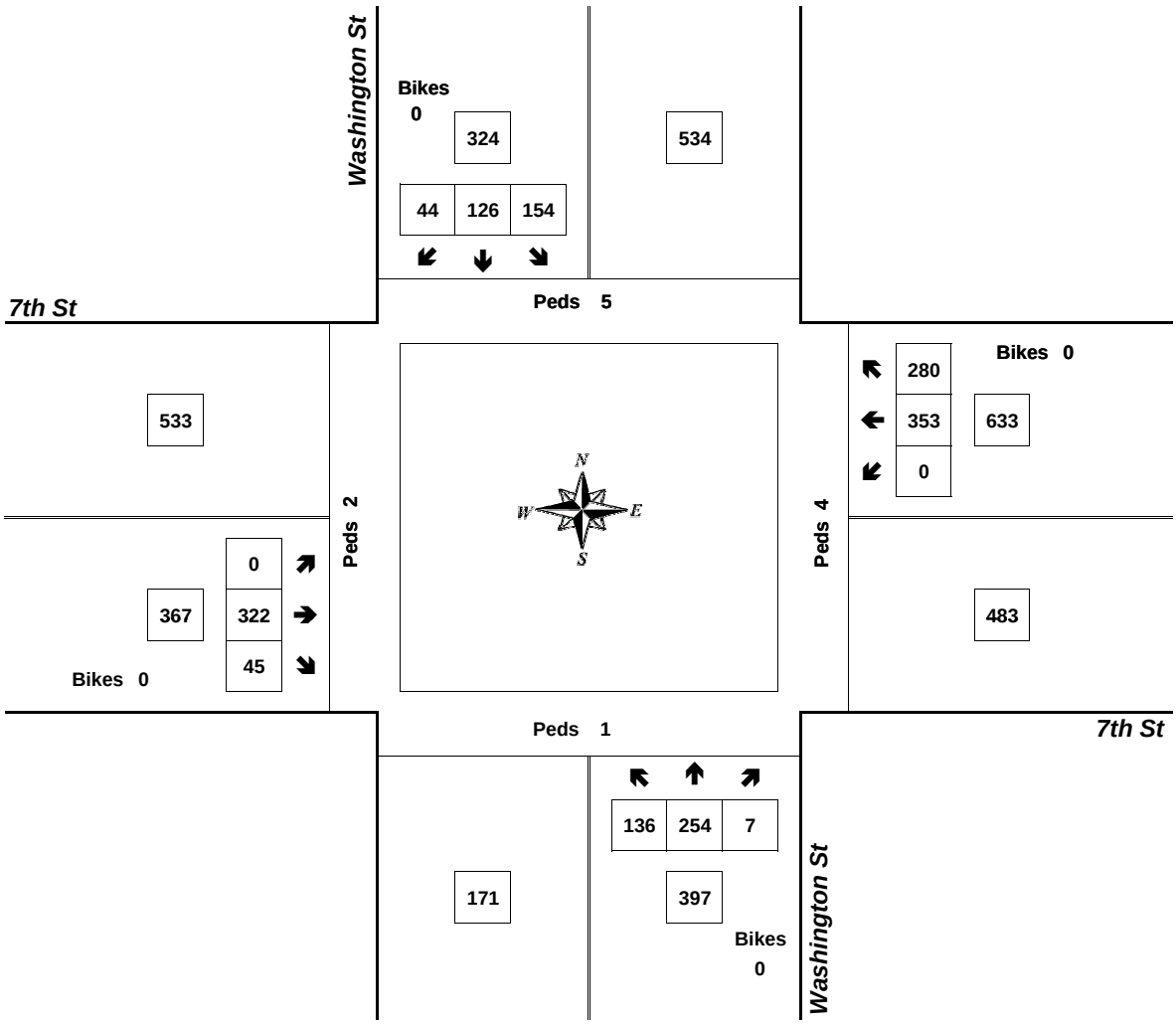
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	2	9	1	12	4	7	1	12	0	2	0	2	0	2	10	12	38
7:15 AM	4	12	0	16	5	8	1	14	0	4	0	4	0	4	10	14	48
7:30 AM	5	12	0	17	9	10	0	19	0	3	0	3	0	4	9	13	52
7:45 AM	5	10	0	15	16	11	0	27	0	3	0	3	0	6	8	14	59
8:00 AM	5	9	0	14	18	10	0	28	0	2	0	2	0	7	11	18	62

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 7th St

7:20 AM to 8:20 AM
Thursday, January 26, 2017

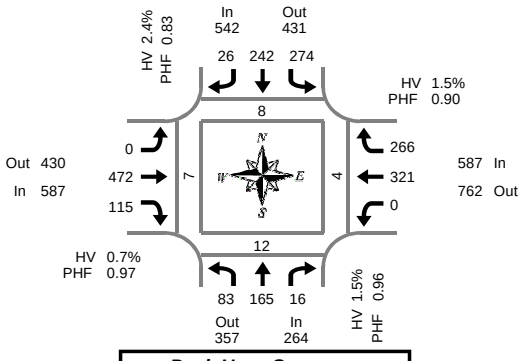


Approach	PHF	HV%	Volume
EB	0.80	0.8%	367
WB	0.89	2.1%	633
NB	0.74	4.0%	397
SB	0.76	5.6%	324
Intersection	0.85	2.9%	1,721

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:10 PM to 5:10 PM

Washington St & 7th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	7	9	0	0	16	12	2	0	0	44	6	0	0	39	13	0	148	2	0	1	0
4:05 PM	12	21	1	0	34	18	0	0	0	34	3	0	0	25	17	0	165	2	2	0	0
4:10 PM	11	18	0	0	16	21	3	0	0	33	10	0	0	30	23	0	165	0	0	1	2
4:15 PM	7	7	4	0	18	20	1	0	0	52	9	0	0	39	16	0	173	0	0	0	1
4:20 PM	7	13	2	0	26	16	3	0	0	39	5	0	0	33	22	0	166	0	1	0	0
4:25 PM	7	14	2	0	29	13	1	0	0	26	13	0	0	22	19	0	146	0	0	0	0
4:30 PM	5	16	1	0	22	14	4	0	0	43	10	0	0	14	34	0	163	2	2	0	0
4:35 PM	7	14	0	0	28	23	4	0	0	40	5	0	0	30	32	0	183	0	0	0	2
4:40 PM	8	14	2	0	24	27	1	0	0	49	2	0	0	25	20	0	172	0	2	0	0
4:45 PM	5	14	0	0	33	22	2	0	0	40	12	0	0	24	18	0	170	0	1	0	0
4:50 PM	11	12	1	0	25	21	4	0	0	37	12	0	0	22	21	0	166	3	2	1	0
4:55 PM	6	14	2	0	20	17	2	0	0	29	13	0	0	23	18	0	144	3	1	1	1
5:00 PM	2	10	1	0	23	30	1	0	0	44	11	0	0	23	18	0	163	0	2	0	1
5:05 PM	7	19	1	1	10	18	0	0	0	40	13	0	0	36	25	0	169	0	1	1	0
5:10 PM	5	28	2	0	22	18	0	0	0	35	6	0	0	28	21	0	165	3	2	0	3
5:15 PM	6	12	3	0	26	22	0	0	0	44	9	0	0	22	16	0	160	2	0	0	2
5:20 PM	4	8	2	0	17	12	3	0	0	42	6	0	0	30	18	0	142	0	1	0	0
5:25 PM	15	16	0	0	29	14	1	0	0	33	8	0	0	25	20	0	161	0	0	0	0
5:30 PM	6	10	0	0	26	19	3	0	0	32	5	0	0	22	24	0	147	0	0	0	0
5:35 PM	5	18	0	0	17	17	4	0	0	44	9	0	0	29	14	0	157	0	1	0	0
5:40 PM	4	7	0	0	16	18	1	0	0	39	5	0	0	34	30	0	154	0	0	1	1
5:45 PM	5	14	2	0	19	18	1	0	0	30	12	0	0	22	17	0	140	0	0	2	0
5:50 PM	4	19	0	0	17	13	3	0	0	32	9	0	0	13	18	0	128	0	2	2	0
5:55 PM	2	6	1	0	24	15	0	0	0	44	3	0	0	26	10	0	131	1	0	0	0
Total Survey	158	333	27	1	537	438	44	0	0	925	196	0	0	636	484	0	3,778	18	20	10	13

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	30	48	1	0	66	51	5	0	0	111	19	0	0	94	53	0	478	4	2	2	2
4:15 PM	21	34	8	0	73	49	5	0	0	117	27	0	0	94	57	0	485	0	1	0	1
4:30 PM	20	44	3	0	74	64	9	0	0	132	17	0	0	69	86	0	518	2	4	0	2
4:45 PM	22	40	3	0	78	60	8	0	0	106	37	0	0	69	57	0	480	6	4	2	1
5:00 PM	14	57	4	1	55	66	1	0	0	119	30	0	0	87	64	0	497	3	5	1	4
5:15 PM	25	36	5	0	72	48	4	0	0	119	23	0	0	77	54	0	463	2	1	0	2
5:30 PM	15	35	0	0	59	54	8	0	0	115	19	0	0	85	68	0	458	0	1	1	1
5:45 PM	11	39	3	0	60	46	4	0	0	106	24	0	0	61	45	0	399	1	2	4	0
Total Survey	158	333	27	1	537	438	44	0	0	925	196	0	0	636	484	0	3,778	18	20	10	13

Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	264	357	621	1	542	431	973	0	587	430	1,017	0	587	762	1,349	0	1,980	8	12	4	7
%HV	1.5%				2.4%				0.7%				1.5%				1.5%				
PHF	0.96				0.83				0.97				0.90				0.94				

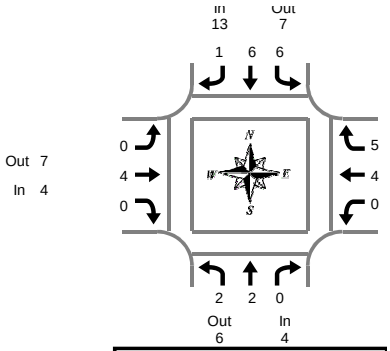
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	83	165	16	264	274	242	26	542	0	472	115	587	0	321	266	587	1,980
%HV	2.4%	1.2%	0.0%	1.5%	2.2%	2.5%	3.8%	2.4%	0.0%	0.8%	0.0%	0.7%	0.0%	1.2%	1.9%	1.5%	1.5%
PHF	0.83	0.94	0.50	0.96	0.81	0.84	0.72	0.83	0.00	0.89	0.78	0.97	0.00	0.79	0.77	0.90	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	93	166	15	0	291	224	27	0	0	466	100	0	0	326	253	0	1,961	12	11	4	6
4:15 PM	77	175	18	1	280	239	23	0	0	474	111	0	0	319	264	0	1,980	11	14	3	8
4:30 PM	81	177	15	1	279	238	22	0	0	476	107	0	0	302	261	0	1,958	13	14	3	9
4:45 PM	76	168	12	1	264	228	21	0	0	459	109	0	0	318	243	0	1,898	11	11	4	8
5:00 PM	65	167	12	1	246	214	17	0	0	459	96	0	0	310	231	0	1,817	6	9	6	7

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
4:10 PM to 5:10 PM

Washington St & 7th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
4:05 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
4:10 PM	0	0	0	0	0	1	0	1	0	1	0	1	0	2	1	3	5
4:15 PM	0	1	0	1	1	2	0	3	0	0	0	0	0	0	0	0	4
4:20 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	2
4:25 PM	1	0	0	1	0	0	0	0	0	1	0	1	0	1	2	3	5
4:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:35 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
4:40 PM	0	0	0	0	0	1	0	1	0	1	0	1	0	1	1	2	4
4:45 PM	0	0	0	0	3	1	0	4	0	0	0	0	0	0	0	0	4
4:50 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
5:15 PM	0	1	0	1	1	0	0	1	0	1	0	1	0	0	0	0	3
5:20 PM	0	1	0	1	1	0	0	1	0	1	0	1	0	1	0	1	4
5:25 PM	0	2	0	2	0	1	0	1	0	1	0	1	0	1	0	1	5
5:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
5:35 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	1	0	1	2	0	0	2	0	0	0	0	0	0	0	0	3
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	3	7	0	10	13	8	1	22	0	7	0	7	0	6	9	15	54

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	0	0	1	1	2	0	3	0	1	0	1	0	2	2	4	9
4:15 PM	1	1	0	2	1	2	1	4	0	1	0	1	0	1	3	4	11
4:30 PM	1	0	0	1	1	1	0	2	0	1	0	1	0	1	1	2	6
4:45 PM	0	0	0	0	4	2	0	6	0	0	0	0	0	0	0	0	6
5:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	1	1	3
5:15 PM	0	4	0	4	2	1	0	3	0	3	0	3	0	2	0	2	12
5:30 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	2	4
5:45 PM	0	1	0	1	2	0	0	2	0	0	0	0	0	0	0	0	3
Total Survey	3	7	0	10	13	8	1	22	0	7	0	7	0	6	9	15	54

Heavy Vehicle Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 7th St			Westbound 7th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	4	6	10	13	7	20	4	7	11	9	10	19	30
PHF	0.50			0.46			1.00			0.56			0.68

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	2	0	4	6	6	1	13	0	4	0	4	0	4	5	9	30
PHF	0.25	0.50	0.00	0.50	0.38	0.50	0.25	0.46	0.00	1.00	0.00	1.00	0.00	0.50	0.42	0.56	0.68

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

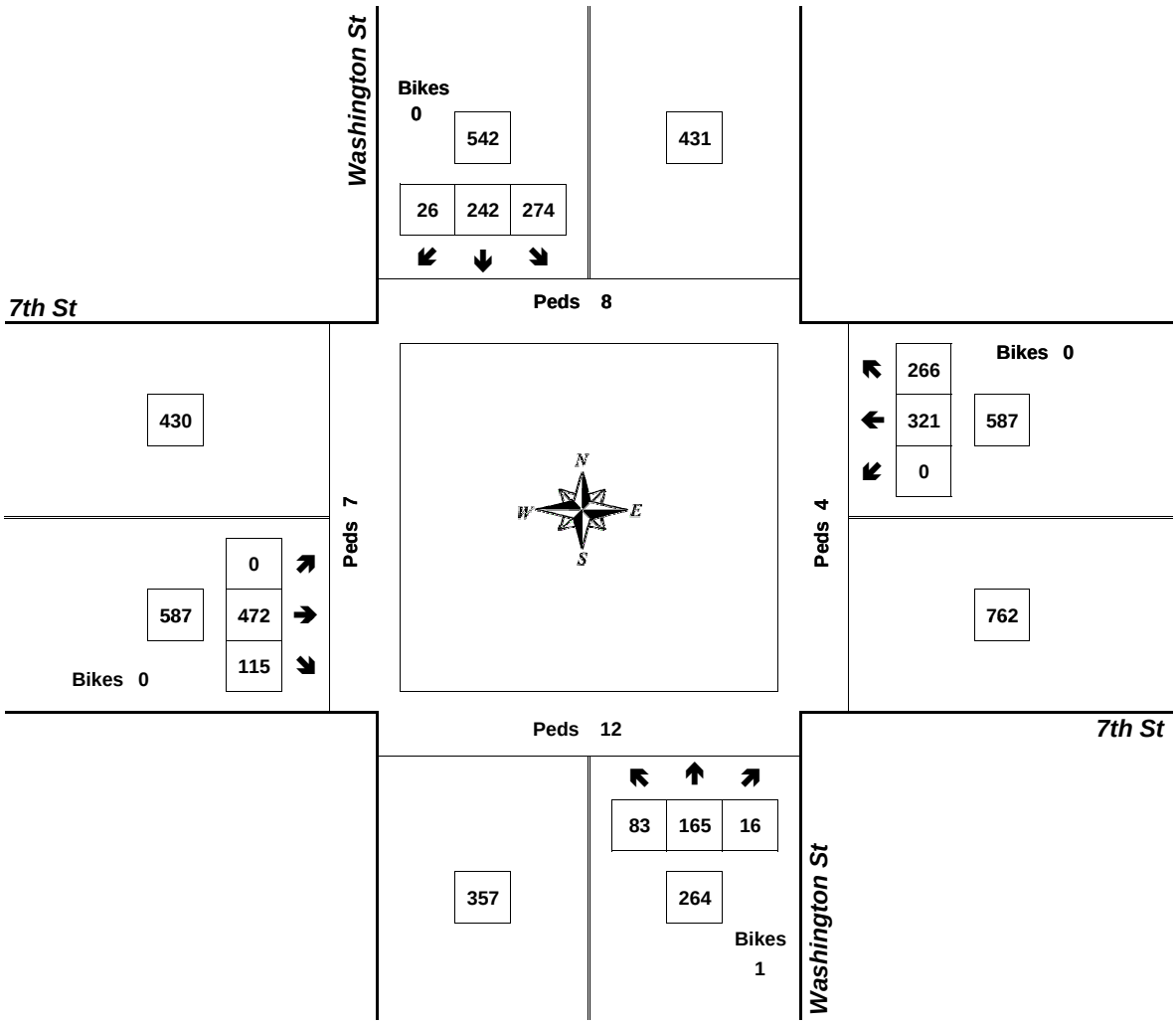
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	3	1	0	4	7	7	1	15	0	3	0	3	0	4	6	10	32
4:15 PM	2	2	0	4	6	5	1	12	0	3	0	3	0	2	5	7	26
4:30 PM	1	5	0	6	7	4	0	11	0	5	0	5	0	3	2	5	27
4:45 PM	0	5	0	5	8	3	0	11	0	4	0	4	0	2	3	5	25
5:00 PM	0	6	0	6	6	1	0	7	0	4	0	4	0	2	3	5	22

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 7th St

4:10 PM to 5:10 PM
Wednesday, January 25, 2017

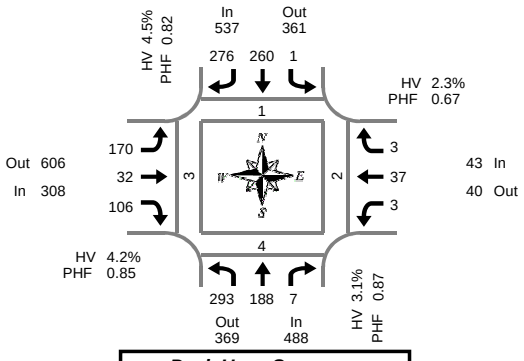


Approach	PHF	HV%	Volume
EB	0.97	0.7%	587
WB	0.90	1.5%	587
NB	0.96	1.5%	264
SB	0.83	2.4%	542
Intersection	0.94	1.5%	1,980

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Washington St & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	23	6	0	0	0	12	25	0	12	4	9	0	0	5	0	0	96	0	0	0	0
7:05 AM	20	7	0	0	0	8	15	0	10	0	6	0	0	1	0	0	67	0	0	0	0
7:10 AM	16	21	1	1	1	8	25	0	16	1	6	0	0	3	0	0	98	0	0	1	0
7:15 AM	28	11	0	0	0	14	28	1	15	1	4	0	0	5	0	0	106	1	0	1	0
7:20 AM	24	15	0	0	0	17	20	0	17	3	7	0	0	5	1	0	109	0	0	0	0
7:25 AM	35	18	0	0	0	12	25	0	15	3	9	0	0	2	0	0	119	0	0	0	0
7:30 AM	27	5	0	0	0	29	26	0	9	4	10	0	1	6	1	0	118	0	0	0	0
7:35 AM	27	19	0	0	0	15	28	0	14	0	9	0	0	2	0	0	114	0	1	0	0
7:40 AM	25	14	0	0	1	31	27	0	5	5	5	0	1	4	0	0	118	0	2	0	1
7:45 AM	20	14	2	0	0	32	24	0	18	2	11	0	0	3	0	0	126	0	0	0	0
7:50 AM	21	32	1	0	0	25	24	0	9	1	12	0	1	4	0	0	130	0	0	1	1
7:55 AM	25	24	2	0	0	23	21	0	19	5	14	0	0	1	0	0	134	0	0	0	0
8:00 AM	20	8	0	0	0	20	17	0	16	2	10	0	0	3	0	0	96	0	0	0	0
8:05 AM	22	15	0	0	0	20	21	0	11	4	7	0	0	1	1	0	102	0	1	0	1
8:10 AM	19	13	2	0	0	22	15	0	22	2	8	0	0	1	0	0	104	0	0	0	0
8:15 AM	20	11	1	0	0	20	18	0	21	1	11	0	0	1	0	0	104	0	0	0	0
8:20 AM	15	10	2	0	0	19	20	0	19	2	8	0	0	1	1	0	97	0	1	0	0
8:25 AM	18	18	0	0	0	18	18	0	15	3	9	0	0	0	0	0	99	0	0	0	0
8:30 AM	22	17	0	0	0	8	11	0	23	2	11	0	0	0	0	0	94	0	0	0	0
8:35 AM	13	9	0	0	0	24	16	0	14	3	7	0	1	3	1	0	91	0	0	0	0
8:40 AM	10	10	0	0	0	20	20	0	12	4	8	0	1	1	0	0	86	0	0	0	0
8:45 AM	15	22	2	0	0	20	17	0	24	4	8	0	1	1	1	0	115	0	0	0	0
8:50 AM	17	14	3	0	0	22	11	0	20	4	8	0	0	0	0	0	99	0	1	1	1
8:55 AM	16	11	4	0	0	20	14	0	18	4	9	0	1	3	0	0	100	0	0	1	0
Total Survey	498	344	20	1	2	459	486	1	374	64	206	0	7	56	6	0	2,522	1	6	5	4

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	59	34	1	1	1	28	65	0	38	5	21	0	0	9	0	0	261	0	0	1	0
7:15 AM	87	44	0	0	0	43	73	1	47	7	20	0	0	12	1	0	334	1	0	1	0
7:30 AM	79	38	0	0	1	75	81	0	28	9	24	0	2	12	1	0	350	0	3	0	1
7:45 AM	66	70	5	0	0	80	69	0	46	8	37	0	1	8	0	0	390	0	0	1	1
8:00 AM	61	36	2	0	0	62	53	0	49	8	25	0	0	5	1	0	302	0	1	0	1
8:15 AM	53	39	3	0	0	57	56	0	55	6	28	0	0	2	1	0	300	0	1	0	0
8:30 AM	45	36	0	0	0	52	47	0	49	9	26	0	2	4	1	0	271	0	0	0	0
8:45 AM	48	47	9	0	0	62	42	0	62	12	25	0	2	4	1	0	314	0	1	2	1
Total Survey	498	344	20	1	2	459	486	1	374	64	206	0	7	56	6	0	2,522	1	6	5	4

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	488	369	857	0	537	361	898	1	308	606	914	0	43	40	83	0	1,376	1	4	2	3
%HV	3.1%				4.5%				4.2%				2.3%				3.9%				
PHF	0.87				0.82				0.85				0.67				0.88				

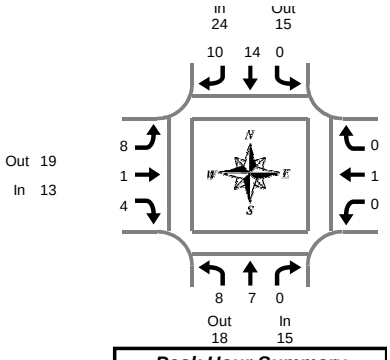
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	293	188	7	488	1	260	276	537	170	32	106	308	3	37	3	43	1,376
%HV	2.7%	3.7%	0.0%	3.1%	0.0%	5.4%	3.6%	4.5%	4.7%	3.1%	3.8%	4.2%	0.0%	2.7%	0.0%	2.3%	3.9%
PHF	0.82	0.67	0.35	0.87	0.25	0.74	0.85	0.82	0.87	0.73	0.72	0.85	0.38	0.71	0.38	0.67	0.88

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	291	186	6	1	2	226	288	1	159	29	102	0	3	41	2	0	1,335	1	3	3	2
7:15 AM	293	188	7	0	1	260	276	1	170	32	106	0	3	37	3	0	1,376	1	4	2	3
7:30 AM	259	183	10	0	1	274	259	0	178	31	114	0	3	27	3	0	1,342	0	5	1	3
7:45 AM	225	181	10	0	0	251	225	0	199	31	116	0	3	19	3	0	1,263	0	2	1	2
8:00 AM	207	158	14	0	0	233	198	0	215	35	104	0	4	15	4	0	1,187	0	3	2	2

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:15 AM to 8:15 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2
7:05 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
7:10 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
7:20 AM	1	0	0	1	0	1	1	2	2	0	0	2	0	0	0	0	5
7:25 AM	2	0	0	2	0	1	0	1	1	0	2	3	0	0	0	0	6
7:30 AM	2	1	0	3	0	1	1	2	2	0	0	2	0	0	0	0	7
7:35 AM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
7:40 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
7:45 AM	1	1	0	2	0	2	1	3	1	0	0	1	0	0	0	0	6
7:50 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
7:55 AM	0	1	0	1	0	1	2	3	0	0	0	0	0	0	0	0	4
8:00 AM	1	0	0	1	0	3	1	4	1	0	0	1	0	0	0	0	6
8:05 AM	1	1	0	2	0	3	0	3	0	1	0	1	0	0	0	0	6
8:10 AM	0	3	0	3	0	2	0	2	1	0	1	2	0	0	0	0	7
8:15 AM	0	0	0	0	0	3	2	5	1	0	1	2	0	0	0	0	7
8:20 AM	0	0	0	0	0	1	0	1	3	0	2	5	0	0	0	0	6
8:25 AM	0	3	0	3	0	2	1	3	1	0	1	2	0	0	0	0	8
8:30 AM	1	3	0	4	0	0	0	0	2	0	2	4	0	0	0	0	8
8:35 AM	1	0	0	1	0	2	2	4	0	0	0	0	0	0	0	0	5
8:40 AM	0	1	0	1	0	3	0	3	0	1	0	1	0	0	0	0	5
8:45 AM	1	2	1	4	0	2	0	2	2	0	0	2	1	0	0	1	9
8:50 AM	3	3	0	6	0	0	1	1	0	0	0	0	0	0	0	0	7
8:55 AM	0	0	0	0	0	3	1	4	2	0	0	2	0	0	0	0	6
Total Survey	14	19	1	34	0	31	17	48	21	2	11	34	1	1	0	2	118

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	1	0	1	2	0	1	3	0	0	0	0	4
7:15 AM	3	0	0	3	0	2	2	4	3	0	2	5	0	0	0	0	12
7:30 AM	2	1	0	3	0	1	4	5	2	0	0	2	0	1	0	1	11
7:45 AM	1	2	0	3	0	3	3	6	1	0	1	2	0	0	0	0	11
8:00 AM	2	4	0	6	0	8	1	9	2	1	1	4	0	0	0	0	19
8:15 AM	0	3	0	3	0	6	3	9	5	0	4	9	0	0	0	0	21
8:30 AM	2	4	0	6	0	5	2	7	2	1	2	5	0	0	0	0	18
8:45 AM	4	5	1	10	0	5	2	7	4	0	0	4	1	0	0	1	22
Total Survey	14	19	1	34	0	31	17	48	21	2	11	34	1	1	0	2	118

Heavy Vehicle Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	15	18	33	24	15	39	13	19	32	1	1	2	53
PHF	0.63			0.60			0.46			0.25			0.70

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	8	7	0	15	0	14	10	24	8	1	4	13	0	1	0	1	53
PHF	0.40	0.44	0.00	0.63	0.00	0.44	0.63	0.60	0.40	0.25	0.50	0.46	0.00	0.25	0.00	0.25	0.70

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

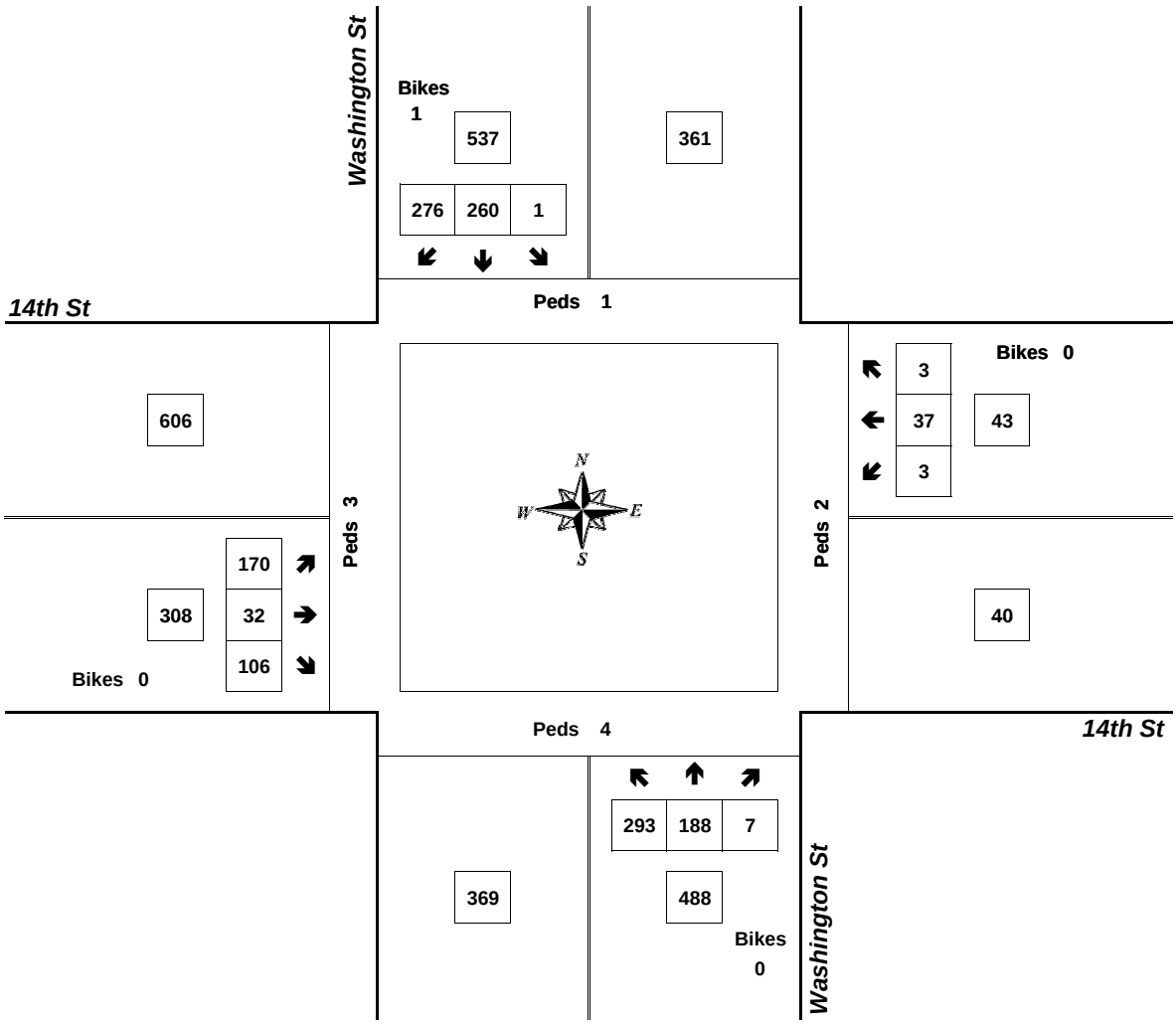
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	6	3	0	9	0	7	9	16	8	0	4	12	0	1	0	1	38
7:15 AM	8	7	0	15	0	14	10	24	8	1	4	13	0	1	0	1	53
7:30 AM	5	10	0	15	0	18	11	29	10	1	6	17	0	1	0	1	62
7:45 AM	5	13	0	18	0	22	9	31	10	2	8	20	0	0	0	0	69
8:00 AM	8	16	1	25	0	24	8	32	13	2	7	22	1	0	0	1	80

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 14th St

7:15 AM to 8:15 AM
Thursday, January 26, 2017

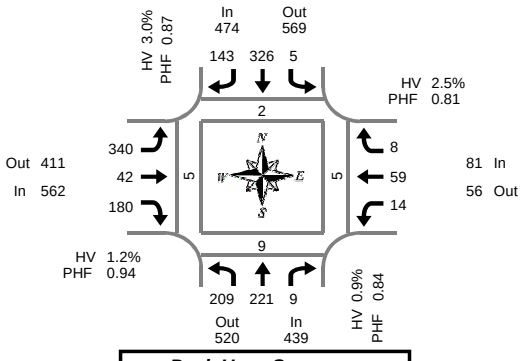


Approach	PHF	HV%	Volume
EB	0.85	4.2%	308
WB	0.67	2.3%	43
NB	0.87	3.1%	488
SB	0.82	4.5%	537
Intersection	0.88	3.9%	1,376

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:20 PM to 5:20 PM

Washington St & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	11	18	0	0	1	22	13	0	19	2	19	0	0	3	1	0	109	0	0	0	0
4:05 PM	19	18	2	0	0	31	12	0	35	5	14	0	0	4	2	0	142	0	0	0	0
4:10 PM	24	14	0	0	0	30	10	0	19	5	19	0	0	1	0	0	122	0	0	0	1
4:15 PM	19	19	0	0	0	26	13	0	19	5	11	0	0	3	1	0	116	0	0	0	0
4:20 PM	11	19	0	0	2	23	6	0	33	6	16	0	3	2	3	0	124	0	0	0	1
4:25 PM	13	18	2	0	0	29	6	0	29	1	15	0	0	2	0	0	115	0	0	0	0
4:30 PM	26	17	4	0	0	18	16	0	31	3	16	0	2	3	1	0	137	2	1	1	0
4:35 PM	17	21	0	0	0	34	10	0	28	5	15	0	1	6	2	0	139	0	1	3	0
4:40 PM	24	22	0	0	1	38	13	0	27	1	14	0	2	3	0	0	145	0	0	0	0
4:45 PM	13	22	1	0	1	26	13	0	30	4	19	0	0	7	0	0	136	0	2	0	0
4:50 PM	12	17	0	0	0	31	6	0	33	6	12	0	1	4	0	0	122	0	2	0	0
4:55 PM	18	18	1	0	1	27	21	0	21	3	14	0	2	3	0	0	129	0	0	1	0
5:00 PM	18	13	0	0	0	31	8	0	28	2	13	0	2	6	1	0	122	0	0	0	0
5:05 PM	22	13	1	0	0	22	11	0	30	4	8	0	0	6	0	0	117	0	1	0	0
5:10 PM	20	17	0	0	0	20	18	0	33	4	17	0	0	6	1	0	136	0	1	0	3
5:15 PM	15	24	0	0	0	27	15	0	17	3	21	0	1	11	0	0	134	0	1	0	1
5:20 PM	21	8	0	0	0	23	11	0	31	4	11	0	0	4	1	0	114	0	0	0	0
5:25 PM	17	17	0	0	0	30	7	0	19	1	15	0	0	3	0	0	109	0	0	0	0
5:30 PM	9	17	0	0	1	30	13	0	28	3	20	0	1	6	2	0	130	0	0	0	0
5:35 PM	14	16	0	0	0	22	13	0	31	4	21	0	0	2	0	0	123	0	3	0	1
5:40 PM	19	11	0	0	0	22	8	0	23	3	13	0	3	2	1	0	105	0	0	0	0
5:45 PM	18	14	1	0	2	18	12	0	32	1	15	0	0	2	1	0	116	0	1	0	0
5:50 PM	10	15	2	0	0	23	12	0	37	1	18	0	0	4	0	0	122	0	1	0	0
5:55 PM	13	20	1	0	0	27	14	0	21	2	11	0	0	2	0	0	111	0	0	0	2
Total Survey	403	408	15	0	9	630	281	0	654	78	367	0	18	95	17	0	2,975	2	14	5	9

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	54	50	2	0	1	83	35	0	73	12	52	0	0	8	3	0	373	0	0	0	1
4:15 PM	43	56	2	0	2	78	25	0	81	12	42	0	3	7	4	0	355	0	0	0	1
4:30 PM	67	60	4	0	1	90	39	0	86	9	45	0	5	12	3	0	421	2	2	4	0
4:45 PM	43	57	2	0	2	84	40	0	84	13	45	0	3	14	0	0	387	0	4	1	0
5:00 PM	60	43	1	0	0	73	37	0	91	10	38	0	2	18	2	0	375	0	2	0	3
5:15 PM	53	49	0	0	0	80	33	0	67	8	47	0	1	18	1	0	357	0	1	0	1
5:30 PM	42	44	0	0	1	74	34	0	82	10	54	0	4	10	3	0	358	0	3	0	1
5:45 PM	41	49	4	0	2	68	38	0	90	4	44	0	0	8	1	0	349	0	2	0	2
Total Survey	403	408	15	0	9	630	281	0	654	78	367	0	18	95	17	0	2,975	2	14	5	9

Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	439	520	959	0	474	569	1,043	0	562	411	973	0	81	56	137	0	1,556	2	9	5	5
%HV	0.9%				3.0%				1.2%				2.5%				1.7%				
PHF	0.84				0.87				0.94				0.81				0.92				

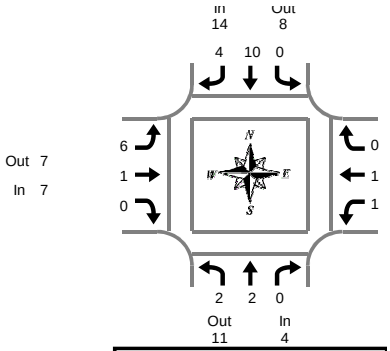
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	209	221	9	439	5	326	143	474	340	42	180	562	14	59	8	81	1,556
%HV	1.0%	0.9%	0.0%	0.9%	0.0%	3.1%	2.8%	3.0%	1.8%	2.4%	0.0%	1.2%	7.1%	1.7%	0.0%	2.5%	1.7%
PHF	0.78	0.85	0.38	0.84	0.63	0.83	0.81	0.87	0.91	0.81	0.94	0.94	0.70	0.64	0.50	0.81	0.92

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	207	223	10	0	6	335	139	0	324	46	184	0	11	41	10	0	1,536	2	6	5	2
4:15 PM	213	216	9	0	5	325	141	0	342	44	170	0	13	51	9	0	1,538	2	8	5	4
4:30 PM	223	209	7	0	3	327	149	0	328	40	175	0	11	62	6	0	1,540	2	9	5	4
4:45 PM	198	193	3	0	3	311	144	0	324	41	184	0	10	60	6	0	1,477	0	10	1	5
5:00 PM	196	185	5	0	3	295	142	0	330	32	183	0	7	54	7	0	1,439	0	8	0	7

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:20 PM to 5:20 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	2	2	1	0	0	1	0	0	0	0	3
4:05 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	3
4:10 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2
4:20 PM	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	1	3
4:25 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	1	0	0	1	0	0	1	1	1	0	0	1	0	0	0	0	3
4:35 PM	0	0	0	0	0	2	1	3	2	0	0	2	0	1	0	1	6
4:40 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	4	1	5	0	0	0	0	0	0	0	0	5
4:50 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
4:55 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:10 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
5:20 PM	2	0	0	2	0	1	1	2	0	0	0	0	0	0	0	0	4
5:25 PM	1	2	0	3	0	0	0	0	0	0	1	1	0	0	0	0	4
5:30 PM	0	1	0	1	0	2	0	2	1	0	0	1	0	0	0	0	4
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:50 PM	1	0	0	1	0	2	0	2	1	0	0	1	0	0	0	0	4
5:55 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
Total Survey	6	5	0	11	0	18	10	28	11	1	2	14	1	1	0	2	55

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	3	4	7	1	0	0	1	0	0	0	0	8
4:15 PM	1	0	0	1	0	0	0	0	2	1	1	4	1	0	0	1	6
4:30 PM	1	1	0	2	0	3	2	5	3	0	0	3	0	1	0	1	11
4:45 PM	0	1	0	1	0	5	1	6	1	0	0	1	0	0	0	0	8
5:00 PM	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	2
5:15 PM	3	2	0	5	0	3	1	4	0	0	1	1	0	0	0	0	10
5:30 PM	0	1	0	1	0	2	0	2	1	0	0	1	0	0	0	0	4
5:45 PM	1	0	0	1	0	2	1	3	2	0	0	2	0	0	0	0	6
Total Survey	6	5	0	11	0	18	10	28	11	1	2	14	1	1	0	2	55

Heavy Vehicle Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	4	11	15	14	8	22	7	7	14	2	1	3	27
PHF	0.50			0.39			0.58			0.50			0.52

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	2	0	4	0	10	4	14	6	1	0	7	1	1	0	2	27
PHF	0.25	0.25	0.00	0.50	0.00	0.36	0.50	0.39	0.50	0.25	0.00	0.58	0.25	0.25	0.00	0.50	0.52

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

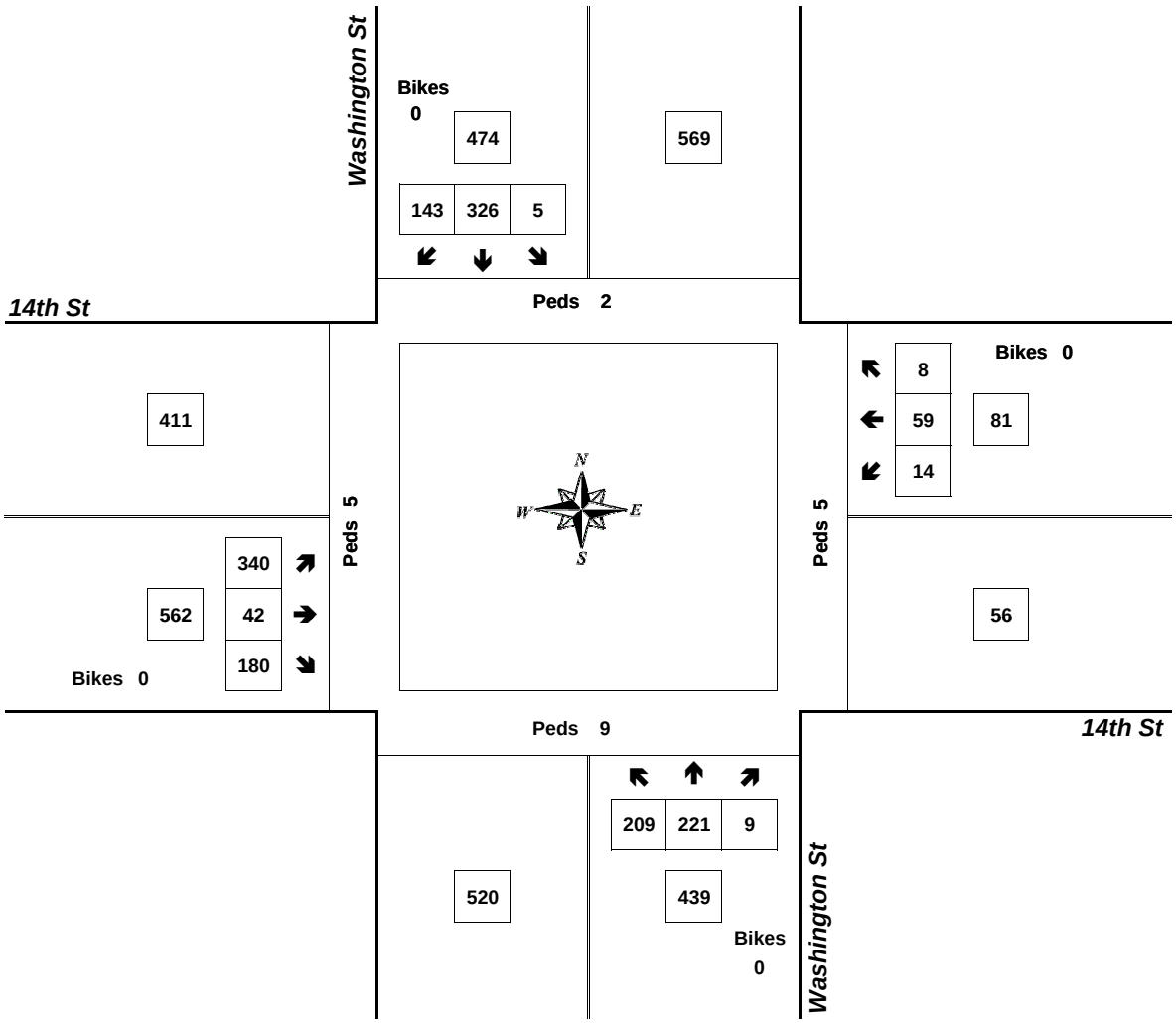
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	2	2	0	4	0	11	7	18	7	1	1	9	1	1	0	2	33
4:15 PM	2	2	0	4	0	8	4	12	7	1	1	9	1	1	0	2	27
4:30 PM	4	4	0	8	0	11	5	16	5	0	1	6	0	1	0	1	31
4:45 PM	3	4	0	7	0	10	3	13	3	0	1	4	0	0	0	0	24
5:00 PM	4	3	0	7	0	7	3	10	4	0	1	5	0	0	0	0	22

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Washington St & 14th St

4:20 PM to 5:20 PM
Wednesday, January 25, 2017

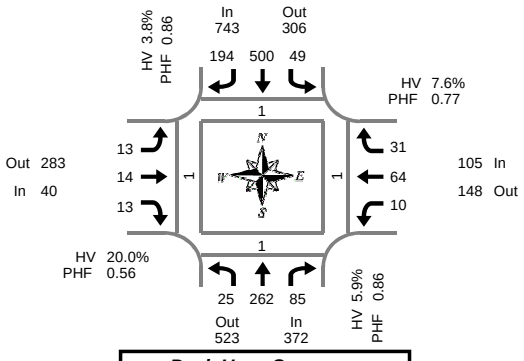


Approach	PHF	HV%	Volume
EB	0.94	1.2%	562
WB	0.81	2.5%	81
NB	0.84	0.9%	439
SB	0.87	3.0%	474
Intersection	0.92	1.7%	1,556

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:30 AM to 8:30 AM

Washington St & 15th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	1	15	4	0	2	24	11	0	1	0	0	0	0	5	1	0	64	0	0	0	0
7:05 AM	5	15	2	0	4	28	18	0	0	0	0	0	0	6	0	0	78	0	0	1	1
7:10 AM	7	23	6	1	2	38	18	0	2	1	0	0	2	6	1	0	106	1	0	0	0
7:15 AM	4	22	4	0	2	39	9	0	1	1	1	1	1	6	0	0	90	0	0	0	0
7:20 AM	5	25	2	0	2	31	19	0	0	0	0	0	1	5	2	0	92	0	0	0	0
7:25 AM	4	20	3	0	1	43	7	0	1	2	3	0	3	11	0	0	98	0	0	0	0
7:30 AM	1	17	1	0	2	52	10	0	1	1	0	0	0	6	2	1	93	1	0	0	0
7:35 AM	2	17	8	0	6	42	15	0	1	1	1	0	1	7	2	0	103	0	1	0	1
7:40 AM	2	20	9	0	2	64	14	0	0	0	1	0	0	3	3	0	118	0	0	0	0
7:45 AM	1	19	6	0	3	50	19	0	2	2	1	0	0	2	7	0	112	0	0	0	0
7:50 AM	3	32	3	0	5	42	17	0	0	1	1	0	0	8	3	0	115	0	0	1	0
7:55 AM	2	32	10	0	6	43	20	0	1	2	2	0	3	4	3	0	128	0	0	0	0
8:00 AM	1	15	9	0	8	38	20	0	1	0	0	0	2	4	0	0	98	0	0	0	0
8:05 AM	4	22	5	0	5	33	8	0	0	0	1	0	2	7	4	0	91	0	0	0	0
8:10 AM	1	24	11	0	2	29	16	0	2	0	2	0	0	5	5	0	97	0	0	0	0
8:15 AM	1	22	9	0	2	42	16	0	1	2	2	0	1	9	1	0	108	0	0	0	0
8:20 AM	3	17	6	0	5	32	17	0	3	4	2	0	1	5	1	0	96	0	0	0	0
8:25 AM	4	25	8	0	3	33	22	0	1	1	0	0	0	4	0	0	101	0	0	0	0
8:30 AM	4	23	7	0	2	24	12	0	2	1	1	0	1	6	0	0	83	0	0	0	0
8:35 AM	1	19	6	0	4	34	17	0	0	2	1	0	2	5	3	0	94	0	0	0	0
8:40 AM	4	21	6	0	3	35	21	0	8	3	0	0	2	7	0	0	110	0	1	1	0
8:45 AM	2	27	13	0	5	37	19	0	1	3	2	0	1	4	1	0	115	2	0	0	0
8:50 AM	4	22	6	0	3	31	9	0	1	1	1	0	3	5	1	0	87	0	0	0	0
8:55 AM	2	20	8	0	5	34	19	0	1	2	0	0	1	9	1	0	102	2	0	1	0
Total Survey	68	514	152	1	84	898	373	0	31	30	22	1	27	139	41	1	2,379	6	2	4	2

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	13	53	12	1	8	90	47	0	3	1	0	0	2	17	2	0	248	1	0	1	1
7:15 AM	13	67	9	0	5	113	35	0	2	3	4	1	5	22	2	0	280	0	0	0	0
7:30 AM	5	54	18	0	10	158	39	0	2	2	2	0	1	16	7	1	314	1	1	0	1
7:45 AM	6	83	19	0	14	135	56	0	3	5	4	0	3	14	13	0	355	0	0	1	0
8:00 AM	6	61	25	0	15	100	44	0	3	0	3	0	4	16	9	0	286	0	0	0	0
8:15 AM	8	64	23	0	10	107	55	0	5	7	4	0	2	18	2	0	305	0	0	0	0
8:30 AM	9	63	19	0	9	93	50	0	10	6	2	0	5	18	3	0	287	0	1	1	0
8:45 AM	8	69	27	0	13	102	47	0	3	6	3	0	5	18	3	0	304	4	0	1	0
Total Survey	68	514	152	1	84	898	373	0	31	30	22	1	27	139	41	1	2,379	6	2	4	2

Peak Hour Summary
7:30 AM to 8:30 AM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	372	523	895	0	743	306	1,049	0	40	283	323	0	105	148	253	1	1,260	1	1	1	1
%HV	5.9%				3.8%				20.0%				7.6%				5.2%				
PHF	0.86				0.86				0.56				0.77				0.89				

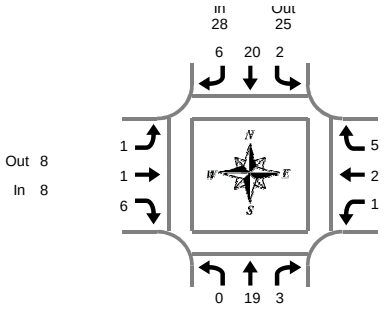
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	25	262	85	372	49	500	194	743	13	14	13	40	10	64	31	105	1,260
%HV	0.0%	7.3%	3.5%	5.9%	4.1%	4.0%	3.1%	3.8%	7.7%	7.1%	46.2%	20.0%	10.0%	3.1%	16.1%	7.6%	5.2%
PHF	0.78	0.79	0.82	0.86	0.64	0.79	0.85	0.86	0.54	0.50	0.54	0.56	0.36	0.76	0.60	0.77	0.89

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	37	257	58	1	37	496	177	0	10	11	10	1	11	69	24	1	1,197	2	1	2	2
7:15 AM	30	265	71	0	44	506	174	0	10	10	13	1	13	68	31	1	1,235	1	1	1	1
7:30 AM	25	262	85	0	49	500	194	0	13	14	13	0	10	64	31	1	1,260	1	1	1	1
7:45 AM	29	271	86	0	48	435	205	0	21	18	13	0	14	66	27	0	1,233	0	1	2	0
8:00 AM	31	257	94	0	47	402	196	0	21	19	12	0	16	70	17	0	1,182	4	1	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & 15th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:30 AM to 8:30 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	2	0	2	0	0	1	1	0	0	0	0	0	0	0	0	3
7:05 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
7:10 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
7:20 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	1	1	4
7:25 AM	0	2	0	2	0	0	1	1	0	0	2	2	0	0	0	0	5
7:30 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	1	1	4
7:35 AM	0	2	0	2	0	1	2	3	0	0	1	1	0	0	0	0	6
7:40 AM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	4
7:45 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1	3
7:50 AM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	1	1	3
7:55 AM	0	1	0	1	0	3	1	4	0	0	1	1	0	0	0	0	6
8:00 AM	0	1	0	1	1	4	0	5	0	0	0	0	0	0	0	0	6
8:05 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	1	2	3
8:10 AM	0	3	1	4	0	3	1	4	0	0	1	1	0	0	0	0	9
8:15 AM	0	0	0	0	0	3	0	3	1	0	1	2	0	1	0	1	6
8:20 AM	0	2	1	3	0	0	2	2	0	1	1	2	0	1	1	2	9
8:25 AM	0	5	1	6	0	1	0	1	0	0	0	0	0	0	0	0	7
8:30 AM	0	2	0	2	0	1	1	2	1	1	1	3	0	0	0	0	7
8:35 AM	0	0	0	0	0	4	1	5	0	0	0	0	0	0	0	0	5
8:40 AM	1	1	0	2	0	1	1	2	0	0	0	0	0	1	0	1	5
8:45 AM	0	2	1	3	0	3	0	3	0	0	0	0	0	0	0	0	6
8:50 AM	1	2	0	3	0	1	1	2	0	0	1	1	0	0	0	0	6
8:55 AM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	4
Total Survey	2	34	4	40	3	35	12	50	2	2	10	14	1	4	6	11	115

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	2	0	2	1	1	1	3	0	0	0	0	0	0	0	0	5
7:15 AM	0	4	0	4	0	2	1	3	0	0	2	2	0	1	1	2	11
7:30 AM	0	5	0	5	0	5	2	7	0	0	1	1	0	0	1	1	14
7:45 AM	0	2	0	2	1	4	1	6	0	0	2	2	0	0	2	2	12
8:00 AM	0	5	1	6	1	7	1	9	0	0	1	1	1	0	1	2	18
8:15 AM	0	7	2	9	0	4	2	6	1	1	2	4	0	2	1	3	22
8:30 AM	1	3	0	4	0	6	3	9	1	1	1	3	0	1	0	1	17
8:45 AM	1	6	1	8	0	6	1	7	0	0	1	1	0	0	0	0	16
Total Survey	2	34	4	40	3	35	12	50	2	2	10	14	1	4	6	11	115

Heavy Vehicle Peak Hour Summary
7:30 AM to 8:30 AM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 15th St			Westbound 15th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	22	27	49	28	25	53	8	8	16	8	6	14	66
PHF	0.61			0.70			0.40			0.67			0.69

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	19	3	22	2	20	6	28	1	1	6	8	1	2	5	8	66
PHF	0.00	0.68	0.38	0.61	0.25	0.71	0.50	0.70	0.25	0.25	0.50	0.40	0.25	0.25	0.63	0.67	0.69

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

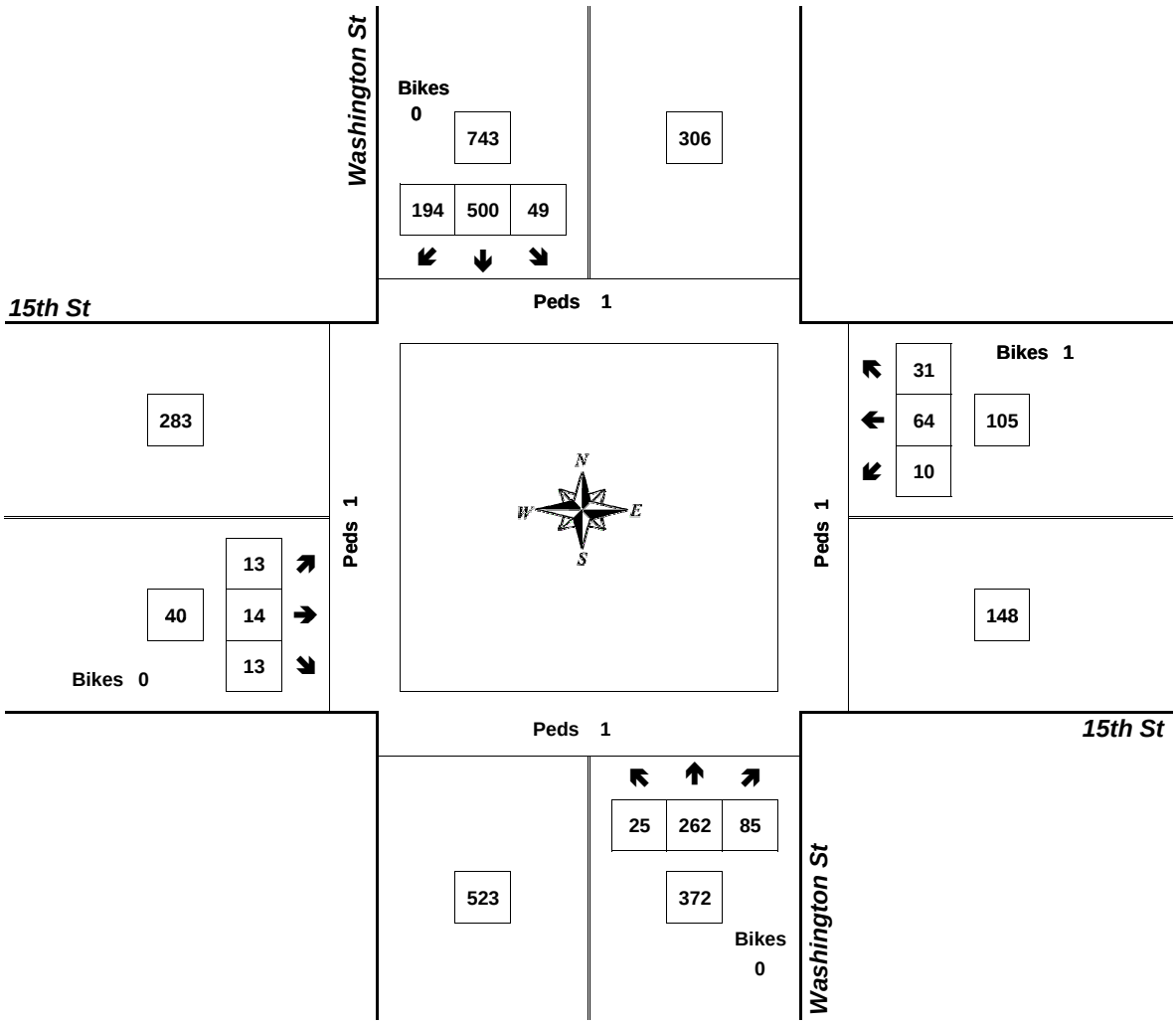
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	13	0	13	2	12	5	19	0	0	5	5	0	1	4	5	42
7:15 AM	0	16	1	17	2	18	5	25	0	0	6	6	1	1	5	7	55
7:30 AM	0	19	3	22	2	20	6	28	1	1	6	8	1	2	5	8	66
7:45 AM	1	17	3	21	2	21	7	30	2	2	6	10	1	3	4	8	69
8:00 AM	2	21	4	27	1	23	7	31	2	2	5	9	1	3	2	6	73

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 15th St

7:30 AM to 8:30 AM
Thursday, January 26, 2017

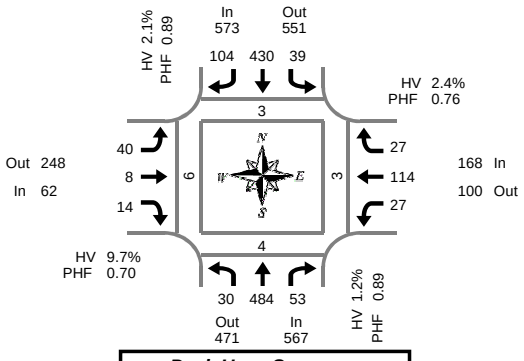


Approach	PHF	HV%	Volume
EB	0.56	20.0%	40
WB	0.77	7.6%	105
NB	0.86	5.9%	372
SB	0.86	3.8%	743
Intersection	0.89	5.2%	1,260

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:20 PM to 5:20 PM

Washington St & 15th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	3	32	4	0	3	34	8	0	4	2	5	0	3	8	5	0	111	0	0	1	1
4:05 PM	0	46	1	0	4	29	9	0	2	1	2	0	2	7	2	0	105	0	2	2	0
4:10 PM	2	26	5	0	5	40	4	0	3	3	1	0	1	12	2	0	104	1	0	0	0
4:15 PM	2	39	1	0	4	34	5	0	1	1	3	0	1	7	3	0	101	0	0	0	1
4:20 PM	1	51	5	0	2	23	8	0	6	1	1	0	2	7	1	0	108	0	0	0	0
4:25 PM	0	44	5	0	1	40	10	0	5	0	1	0	2	9	0	0	117	0	1	1	1
4:30 PM	5	43	6	0	6	37	6	0	2	0	1	0	1	8	5	0	120	0	1	0	1
4:35 PM	4	32	7	0	1	42	13	0	8	1	4	0	2	14	0	0	128	1	0	0	0
4:40 PM	6	37	3	0	3	44	8	0	4	1	1	0	1	7	1	0	116	0	0	0	0
4:45 PM	2	48	4	0	3	39	8	0	3	0	0	0	1	10	3	0	121	1	0	0	1
4:50 PM	2	38	1	0	5	35	8	0	2	1	1	0	2	10	0	0	105	0	0	1	0
4:55 PM	1	49	3	0	2	42	7	0	0	1	1	0	2	8	4	0	120	0	0	1	0
5:00 PM	3	36	6	0	3	33	9	0	4	1	0	0	1	12	3	0	111	0	0	0	1
5:05 PM	0	20	7	0	5	25	8	0	2	0	1	0	8	8	6	0	90	0	2	0	0
5:10 PM	1	51	1	0	5	37	10	0	0	0	1	0	2	11	4	0	123	1	0	0	1
5:15 PM	5	35	5	0	3	33	9	0	4	2	2	0	3	10	0	0	111	0	0	0	1
5:20 PM	2	27	1	0	2	29	2	0	2	1	1	0	6	8	5	0	86	0	1	0	0
5:25 PM	0	40	1	0	1	34	8	0	1	2	1	0	3	6	4	0	101	2	0	0	0
5:30 PM	7	36	7	0	1	42	9	0	1	1	1	0	1	9	2	0	117	0	0	0	1
5:35 PM	1	36	3	0	1	33	11	0	1	2	0	0	1	11	1	0	101	0	0	0	0
5:40 PM	0	35	4	0	4	24	11	0	2	1	0	0	2	4	3	0	90	0	0	0	0
5:45 PM	2	41	2	0	2	33	3	0	0	2	1	0	1	8	0	0	95	0	2	2	1
5:50 PM	4	43	5	0	2	39	8	0	4	1	1	0	0	8	2	0	117	0	0	0	0
5:55 PM	2	35	5	0	2	29	4	0	3	2	0	0	0	3	4	0	89	0	1	0	2
Total Survey	55	920	92	0	70	830	186	0	64	27	30	0	48	205	60	0	2,587	6	10	8	12

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	5	104	10	0	12	103	21	0	9	6	8	0	6	27	9	0	320	1	2	3	1
4:15 PM	3	134	11	0	7	97	23	0	12	2	5	0	5	23	4	0	326	0	1	1	2
4:30 PM	15	112	16	0	10	123	27	0	14	2	6	0	4	29	6	0	364	1	1	0	1
4:45 PM	5	135	8	0	10	116	23	0	5	2	2	0	5	28	7	0	346	1	0	2	1
5:00 PM	4	107	14	0	13	95	27	0	6	1	2	0	11	31	13	0	324	1	2	0	2
5:15 PM	7	102	7	0	6	96	19	0	7	5	4	0	12	24	9	0	298	2	1	0	1
5:30 PM	8	107	14	0	6	99	31	0	4	4	1	0	4	24	6	0	308	0	0	0	1
5:45 PM	8	119	12	0	6	101	15	0	7	5	2	0	1	19	6	0	301	0	3	2	3
Total Survey	55	920	92	0	70	830	186	0	64	27	30	0	48	205	60	0	2,587	6	10	8	12

Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	567	471	1,038	0	573	551	1,124	0	62	248	310	0	168	100	268	0	1,370	3	4	3	6
%HV	1.2%				2.1%				9.7%				2.4%				2.1%				
PHF	0.89				0.89				0.70				0.76				0.94				

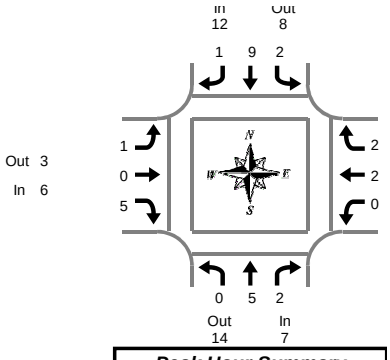
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	30	484	53	567	39	430	104	573	40	8	14	62	27	114	27	168	1,370
%HV	0.0%	1.0%	3.8%	1.2%	5.1%	2.1%	1.0%	2.1%	2.5%	0.0%	35.7%	9.7%	0.0%	1.8%	7.4%	2.4%	2.1%
PHF	0.50	0.88	0.74	0.89	0.75	0.86	0.90	0.89	0.67	0.67	0.58	0.70	0.52	0.92	0.52	0.76	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	28	485	45	0	39	439	94	0	40	12	21	0	20	107	26	0	1,356	3	4	6	5
4:15 PM	27	488	49	0	40	431	100	0	37	7	15	0	25	111	30	0	1,360	3	4	3	6
4:30 PM	31	456	45	0	39	430	96	0	32	10	14	0	32	112	35	0	1,332	5	4	2	5
4:45 PM	24	451	43	0	35	406	100	0	22	12	9	0	32	107	35	0	1,276	4	3	2	5
5:00 PM	27	435	47	0	31	391	92	0	24	15	9	0	28	98	34	0	1,231	3	6	2	7

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
4:20 PM to 5:20 PM

Washington St & 15th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	0	3	0	3	0	0	1	1	0	0	0	0	5
4:05 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
4:10 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	3
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:20 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	2	3
4:25 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:35 PM	0	1	1	2	0	2	1	3	0	0	2	2	0	0	0	0	7
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	5	0	5	1	0	0	1	0	0	0	0	6
4:50 PM	0	1	0	1	2	0	0	2	0	0	1	1	0	0	0	0	4
4:55 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
5:10 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2
5:20 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:25 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	2	0	2	0	1	0	1	0	0	1	1	0	0	0	0	4
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
5:50 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:55 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Survey	0	14	2	16	2	18	2	22	2	0	9	11	0	2	2	4	53

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	0	6	1	7	1	0	1	2	0	0	0	0	10
4:15 PM	0	2	1	3	0	0	0	0	0	0	0	0	0	1	1	2	5
4:30 PM	0	1	1	2	0	3	1	4	0	0	2	2	0	0	0	0	8
4:45 PM	0	2	0	2	2	5	0	7	1	0	1	2	0	0	1	1	12
5:00 PM	0	1	0	1	0	1	0	1	0	0	1	1	0	0	0	0	3
5:15 PM	0	2	0	2	0	1	0	1	0	0	1	1	0	1	0	1	5
5:30 PM	0	4	0	4	0	1	0	1	0	0	1	1	0	0	0	0	6
5:45 PM	0	1	0	1	0	1	0	1	0	0	2	2	0	0	0	0	4
Total Survey	0	14	2	16	2	18	2	22	2	0	9	11	0	2	2	4	53

Heavy Vehicle Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 15th St			Westbound 15th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	14	21	12	8	20	6	3	9	4	4	8	29
PHF	0.58			0.38			0.50			0.50			0.56

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	5	2	7	2	9	1	12	1	0	5	6	0	2	2	4	29
PHF	0.00	0.63	0.50	0.58	0.25	0.32	0.25	0.38	0.25	0.00	0.63	0.50	0.00	0.50	0.50	0.50	0.56

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

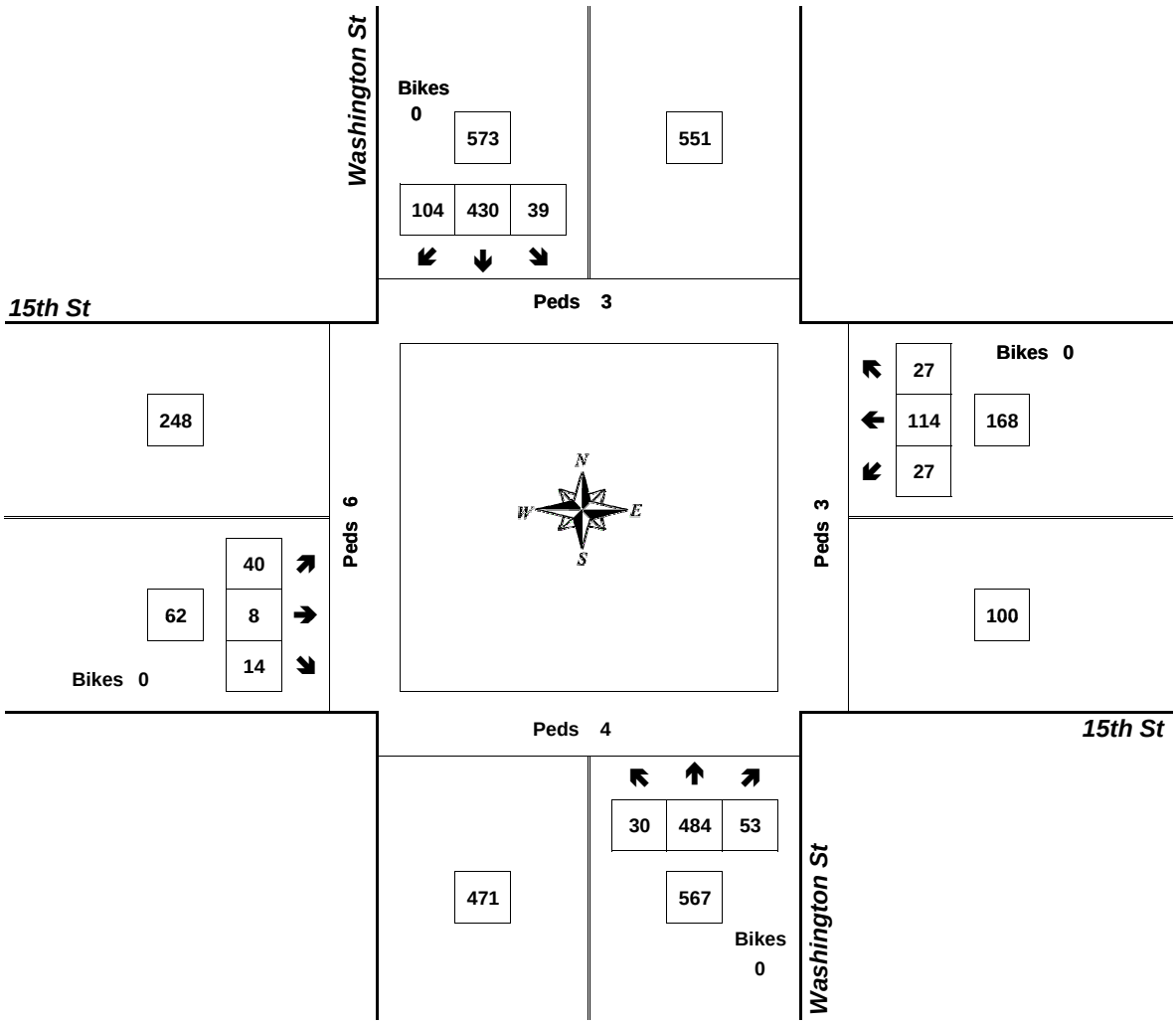
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	6	2	8	2	14	2	18	2	0	4	6	0	1	2	3	35
4:15 PM	0	6	2	8	2	9	1	12	1	0	4	5	0	1	2	3	28
4:30 PM	0	6	1	7	2	10	1	13	1	0	5	6	0	1	1	2	28
4:45 PM	0	9	0	9	2	8	0	10	1	0	4	5	0	1	1	2	26
5:00 PM	0	8	0	8	0	4	0	4	0	0	5	5	0	1	0	1	18

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 15th St

4:20 PM to 5:20 PM
Wednesday, January 25, 2017

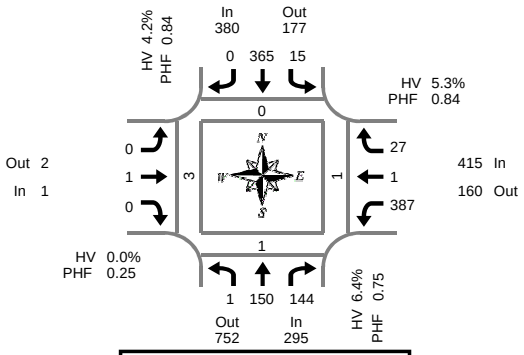


Approach	PHF	HV%	Volume
EB	0.70	9.7%	62
WB	0.76	2.4%	168
NB	0.89	1.2%	567
SB	0.89	2.1%	573
Intersection	0.94	2.1%	1,370

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:20 AM to 8:20 AM

Washington St & Abernathy Rd

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	9	6	0	0	28	0	0	0	0	0	0	18	0	4	0	65	0	0	0	0
7:05 AM	0	8	6	0	1	19	0	0	0	0	0	0	37	0	4	0	75	0	0	0	0
7:10 AM	0	9	11	1	2	29	0	0	0	0	0	0	30	0	3	1	84	0	0	0	0
7:15 AM	0	9	10	0	1	26	0	0	0	0	0	0	28	0	1	0	75	0	0	0	0
7:20 AM	1	19	7	0	1	26	0	0	0	0	0	0	29	0	1	0	84	0	0	0	0
7:25 AM	0	6	14	0	2	28	0	0	0	0	0	0	30	0	2	0	82	0	0	0	2
7:30 AM	0	8	11	0	1	34	0	0	0	0	0	0	34	0	2	0	90	0	1	0	0
7:35 AM	0	12	9	0	2	26	0	0	0	0	0	0	32	0	0	0	81	0	0	0	0
7:40 AM	0	13	8	0	0	47	0	0	0	0	0	0	34	0	4	0	106	0	0	1	0
7:45 AM	0	16	13	0	2	36	0	0	0	0	0	0	35	0	2	0	104	0	0	0	1
7:50 AM	0	19	16	0	1	24	0	0	0	0	0	0	47	0	1	0	108	0	0	0	0
7:55 AM	0	17	17	0	2	30	0	0	0	0	0	0	33	0	5	0	104	0	0	0	0
8:00 AM	0	8	9	0	3	43	0	0	0	0	0	0	25	0	1	0	89	0	0	0	0
8:05 AM	0	11	13	0	0	23	0	0	0	0	0	0	27	0	2	0	76	0	0	0	0
8:10 AM	0	10	17	0	1	22	0	0	0	1	0	0	22	0	3	0	76	0	0	0	0
8:15 AM	0	11	10	0	0	26	0	0	0	0	0	0	39	1	4	0	91	0	0	0	0
8:20 AM	0	15	10	0	0	31	0	0	0	0	0	0	19	0	4	0	79	0	0	0	0
8:25 AM	0	12	11	0	3	29	0	1	0	0	0	0	25	1	5	0	86	0	1	0	0
8:30 AM	0	10	16	0	1	21	0	0	0	0	0	0	20	0	4	0	72	0	0	0	0
8:35 AM	0	10	11	0	2	33	0	0	0	0	0	0	24	0	2	0	82	0	0	0	0
8:40 AM	2	13	7	0	3	33	0	0	0	0	1	0	35	0	4	0	98	0	0	0	0
8:45 AM	1	20	9	0	0	30	0	0	0	0	0	0	19	0	1	0	80	0	0	0	0
8:50 AM	0	14	9	0	3	16	0	0	0	0	0	0	24	0	3	0	69	0	0	1	0
8:55 AM	0	12	8	0	3	34	0	0	0	0	0	0	23	0	3	0	83	0	0	0	0
Total Survey	4	291	258	1	34	694	0	1	0	1	1	0	689	2	65	1	2,039	0	2	2	3

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	26	23	1	3	76	0	0	0	0	0	0	85	0	11	1	224	0	0	0	0
7:15 AM	1	34	31	0	4	80	0	0	0	0	0	0	87	0	4	0	241	0	0	0	2
7:30 AM	0	33	28	0	3	107	0	0	0	0	0	0	100	0	6	0	277	0	1	1	0
7:45 AM	0	52	46	0	5	90	0	0	0	0	0	0	115	0	8	0	316	0	0	0	1
8:00 AM	0	29	39	0	4	88	0	0	0	1	0	0	74	0	6	0	241	0	0	0	0
8:15 AM	0	38	31	0	3	86	0	1	0	0	0	0	83	2	13	0	256	0	1	0	0
8:30 AM	2	33	34	0	6	87	0	0	0	0	1	0	79	0	10	0	252	0	0	0	0
8:45 AM	1	46	26	0	6	80	0	0	0	0	0	0	66	0	7	0	232	0	0	1	0
Total Survey	4	291	258	1	34	694	0	1	0	1	1	0	689	2	65	1	2,039	0	2	2	3

Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	295	752	1,047	0	380	177	557	0	1	2	3	0	415	160	575	0	1,091	0	1	1	3
%HV	6.4%				4.2%				0.0%				5.3%				5.2%				
PHF	0.75				0.84				0.25				0.84				0.86				

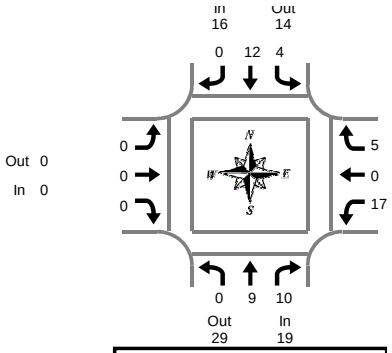
By Movement	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	150	144	295	15	365	0	380	0	1	0	1	387	1	27	415	1,091
%HV	0.0%	6.0%	6.9%	6.4%	26.7%	3.3%	0.0%	4.2%	0.0%	0.0%	0.0%	0.0%	4.4%	0.0%	18.5%	5.3%	5.2%
PHF	0.25	0.72	0.78	0.75	0.63	0.84	0.00	0.84	0.00	0.25	0.00	0.25	0.83	0.25	0.75	0.84	0.86

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	1	145	128	1	15	353	0	0	0	0	0	0	387	0	29	1	1,058	0	1	1	3
7:15 AM	1	148	144	0	16	365	0	0	0	1	0	0	376	0	24	0	1,075	0	1	1	3
7:30 AM	0	152	144	0	15	371	0	1	0	1	0	0	372	2	33	0	1,090	0	2	1	1
7:45 AM	2	152	150	0	18	351	0	1	0	1	1	0	351	2	37	0	1,065	0	1	0	1
8:00 AM	3	146	130	0	19	341	0	1	0	1	1	0	302	2	36	0	981	0	1	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Abernathy Rd

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:20 AM to 8:20 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
7:05 AM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	2	3	4
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
7:20 AM	0	2	1	3	1	1	0	2	0	0	0	0	2	0	0	2	7
7:25 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
7:30 AM	0	0	3	3	1	2	0	3	0	0	0	0	0	0	1	1	7
7:35 AM	0	1	0	1	1	2	0	3	0	0	0	0	0	0	0	0	4
7:40 AM	0	0	1	1	0	0	0	0	0	0	0	0	3	0	0	3	4
7:45 AM	0	1	1	2	1	0	0	1	0	0	0	0	1	0	0	1	4
7:50 AM	0	0	1	1	0	2	0	2	0	0	0	0	0	0	0	0	3
7:55 AM	0	0	0	0	0	1	0	1	0	0	0	0	3	0	0	3	4
8:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	3	0	0	3	5
8:05 AM	0	0	2	2	0	0	0	0	0	0	0	0	1	0	0	1	3
8:10 AM	0	2	1	3	0	2	0	2	0	0	0	0	3	0	2	5	10
8:15 AM	0	1	0	1	0	1	0	1	0	0	0	0	1	0	1	2	4
8:20 AM	0	0	3	3	0	2	0	2	0	0	0	0	0	0	0	0	5
8:25 AM	0	1	4	5	0	1	0	1	0	0	0	0	0	0	0	0	6
8:30 AM	0	1	2	3	0	2	0	2	0	0	0	0	0	0	0	0	5
8:35 AM	0	0	0	0	0	2	0	2	0	0	0	0	3	0	0	3	5
8:40 AM	0	1	1	2	0	2	0	2	0	0	0	0	1	0	0	1	5
8:45 AM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	4
8:50 AM	0	2	0	2	0	1	0	1	0	0	0	0	1	0	0	1	4
8:55 AM	0	1	1	2	0	2	0	2	0	0	0	0	1	0	0	1	5
Total Survey	0	18	22	40	4	29	0	33	0	0	0	0	25	0	7	32	105

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	1	2	0	1	0	1	0	0	0	0	2	0	2	4	7
7:15 AM	0	3	1	4	1	3	0	4	0	0	0	0	2	0	1	3	11
7:30 AM	0	1	4	5	2	4	0	6	0	0	0	0	3	0	1	4	15
7:45 AM	0	1	2	3	1	3	0	4	0	0	0	0	4	0	0	4	11
8:00 AM	0	3	3	6	0	3	0	3	0	0	0	0	7	0	2	9	18
8:15 AM	0	2	7	9	0	4	0	4	0	0	0	0	1	0	1	2	15
8:30 AM	0	2	3	5	0	6	0	6	0	0	0	0	4	0	0	4	15
8:45 AM	0	5	1	6	0	5	0	5	0	0	0	0	2	0	0	2	13
Total Survey	0	18	22	40	4	29	0	33	0	0	0	0	25	0	7	32	105

Heavy Vehicle Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound Abernathy Rd			Westbound Abernathy Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	19	29	48	16	14	30	0	0	0	22	14	36	57
PHF	0.68			0.67			0.00			0.61			0.79

By Movement	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	9	10	19	4	12	0	16	0	0	0	0	17	0	5	22	57
PHF	0.00	0.75	0.63	0.68	0.50	0.75	0.00	0.67	0.00	0.00	0.00	0.00	0.61	0.00	0.42	0.61	0.79

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

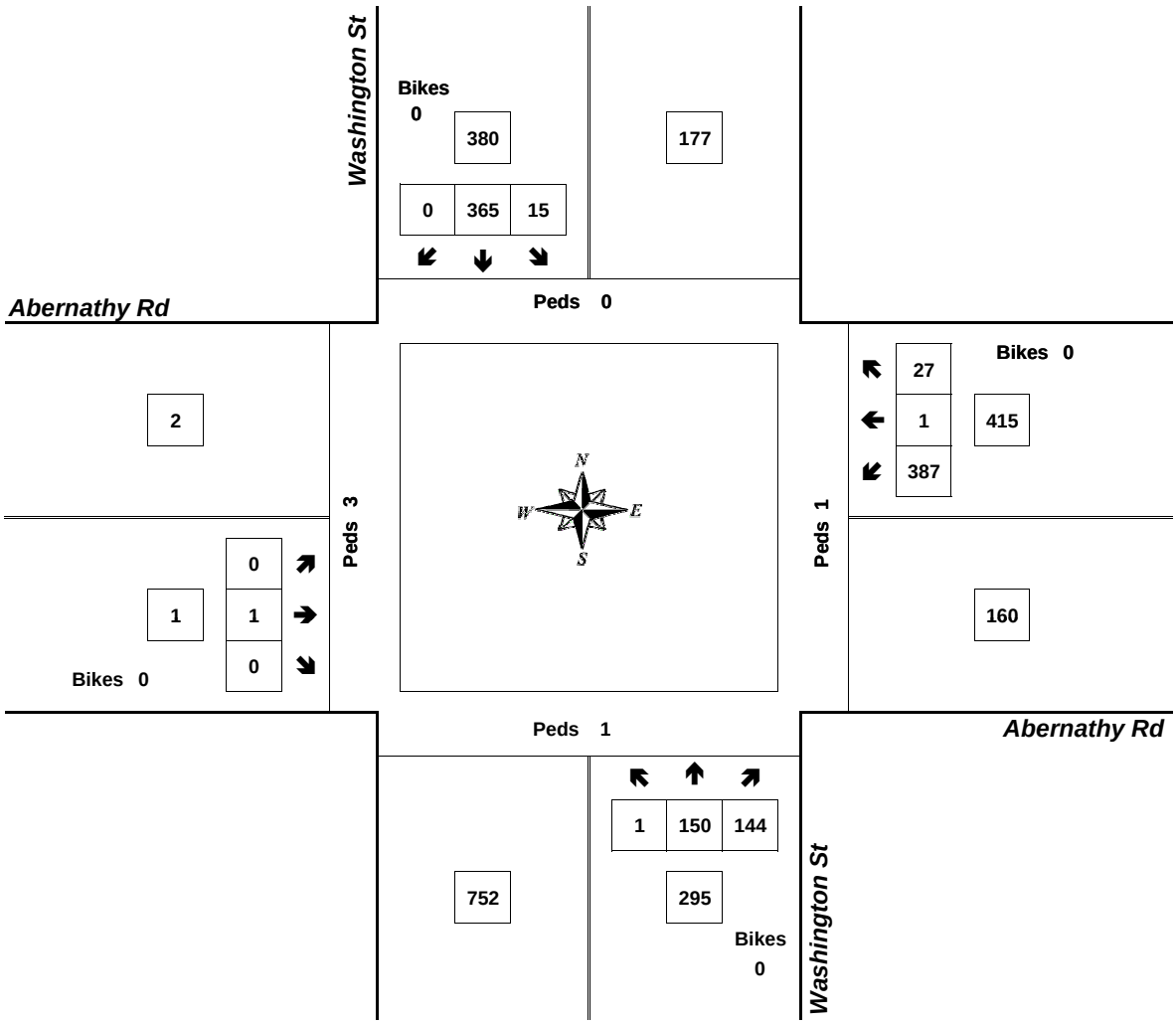
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	6	8	14	4	11	0	15	0	0	0	0	11	0	4	15	44
7:15 AM	0	8	10	18	4	13	0	17	0	0	0	0	16	0	4	20	55
7:30 AM	0	7	16	23	3	14	0	17	0	0	0	0	15	0	4	19	59
7:45 AM	0	8	15	23	1	16	0	17	0	0	0	0	16	0	3	19	59
8:00 AM	0	12	14	26	0	18	0	18	0	0	0	0	14	0	3	17	61

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & Abernathy Rd

7:20 AM to 8:20 AM
Thursday, January 26, 2017

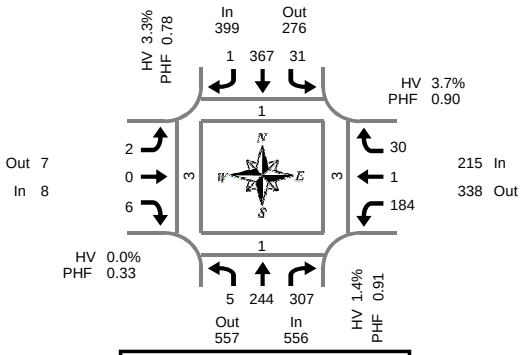


Approach	PHF	HV%	Volume
EB	0.25	0.0%	1
WB	0.84	5.3%	415
NB	0.75	6.4%	295
SB	0.84	4.2%	380
Intersection	0.86	5.2%	1,091

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:05 PM to 5:05 PM

Washington St & Abernathy Rd

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	19	20	0	6	27	0	0	0	0	0	0	20	0	0	0	92	0	0	1	0
4:05 PM	0	26	29	0	2	26	1	0	0	0	0	0	16	0	2	0	102	0	0	1	0
4:10 PM	0	15	16	0	2	40	0	0	0	0	0	0	14	0	1	0	88	0	0	0	0
4:15 PM	0	22	21	0	2	25	0	0	0	0	1	0	11	0	0	0	82	0	0	1	0
4:20 PM	2	18	40	0	2	16	0	0	0	0	0	0	17	0	3	0	98	0	0	0	0
4:25 PM	2	22	18	0	4	31	0	0	0	0	1	0	15	0	5	0	98	0	0	0	0
4:30 PM	0	25	26	0	1	39	0	0	0	0	2	0	11	1	1	0	106	1	0	0	1
4:35 PM	0	20	23	0	6	43	0	0	2	0	1	0	22	0	5	0	122	0	0	0	1
4:40 PM	0	17	21	0	6	33	0	0	0	0	1	0	14	0	3	0	95	0	0	0	0
4:45 PM	0	21	35	0	0	27	0	0	0	0	0	0	13	0	3	0	99	0	1	1	1
4:50 PM	0	15	28	0	1	35	0	0	0	0	0	0	17	0	2	0	98	0	0	0	0
4:55 PM	1	22	24	0	3	23	0	0	0	0	0	0	18	0	4	0	95	0	0	0	0
5:00 PM	0	21	26	0	2	29	0	0	0	0	0	0	16	0	1	0	95	0	0	0	0
5:05 PM	0	14	14	0	1	22	0	0	0	0	0	0	17	0	0	0	68	0	0	0	0
5:10 PM	0	21	30	0	3	36	0	0	0	0	0	0	16	0	2	0	108	0	0	0	0
5:15 PM	0	17	26	0	4	28	0	0	0	0	0	0	11	0	3	0	89	0	0	0	0
5:20 PM	0	8	26	0	2	20	0	0	0	0	0	0	14	0	4	0	74	0	0	0	1
5:25 PM	0	13	31	0	4	29	0	0	0	0	0	0	14	0	5	0	96	0	0	0	0
5:30 PM	0	14	31	0	3	30	0	0	0	0	0	0	19	0	1	0	98	0	0	0	1
5:35 PM	0	16	21	0	1	27	1	0	0	0	0	0	19	0	1	0	86	0	0	0	0
5:40 PM	0	11	23	0	3	18	0	0	0	0	0	0	19	0	4	0	78	0	0	0	0
5:45 PM	0	15	31	0	5	28	0	0	0	0	0	0	9	0	2	0	90	0	0	0	1
5:50 PM	0	17	30	0	2	30	0	0	0	0	0	0	20	0	0	0	99	0	1	0	1
5:55 PM	0	14	25	0	2	15	0	0	0	0	0	0	15	0	0	0	71	0	0	0	0
Total Survey	5	423	615	0	67	677	2	0	2	0	6	0	377	1	52	0	2,227	1	2	4	7

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	60	65	0	10	93	1	0	0	0	0	0	50	0	3	0	282	0	0	2	0
4:15 PM	4	62	79	0	8	72	0	0	0	0	2	0	43	0	8	0	278	0	0	1	0
4:30 PM	0	62	70	0	13	115	0	0	2	0	4	0	47	1	9	0	323	1	0	0	2
4:45 PM	1	58	87	0	4	85	0	0	0	0	0	0	48	0	9	0	292	0	1	1	1
5:00 PM	0	56	70	0	6	87	0	0	0	0	0	0	49	0	3	0	271	0	0	0	0
5:15 PM	0	38	83	0	10	77	0	0	0	0	0	0	39	0	12	0	259	0	0	0	1
5:30 PM	0	41	75	0	7	75	1	0	0	0	0	0	57	0	6	0	262	0	0	0	1
5:45 PM	0	46	86	0	9	73	0	0	0	0	0	0	44	0	2	0	260	0	1	0	2
Total Survey	5	423	615	0	67	677	2	0	2	0	6	0	377	1	52	0	2,227	1	2	4	7

Peak Hour Summary
4:05 PM to 5:05 PM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	556	557	1,113	0	399	276	675	0	8	7	15	0	215	338	553	0	1,178	1	1	3	3
%HV	1.4%				3.3%				0.0%				3.7%				2.5%				
PHF	0.91				0.78				0.33				0.90				0.90				

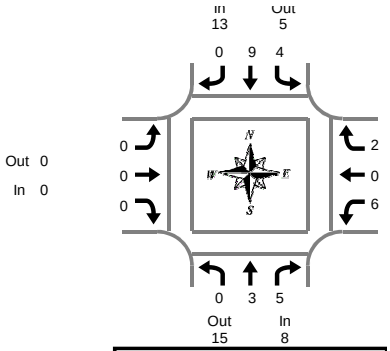
By Movement	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	5	244	307	556	31	367	1	399	2	0	6	8	184	1	30	215	1,178
%HV	0.0%	1.2%	1.6%	1.4%	12.9%	2.5%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	3.3%	0.0%	6.7%	3.7%	2.5%
PHF	0.31	0.91	0.88	0.91	0.60	0.80	0.25	0.78	0.25	0.00	0.38	0.33	0.90	0.25	0.68	0.90	0.90

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	5	242	301	0	35	365	1	0	2	0	6	0	188	1	29	0	1,175	1	1	4	3
4:15 PM	5	238	306	0	31	359	0	0	2	0	6	0	187	1	29	0	1,164	1	1	2	3
4:30 PM	1	214	310	0	33	364	0	0	2	0	4	0	183	1	33	0	1,145	1	1	1	4
4:45 PM	1	193	315	0	27	324	1	0	0	0	0	0	193	0	30	0	1,084	0	1	1	3
5:00 PM	0	181	314	0	32	312	1	0	0	0	0	0	189	0	23	0	1,052	0	1	0	4

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Abernathy Rd

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:05 PM to 5:05 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	1	1	0	2	0	2	0	0	0	0	2	0	0	2	5
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3	3
4:10 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:20 PM	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	2
4:25 PM	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	2
4:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	2
4:35 PM	0	1	1	2	0	3	0	3	0	0	0	0	0	0	0	0	5
4:40 PM	0	0	0	0	1	1	0	2	0	0	0	0	2	0	0	2	4
4:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
4:50 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
4:55 PM	0	1	1	2	1	0	0	1	0	0	0	0	0	0	1	1	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	2
5:10 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:25 PM	0	0	2	2	1	1	0	2	0	0	0	0	0	0	0	0	4
5:30 PM	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	0	3
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Survey	0	5	11	16	8	12	0	20	0	0	0	0	11	0	2	13	49

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	1	1	0	4	0	4	0	0	0	0	4	0	1	5	10
4:15 PM	0	0	2	2	2	0	0	2	0	0	0	0	1	0	0	1	5
4:30 PM	0	1	2	3	1	4	0	5	0	0	0	0	3	0	0	3	11
4:45 PM	0	2	1	3	1	3	0	4	0	0	0	0	0	0	1	1	8
5:00 PM	0	0	1	1	1	0	0	1	0	0	0	0	1	0	0	1	3
5:15 PM	0	0	2	2	2	1	0	3	0	0	0	0	1	0	0	1	6
5:30 PM	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	2	2	0	0	0	0	0	0	0	0	1	0	0	1	3
Total Survey	0	5	11	16	8	12	0	20	0	0	0	0	11	0	2	13	49

Heavy Vehicle Peak Hour Summary
4:05 PM to 5:05 PM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound Abernathy Rd			Westbound Abernathy Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	8	15	23	13	5	18	0	0	0	8	9	17	29
PHF	0.67			0.46			0.00			0.67			0.66

By Movement	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	3	5	8	4	9	0	13	0	0	0	0	6	0	2	8	29
PHF	0.00	0.38	0.63	0.67	0.50	0.38	0.00	0.46	0.00	0.00	0.00	0.00	0.50	0.00	0.50	0.67	0.66

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

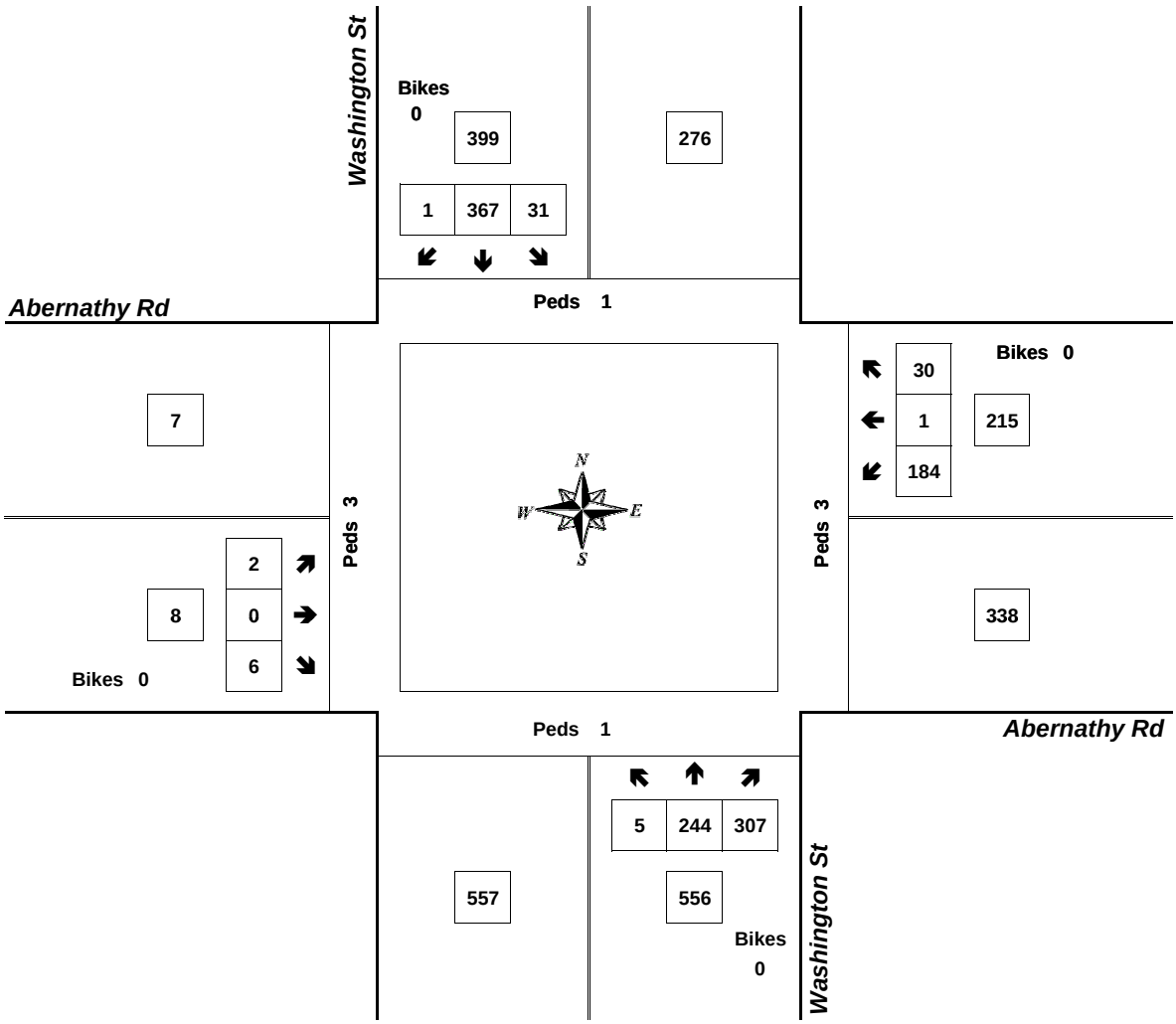
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	3	6	9	4	11	0	15	0	0	0	0	8	0	2	10	34
4:15 PM	0	3	6	9	5	7	0	12	0	0	0	0	5	0	1	6	27
4:30 PM	0	3	6	9	5	8	0	13	0	0	0	0	5	0	1	6	28
4:45 PM	0	4	4	8	5	4	0	9	0	0	0	0	2	0	1	3	20
5:00 PM	0	2	5	7	4	1	0	5	0	0	0	0	3	0	0	3	15

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & Abernathy Rd

4:05 PM to 5:05 PM
Wednesday, January 25, 2017

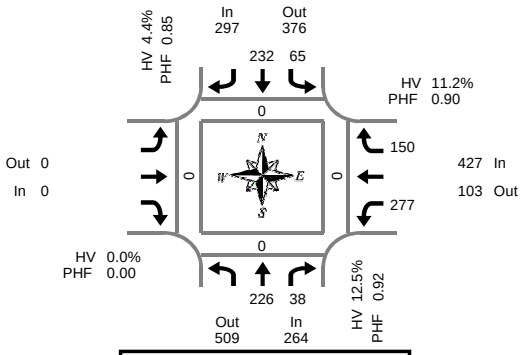


Approach	PHF	HV%	Volume
EB	0.33	0.0%	8
WB	0.90	3.7%	215
NB	0.91	1.4%	556
SB	0.78	3.3%	399
Intersection	0.90	2.5%	1,178

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Washington St & Prairie Schooner Way

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:45 AM to 8:45 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	14	4	0		5	17		0				0	10		7	0	57	0	0	0	0
7:05 AM	8	0	0		2	10		0				0	15		8	0	43	0	0	0	0
7:10 AM	8	4	0		1	13		0				0	13		9	0	48	0	0	0	0
7:15 AM	12	3	1		5	13		0				0	19		18	0	70	0	0	0	0
7:20 AM	11	2	0		5	16		0				0	21		15	0	70	0	0	0	0
7:25 AM	12	2	0		5	18		0				0	33		10	0	80	0	0	0	0
7:30 AM	10	0	0		8	13		0				0	19		18	0	68	0	0	0	0
7:35 AM	15	2	0		3	20		0				0	17		11	0	68	0	0	0	0
7:40 AM	11	0	0		8	33		0				0	28		9	0	89	0	0	0	0
7:45 AM	20	1	0		6	25		0				0	29		12	0	93	0	0	0	0
7:50 AM	26	1	0		3	24		0				0	21		14	0	89	0	0	0	0
7:55 AM	18	3	0		10	19		0				0	25		16	0	91	0	0	0	0
8:00 AM	12	4	0		5	23		0				0	25		11	0	80	0	0	0	0
8:05 AM	17	7	0		4	15		0				0	19		12	0	74	0	0	0	0
8:10 AM	22	4	0		7	18		0				0	17		6	0	74	0	0	0	0
8:15 AM	18	4	0		1	17		0				0	22		15	0	77	0	0	0	0
8:20 AM	15	1	0		3	13		0				0	20		9	0	61	0	0	0	0
8:25 AM	16	3	0		7	19		0				0	21		17	0	83	0	0	0	0
8:30 AM	22	3	0		7	17		0				0	28		13	0	90	0	0	0	0
8:35 AM	18	4	0		6	16		0				0	24		15	0	83	0	0	0	0
8:40 AM	22	3	0		6	26		0				0	26		10	0	93	0	0	0	0
8:45 AM	22	4	0		4	10		0				0	32		12	0	84	0	0	0	0
8:50 AM	20	4	0		6	9		0				0	26		17	0	82	0	0	0	0
8:55 AM	19	5	0		8	23		0				0	21		19	0	95	0	0	0	0
Total Survey	388	68	1		125	427		0				0	531		303	0	1,842	0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	30	8	0		8	40		0				0	38		24	0	148	0	0	0	0
7:15 AM	35	7	1		15	47		0				0	73		43	0	220	0	0	0	0
7:30 AM	36	2	0		19	66		0				0	64		38	0	225	0	0	0	0
7:45 AM	64	5	0		19	68		0				0	75		42	0	273	0	0	0	0
8:00 AM	51	15	0		16	56		0				0	61		29	0	228	0	0	0	0
8:15 AM	49	8	0		11	49		0				0	63		41	0	221	0	0	0	0
8:30 AM	62	10	0		19	59		0				0	78		38	0	266	0	0	0	0
8:45 AM	61	13	0		18	42		0				0	79		48	0	261	0	0	0	0
Total Survey	388	68	1		125	427		0				0	531		303	0	1,842	0	0	0	0

Peak Hour Summary
7:45 AM to 8:45 AM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	264	509	773	0	297	376	673	0	0	0	0	0	427	103	530	0	988	0	0	0	0
%HV	12.5%				4.4%				0.0%				11.2%				9.5%				
PHF	0.92				0.85				0.00				0.90				0.90				

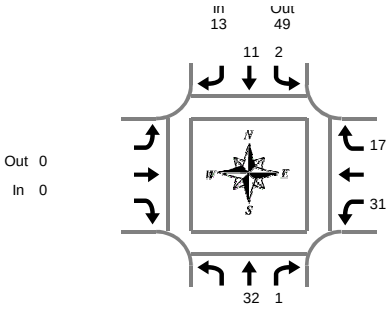
By Movement	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	226	38	264		65	232		297				0	277		150	427	988
%HV	14.2%	2.6%	12.5%		3.1%	4.7%	NA	4.4%	NA	NA	NA	0.0%	11.2%	NA	11.3%	11.2%	9.5%
PHF	0.88	0.63	0.92		0.81	0.85		0.85				0.00	0.89		0.83	0.90	0.90

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	165	22	1		61	221		0				0	250		147	0	866	0	0	0	0
7:15 AM	186	29	1		69	237		0				0	273		152	0	946	0	0	0	0
7:30 AM	200	30	0		65	239		0				0	263		150	0	947	0	0	0	0
7:45 AM	226	38	0		65	232		0				0	277		150	0	988	0	0	0	0
8:00 AM	223	46	0		64	206		0				0	281		156	0	976	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Prairie Schooner Way

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:45 AM to 8:45 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		4	0	4	0	1		1				0	2		0	2	7
7:05 AM		0	0	0	0	1		1				0	1		0	1	2
7:10 AM		3	0	3	0	0		0				0	1		1	2	5
7:15 AM		2	0	2	0	0		0				0	1		3	4	6
7:20 AM		1	0	1	0	2		2				0	1		1	2	5
7:25 AM		2	1	3	0	1		1				0	3		0	3	7
7:30 AM		3	0	3	0	0		0				0	2		2	4	7
7:35 AM		1	0	1	0	0		0				0	1		0	1	2
7:40 AM		2	0	2	0	0		0				0	2		1	3	5
7:45 AM		2	0	2	0	0		0				0	5		1	6	8
7:50 AM		2	0	2	0	0		0				0	2		0	2	4
7:55 AM		2	0	2	1	1		2				0	1		0	1	5
8:00 AM		2	0	2	0	0		0				0	1		0	1	3
8:05 AM		4	0	4	0	1		1				0	3		1	4	9
8:10 AM		3	0	3	0	1		1				0	2		0	2	6
8:15 AM		1	1	2	0	1		1				0	4		4	8	11
8:20 AM		4	0	4	0	0		0				0	3		0	3	7
8:25 AM		2	0	2	1	1		2				0	3		3	6	10
8:30 AM		5	0	5	0	2		2				0	2		4	6	13
8:35 AM		3	0	3	0	2		2				0	2		1	3	8
8:40 AM		2	0	2	0	2		2				0	3		3	6	10
8:45 AM		4	1	5	0	0		0				0	6		0	6	11
8:50 AM		3	0	3	0	2		2				0	3		0	3	8
8:55 AM		4	0	4	2	1		3				0	3		2	5	12
Total Survey		61	3	64	4	19		23				0	57		27	84	171

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		7	0	7	0	2		2				0	4		1	5	14
7:15 AM		5	1	6	0	3		3				0	5		4	9	18
7:30 AM		6	0	6	0	0		0				0	5		3	8	14
7:45 AM		6	0	6	1	1		2				0	8		1	9	17
8:00 AM		9	0	9	0	2		2				0	6		1	7	18
8:15 AM		7	1	8	1	2		3				0	10		7	17	28
8:30 AM		10	0	10	0	6		6				0	7		8	15	31
8:45 AM		11	1	12	2	3		5				0	12		2	14	31
Total Survey		61	3	64	4	19		23				0	57		27	84	171

Heavy Vehicle Peak Hour Summary
7:45 AM to 8:45 AM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound Prairie Schooner Way			Westbound Prairie Schooner Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	33	42	75	13	49	62	0	0	0	48	3	51	94
PHF	0.75			0.54			0.00			0.71			0.76

By Movement	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		32	1	33	2	11		13				0	31		17	48	94
PHF		0.73	0.25	0.75	0.50	0.46		0.54				0.00	0.78		0.53	0.71	0.76

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

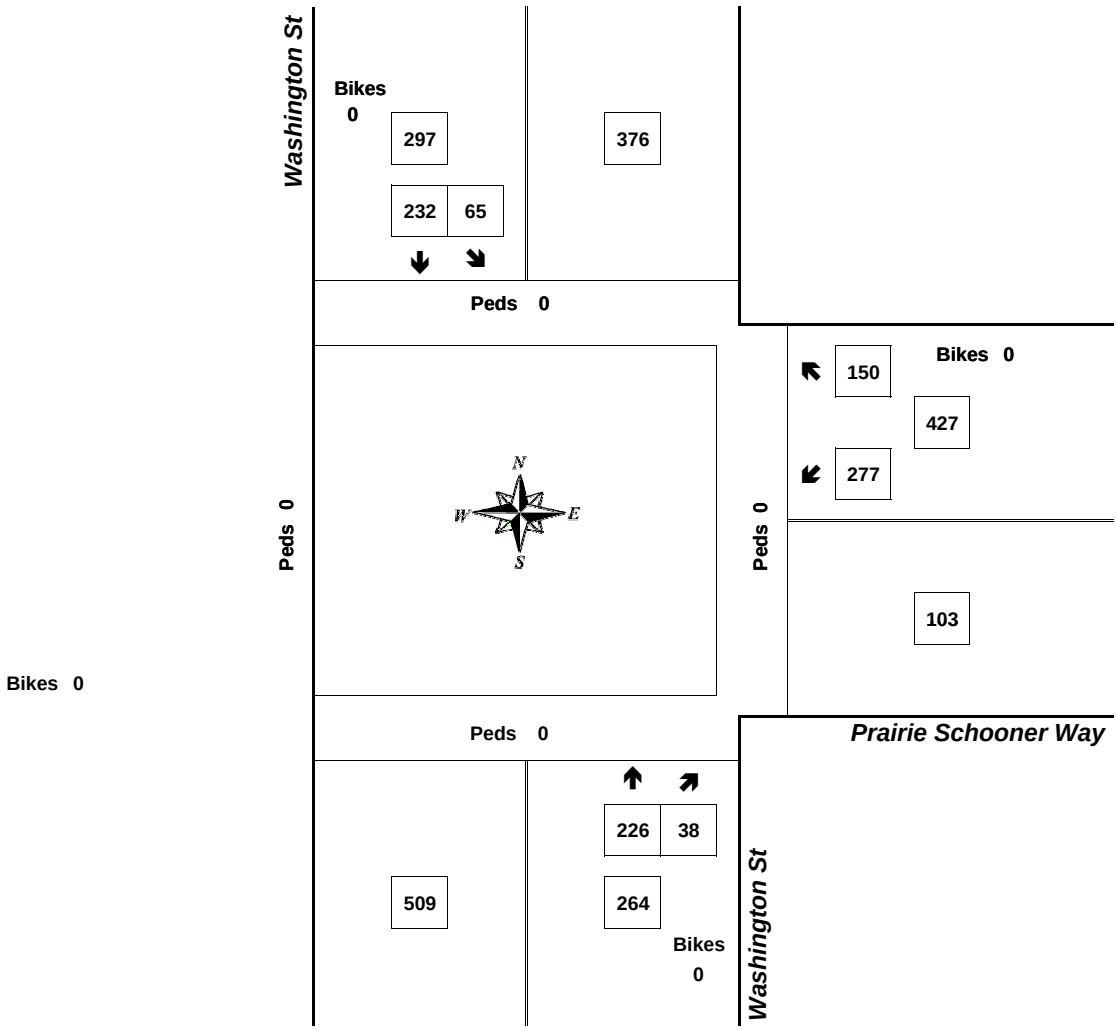
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		24	1	25	1	6		7				0	22		9	31	63
7:15 AM		26	1	27	1	6		7				0	24		9	33	67
7:30 AM		28	1	29	2	5		7				0	29		12	41	77
7:45 AM		32	1	33	2	11		13				0	31		17	48	94
8:00 AM		37	2	39	3	13		16				0	35		18	53	108

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & Prairie Schooner Way

7:45 AM to 8:45 AM
Thursday, January 26, 2017

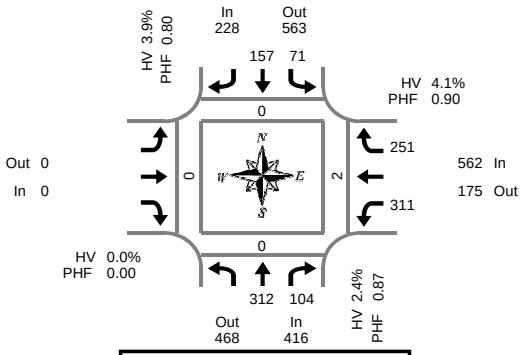


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.90	11.2%	427
NB	0.92	12.5%	264
SB	0.85	4.4%	297
Intersection	0.90	9.5%	988

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:00 PM to 5:00 PM

Washington St & Prairie Schooner Way

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	32	7	0		3	9		0				0	30		15	0	96	0	0	1	0
4:05 PM	22	7	0		3	8		0				0	37		26	0	103	0	0	0	0
4:10 PM	29	10	0		3	18		0				0	27		21	0	108	0	0	0	0
4:15 PM	27	7	0		10	11		0				0	25		16	0	96	0	0	1	0
4:20 PM	24	9	0		6	9		0				0	31		16	0	95	0	0	0	0
4:25 PM	28	6	0		0	15		1				0	26		19	0	94	0	0	0	0
4:30 PM	31	8	0		4	17		0				0	26		23	0	109	0	0	0	0
4:35 PM	30	12	0		9	17		0				0	27		24	0	119	0	0	0	0
4:40 PM	23	15	0		9	15		0				0	23		24	0	109	0	0	0	0
4:45 PM	28	7	0		6	14		0				0	21		24	0	100	0	0	0	0
4:50 PM	19	9	0		8	12		0				0	24		14	0	86	0	0	0	0
4:55 PM	19	7	0		10	12		0				0	14		29	0	91	0	0	0	0
5:00 PM	30	4	0		7	14		0				0	14		21	0	90	0	0	0	0
5:05 PM	22	7	0		5	15		0				0	17		24	0	90	0	0	0	0
5:10 PM	20	6	0		4	16		0				0	18		22	0	86	0	0	0	0
5:15 PM	25	14	0		5	11		0				0	21		22	0	98	0	0	0	0
5:20 PM	16	5	0		7	10		0				0	17		18	0	73	0	0	0	0
5:25 PM	13	8	0		5	15		0				0	19		14	0	74	0	0	0	0
5:30 PM	27	2	0		5	10		0				0	20		18	0	82	0	0	0	0
5:35 PM	13	7	0		4	9		0				0	23		15	0	71	0	0	0	0
5:40 PM	11	4	0		5	11		0				0	14		21	0	66	0	0	0	0
5:45 PM	14	3	0		4	15		0				0	17		13	0	66	0	0	0	0
5:50 PM	16	6	0		2	7		0				0	21		18	0	70	0	0	0	0
5:55 PM	15	8	0		4	7		0				0	21		19	0	74	0	0	0	0
Total Survey	534	178	0		128	297		1				0	533		476	0	2,146	0	0	2	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	83	24	0		9	35		0				0	94		62	0	307	0	0	1	0
4:15 PM	79	22	0		16	35		1				0	82		51	0	285	0	0	1	0
4:30 PM	84	35	0		22	49		0				0	76		71	0	337	0	0	0	0
4:45 PM	66	23	0		24	38		0				0	59		67	0	277	0	0	0	0
5:00 PM	72	17	0		16	45		0				0	49		67	0	266	0	0	0	0
5:15 PM	54	27	0		17	36		0				0	57		54	0	245	0	0	0	0
5:30 PM	51	13	0		14	30		0				0	57		54	0	219	0	0	0	0
5:45 PM	45	17	0		10	29		0				0	59		50	0	210	0	0	0	0
Total Survey	534	178	0		128	297		1				0	533		476	0	2,146	0	0	2	0

Peak Hour Summary
4:00 PM to 5:00 PM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	416	468	884	0	228	563	791	1	0	0	0	0	562	175	737	0	1,206	0	0	2	0
%HV	2.4%				3.9%				0.0%				4.1%				3.5%				
PHF	0.87				0.80				0.00				0.90				0.89				

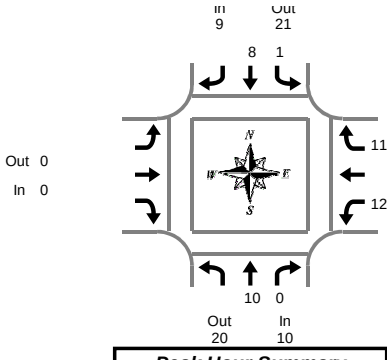
By Movement	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	312	104	416		71	157		228				0	311		251	562	1,206
%HV	NA	3.2%	0.0%	2.4%	1.4%	5.1%	NA	3.9%	NA	NA	NA	0.0%	3.9%	NA	4.4%	4.1%	3.5%
PHF		0.88	0.74	0.87	0.74	0.80		0.80				0.00	0.83		0.87	0.90	0.89

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	312	104	0		71	157		1				0	311		251	0	1,206	0	0	2	0
4:15 PM	301	97	0		78	167		1				0	266		256	0	1,165	0	0	1	0
4:30 PM	276	102	0		79	168		0				0	241		259	0	1,125	0	0	0	0
4:45 PM	243	80	0		71	149		0				0	222		242	0	1,007	0	0	0	0
5:00 PM	222	74	0		57	140		0				0	222		225	0	940	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Prairie Schooner Way

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:00 PM to 5:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total
	T	R	Total		L	T		Total				Total	L		R	Total	
4:00 PM	2	0	2		0	0		0				0	2		1	3	5
4:05 PM	2	0	2		0	0		0				0	1		0	1	3
4:10 PM	0	0	0		1	0		1				0	0		3	3	4
4:15 PM	1	0	1		0	0		0				0	2		0	2	3
4:20 PM	1	0	1		0	1		1				0	1		3	4	6
4:25 PM	0	0	0		0	1		1				0	1		2	3	4
4:30 PM	0	0	0		0	2		2				0	1		0	1	3
4:35 PM	0	0	0		0	2		2				0	0		1	1	3
4:40 PM	2	0	2		0	1		1				0	3		0	3	6
4:45 PM	1	0	1		0	0		0				0	1		0	1	2
4:50 PM	1	0	1		0	0		0				0	0		1	1	2
4:55 PM	0	0	0		0	1		1				0	0		0	0	1
5:00 PM	1	0	1		0	0		0				0	0		0	0	1
5:05 PM	0	0	0		0	0		0				0	1		0	1	1
5:10 PM	0	0	0		0	1		1				0	1		1	2	3
5:15 PM	1	0	1		0	1		1				0	0		0	0	2
5:20 PM	1	1	2		0	0		0				0	0		1	1	3
5:25 PM	0	0	0		0	1		1				0	1		0	1	2
5:30 PM	1	0	1		0	1		1				0	0		1	1	3
5:35 PM	1	0	1		0	0		0				0	1		0	1	2
5:40 PM	0	0	0		0	0		0				0	0		0	0	0
5:45 PM	0	0	0		0	0		0				0	0		1	1	1
5:50 PM	0	2	2		1	0		1				0	1		1	2	5
5:55 PM	0	0	0		0	1		1				0	0		2	2	3
Total Survey	15	3	18		2	13		15				0	17		18	35	68

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total
	T	R	Total		L	T		Total				Total	L		R	Total	
4:00 PM	4	0	4		1	0		1				0	3		4	7	12
4:15 PM	2	0	2		0	2		2				0	4		5	9	13
4:30 PM	2	0	2		0	5		5				0	4		1	5	12
4:45 PM	2	0	2		0	1		1				0	1		1	2	5
5:00 PM	1	0	1		0	1		1				0	2		1	3	5
5:15 PM	2	1	3		0	2		2				0	1		1	2	7
5:30 PM	2	0	2		0	1		1				0	1		1	2	5
5:45 PM	0	2	2		1	1		2				0	1		4	5	9
Total Survey	15	3	18		2	13		15				0	17		18	35	68

Heavy Vehicle Peak Hour Summary
4:00 PM to 5:00 PM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound Prairie Schooner Way			Westbound Prairie Schooner Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	10	20	30	9	21	30	0	0	0	23	1	24	42
PHF	0.63			0.45			0.00			0.64			0.81

By Movement	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	10	0	10		1	8		9				0	12		11	23	42
PHF	0.63	0.00	0.63		0.25	0.40		0.45				0.00	0.75		0.46	0.64	0.81

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

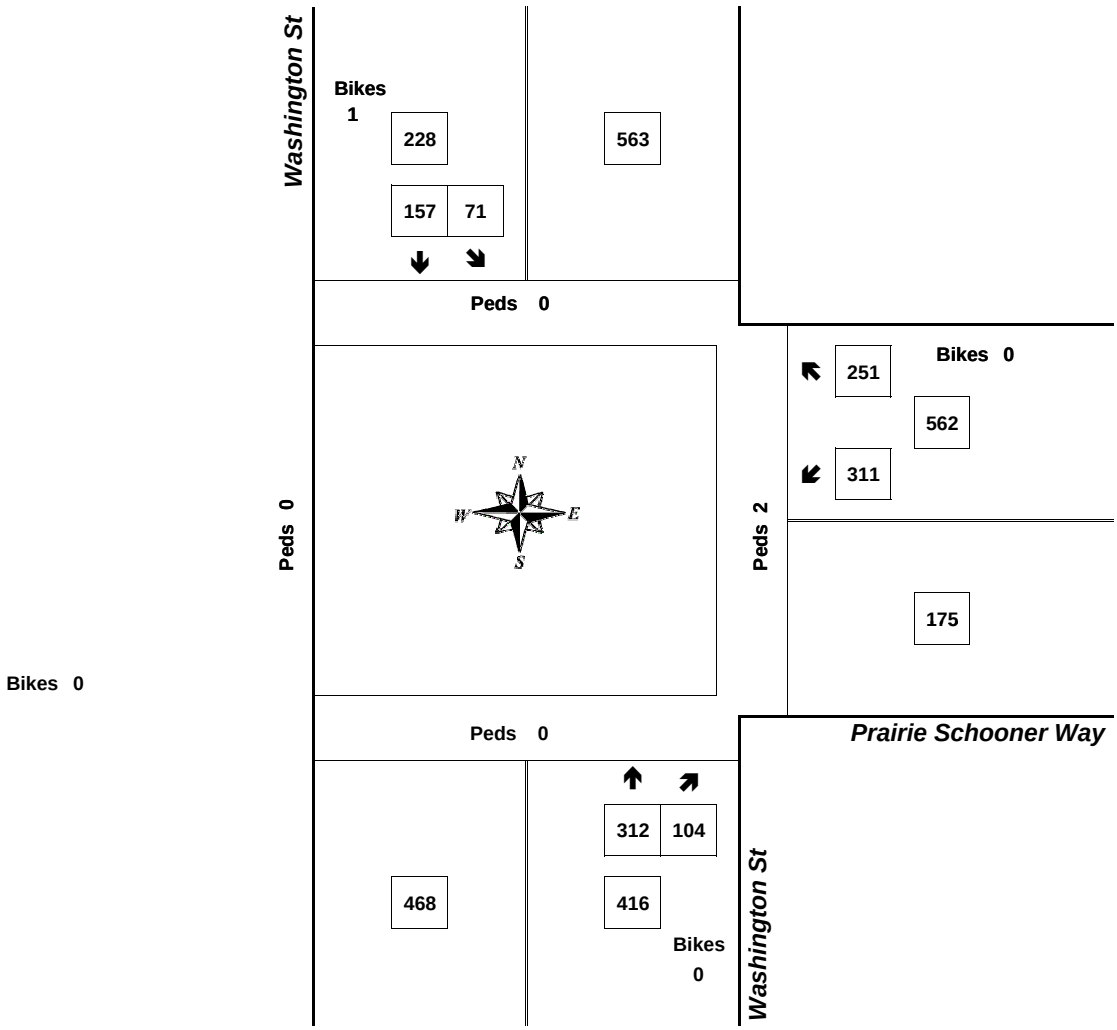
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total
	T	R	Total		L	T		Total				Total	L		R	Total	
4:00 PM	10	0	10		1	8		9				0	12		11	23	42
4:15 PM	7	0	7		0	9		9				0	11		8	19	35
4:30 PM	7	1	8		0	9		9				0	8		4	12	29
4:45 PM	7	1	8		0	5		5				0	5		4	9	22
5:00 PM	5	3	8		1	5		6				0	5		7	12	26

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & Prairie Schooner Way

4:00 PM to 5:00 PM
Wednesday, January 25, 2017

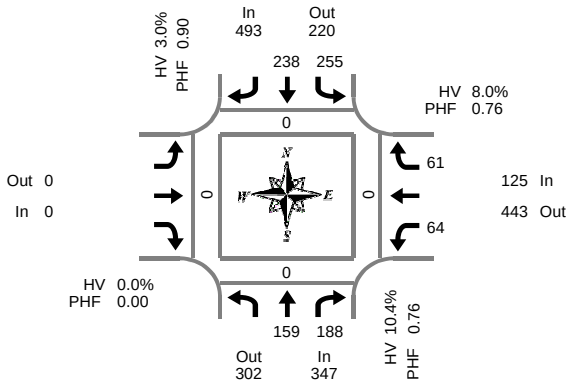


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.90	4.1%	562
NB	0.87	2.4%	416
SB	0.80	3.9%	228
Intersection	0.89	3.5%	1,206

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Washington St & Clackamas River Dr

Thursday, January 26, 2017
7:00 AM to 9:00 AM

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM		20	30	0	64	37		0				0	10		6	0	167	0	0	0	0
7:15 AM		37	47	0	77	53		0				0	11		7	0	232	0	0	0	0
7:30 AM		35	39	0	67	70		0				0	17		11	0	239	0	0	0	0
7:45 AM		53	61	0	58	65		0				0	16		22	0	275	0	0	0	0
8:00 AM		34	41	0	53	50		0				0	20		21	0	219	0	0	0	0
8:15 AM		35	56	0	53	44		0				0	19		16	0	223	0	0	0	0
8:30 AM		42	36	0	44	54		0				0	26		17	0	219	0	0	0	0
8:45 AM		53	54	0	47	51		0				0	14		18	0	237	1	0	1	0
Total Survey		309	364	0	463	424		0				0	133		118	0	1,811	1	0	1	0

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	347	302	649	0	493	220	713	0	0	0	0	0	125	443	568	0	965	0	0	0	0
%HV	10.4%				3.0%				0.0%				8.0%				6.3%				
PHF	0.76				0.90				0.00				0.76				0.88				

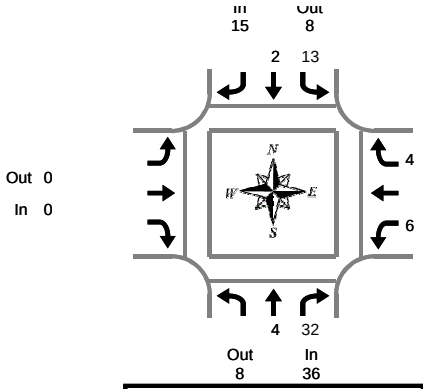
By Movement	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		159	188	347	255	238		493				0	64		61	125	965
%HV	NA	2.5%	17.0%	10.4%	5.1%	0.8%	NA	3.0%	NA	NA	NA	0.0%	9.4%	NA	6.6%	8.0%	6.3%
PHF		0.75	0.77	0.76	0.83	0.85		0.90				0.00	0.80		0.69	0.76	0.88

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM		145	177	0	266	225		0				0	54		46	0	913	0	0	0	0
7:15 AM		159	188	0	255	238		0				0	64		61	0	965	0	0	0	0
7:30 AM		157	197	0	231	229		0				0	72		70	0	956	0	0	0	0
7:45 AM		164	194	0	208	213		0				0	81		76	0	936	0	0	0	0
8:00 AM		164	187	0	197	199		0				0	79		72	0	898	1	0	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Clackamas River Dr

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:15 AM to 8:15 AM

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		2	5	7	4	0		4				0	1		0	1	12
7:15 AM		2	7	9	3	1		4				0	2		2	4	17
7:30 AM		0	8	8	7	0		7				0	0		0	0	15
7:45 AM		0	8	8	1	0		1				0	2		2	4	13
8:00 AM		2	9	11	2	1		3				0	2		0	2	16
8:15 AM		3	10	13	1	2		3				0	1		0	1	17
8:30 AM		7	10	17	1	0		1				0	5		3	8	26
8:45 AM		2	12	14	6	4		10				0	2		1	3	27
Total Survey		18	69	87	25	8		33				0	15		8	23	143

Heavy Vehicle Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Clackamas River Dr			Southbound Washington St			Eastbound Clackamas River Dr			Westbound Clackamas River Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	36	8	44	15	8	23	0	0	0	10	45	55	61
PHF	0.20			0.25			0.00			0.21			0.22

By Movement	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		4	32	36	13	2		15				0	6		4	10	61
PHF		0.08	0.25	0.20	0.23	0.08		0.25				0.00	0.19		0.25	0.21	0.22

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

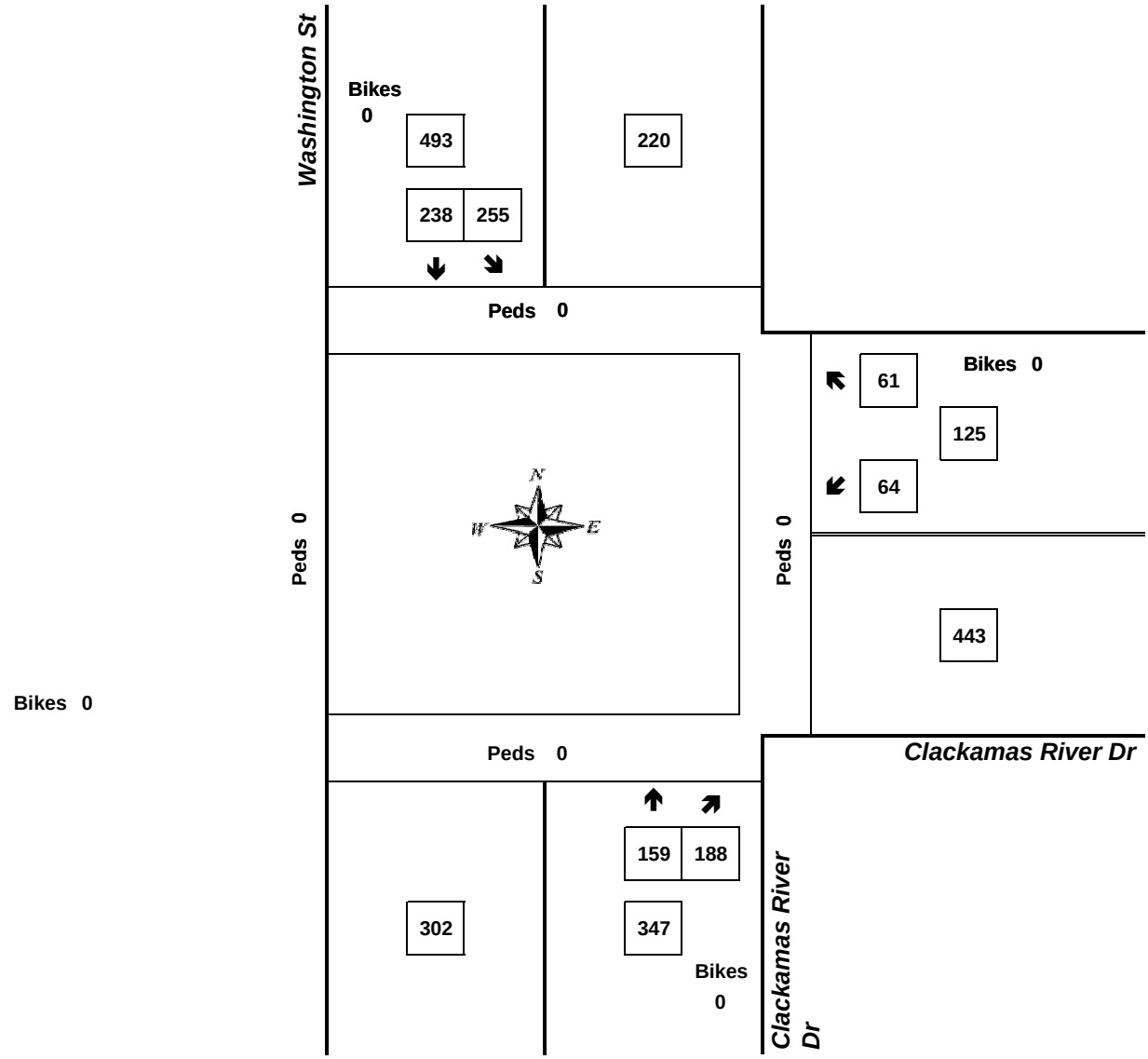
Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		4	28	32	15	1		16				0	5		4	9	57
7:15 AM		4	32	36	13	2		15				0	6		4	10	61
7:30 AM		5	35	40	11	3		14				0	5		2	7	61
7:45 AM		12	37	49	5	3		8				0	10		5	15	72
8:00 AM		14	41	55	10	7		17				0	10		4	14	86

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & Clackamas River Dr

7:15 AM to 8:15 AM
Thursday, January 26, 2017

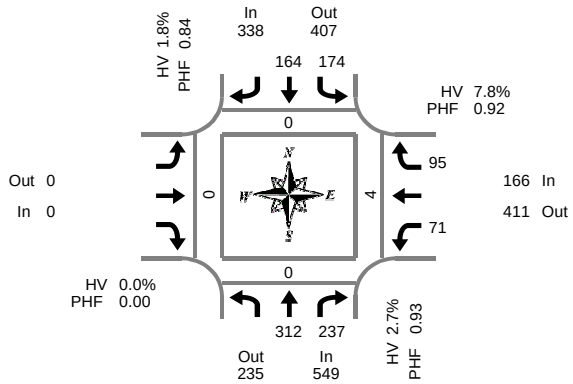


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.76	8.0%	125
NB	0.76	10.4%	347
SB	0.90	3.0%	493
Intersection	0.88	6.3%	965

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:15 PM to 5:15 PM

Washington St & Clackamas River Dr

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM		73	66	0	32	28		0				0	17		33	0	249	0	0	0	0
4:15 PM		59	72	0	39	26		0				0	20		25	0	241	0	0	0	0
4:30 PM		88	59	0	50	51		0				0	22		23	0	293	0	0	0	0
4:45 PM		87	46	0	45	44		0				0	18		20	0	260	0	0	0	0
5:00 PM		78	60	0	40	43		0				0	11		27	0	259	0	0	4	0
5:15 PM		68	44	0	38	41		0				0	17		21	0	229	0	0	0	0
5:30 PM		67	39	0	33	32		0				0	12		23	0	206	0	0	0	0
5:45 PM		59	45	0	30	25		0				0	10		19	0	188	0	0	0	0
Total Survey		579	431	0	307	290		0				0	127		191	0	1,925	0	0	4	0

Peak Hour Summary
4:15 PM to 5:15 PM

By Approach	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	549	235	784	0	338	407	745	0	0	0	0	0	166	411	577	0	1,053	0	0	4	0
%HV	2.7%				1.8%				0.0%				7.8%				3.2%				
PHF	0.93				0.84				0.00				0.92				0.90				

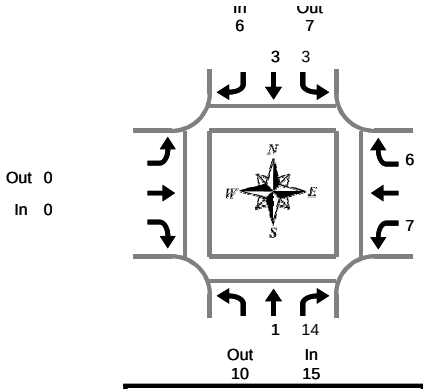
By Movement	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		312	237	549	174	164		338				0	71		95	166	1,053
%HV	NA	0.3%	5.9%	2.7%	1.7%	1.8%	NA	1.8%	NA	NA	NA	0.0%	9.9%	NA	6.3%	7.8%	3.2%
PHF		0.89	0.82	0.93	0.87	0.80		0.84				0.00	0.81		0.88	0.92	0.90

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM		307	243	0	166	149		0				0	77		101	0	1,043	0	0	0	0
4:15 PM		312	237	0	174	164		0				0	71		95	0	1,053	0	0	4	0
4:30 PM		321	209	0	173	179		0				0	68		91	0	1,041	0	0	4	0
4:45 PM		300	189	0	156	160		0				0	58		91	0	954	0	0	4	0
5:00 PM		272	188	0	141	141		0				0	50		90	0	882	0	0	4	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Clackamas River Dr

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:15 PM to 5:15 PM

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		3	4	7	0	1		1				0	0		3	3	11
4:15 PM		0	7	7	0	0		0				0	3		1	4	11
4:30 PM		0	2	2	1	2		3				0	2		2	4	9
4:45 PM		1	3	4	0	1		1				0	1		1	2	7
5:00 PM		0	2	2	2	0		2				0	1		2	3	7
5:15 PM		0	2	2	0	1		1				0	2		0	2	5
5:30 PM		2	2	4	0	0		0				0	0		1	1	5
5:45 PM		1	2	3	0	1		1				0	1		0	1	5
Total Survey		7	24	31	3	6		9				0	10		10	20	60

Heavy Vehicle Peak Hour Summary
4:15 PM to 5:15 PM

By Approach	Northbound Clackamas River Dr			Southbound Washington St			Eastbound Clackamas River Dr			Westbound Clackamas River Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	15	10	25	6	7	13	0	0	0	13	17	30	34
PHF	0.23			0.25			0.00			0.30			0.27

By Movement	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		1	14	15	3	3		6				0	7		6	13	34
PHF		0.08	0.27	0.23	0.25	0.25		0.25				0.00	0.29		0.25	0.30	0.27

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

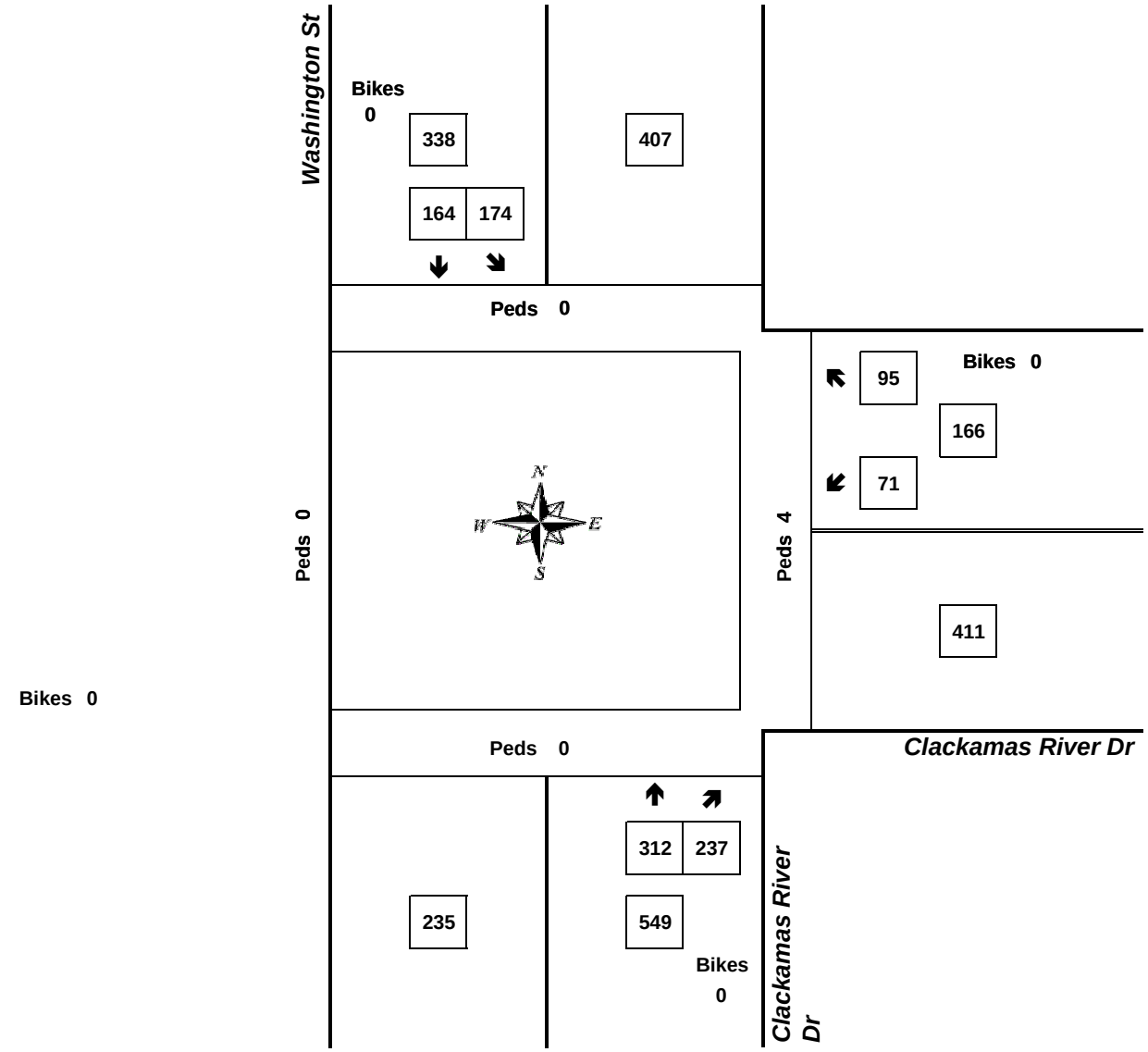
Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		4	16	20	1	4		5				0	6		7	13	38
4:15 PM		1	14	15	3	3		6				0	7		6	13	34
4:30 PM		1	9	10	3	4		7				0	6		5	11	28
4:45 PM		3	9	12	2	2		4				0	4		4	8	24
5:00 PM		3	8	11	2	2		4				0	4		3	7	22

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Washington St & Clackamas River Dr

4:15 PM to 5:15 PM
Wednesday, January 25, 2017

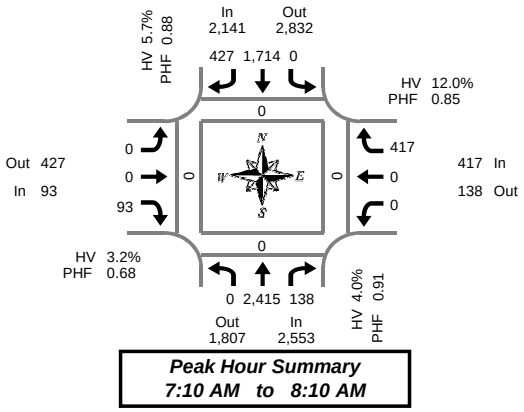


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.92	7.8%	166
NB	0.93	2.7%	549
SB	0.84	1.8%	338
Intersection	0.90	3.2%	1,053

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Hwy 213 & Clackamas River Dr

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	215	7	0	0	103	17	0	0	0	5	0	0	0	31	0	378	0	0	0	0
7:05 AM	0	237	8	0	0	95	24	0	0	0	4	0	0	0	33	0	401	0	0	0	0
7:10 AM	0	199	8	0	0	134	21	0	0	0	7	0	0	0	34	0	403	0	0	0	0
7:15 AM	0	239	7	0	0	118	39	0	0	0	6	0	0	0	31	0	440	0	0	0	0
7:20 AM	0	231	12	0	0	147	37	0	0	0	6	0	0	0	36	0	469	0	0	0	0
7:25 AM	0	201	8	1	0	117	40	0	0	0	9	0	0	0	52	0	427	0	0	0	0
7:30 AM	0	220	12	0	0	128	38	0	0	0	9	0	0	0	34	0	441	0	0	0	0
7:35 AM	0	188	13	0	0	146	30	0	0	0	3	0	0	0	32	0	412	0	0	0	0
7:40 AM	0	176	6	0	0	126	35	0	0	0	7	0	0	0	34	0	384	0	0	0	0
7:45 AM	0	158	12	0	0	173	40	0	0	0	10	0	0	0	44	0	437	0	0	0	0
7:50 AM	0	210	12	0	0	159	39	0	0	0	2	0	0	0	22	0	444	0	0	0	0
7:55 AM	0	188	13	0	0	162	38	0	0	0	8	0	0	0	36	0	445	0	0	0	0
8:00 AM	0	195	14	0	0	142	36	0	0	0	14	0	0	0	37	0	438	0	0	0	0
8:05 AM	0	210	21	0	0	162	34	0	0	0	12	0	0	0	25	0	464	0	0	0	0
8:10 AM	0	174	16	0	0	95	26	0	0	0	7	0	0	0	36	0	354	0	0	0	0
8:15 AM	0	150	12	0	0	108	36	1	0	0	11	0	0	0	54	0	371	0	0	0	0
8:20 AM	0	205	11	0	0	126	29	0	0	0	3	0	0	0	27	0	401	0	0	0	0
8:25 AM	0	178	16	0	0	132	37	0	0	0	6	0	0	0	37	0	406	0	0	0	0
8:30 AM	0	152	9	0	0	134	40	0	0	0	12	0	0	0	38	0	385	0	0	0	0
8:35 AM	0	155	13	0	0	173	40	0	0	0	14	0	0	0	37	0	432	0	0	0	0
8:40 AM	0	168	14	0	0	148	34	0	0	0	8	0	0	0	25	0	397	0	0	0	0
8:45 AM	0	145	18	0	0	153	47	0	0	0	3	0	0	0	33	0	399	0	0	1	0
8:50 AM	0	142	13	0	0	138	43	0	0	0	16	0	0	0	45	0	397	0	0	0	0
8:55 AM	0	183	17	0	0	110	37	0	0	0	9	0	0	0	36	0	392	0	0	0	0
Total Survey	0	4,519	292	1	0	3,229	837	1	0	0	191	0	0	0	849	0	9,917	0	0	1	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	651	23	0	0	332	62	0	0	0	16	0	0	0	98	0	1,182	0	0	0	0
7:15 AM	0	671	27	1	0	382	116	0	0	0	21	0	0	0	119	0	1,336	0	0	0	0
7:30 AM	0	584	31	0	0	400	103	0	0	0	19	0	0	0	100	0	1,237	0	0	0	0
7:45 AM	0	556	37	0	0	494	117	0	0	0	20	0	0	0	102	0	1,326	0	0	0	0
8:00 AM	0	579	51	0	0	399	96	0	0	0	33	0	0	0	98	0	1,256	0	0	0	0
8:15 AM	0	533	39	0	0	366	102	1	0	0	20	0	0	0	118	0	1,178	0	0	0	0
8:30 AM	0	475	36	0	0	455	114	0	0	0	34	0	0	0	100	0	1,214	0	0	0	0
8:45 AM	0	470	48	0	0	401	127	0	0	0	28	0	0	0	114	0	1,188	0	0	1	0
Total Survey	0	4,519	292	1	0	3,229	837	1	0	0	191	0	0	0	849	0	9,917	0	0	1	0

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	2,553	1,807	4,360	1	2,141	2,832	4,973	0	93	427	520	0	417	138	555	0	5,204	0	0	0	0
%HV	4.0%				5.7%				3.2%				12.0%				5.3%				
PHF	0.91				0.88				0.68				0.85				0.97				

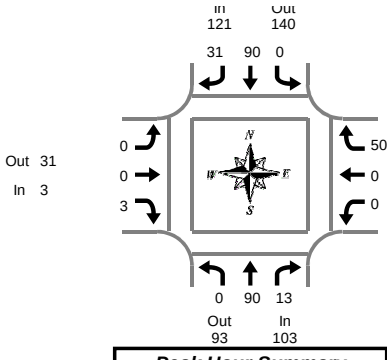
By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	2,415	138	2,553	0	1,714	427	2,141	0	0	93	93	0	0	417	417	5,204
%HV	0.0%	3.7%	9.4%	4.0%	0.0%	5.3%	7.3%	5.7%	0.0%	0.0%	3.2%	3.2%	0.0%	0.0%	12.0%	12.0%	5.3%
PHF	0.00	0.90	0.72	0.91	0.00	0.87	0.91	0.88	0.00	0.00	0.68	0.68	0.00	0.00	0.85	0.85	0.97

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	2,462	118	1	0	1,608	398	0	0	0	76	0	0	0	419	0	5,081	0	0	0	0
7:15 AM	0	2,390	146	1	0	1,675	432	0	0	0	93	0	0	0	419	0	5,155	0	0	0	0
7:30 AM	0	2,252	158	0	0	1,659	418	1	0	0	92	0	0	0	418	0	4,997	0	0	0	0
7:45 AM	0	2,143	163	0	0	1,714	429	1	0	0	107	0	0	0	418	0	4,974	0	0	0	0
8:00 AM	0	2,057	174	0	0	1,621	439	1	0	0	115	0	0	0	430	0	4,836	0	0	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 213 & Clackamas River Dr

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	7	0	7	0	6	2	8	0	0	0	0	0	0	1	1	16
7:05 AM	0	4	1	5	0	7	2	9	0	0	0	0	0	0	3	3	17
7:10 AM	0	5	1	6	0	6	1	7	0	0	0	0	0	0	3	3	16
7:15 AM	0	8	0	8	0	11	4	15	0	0	0	0	0	0	7	7	30
7:20 AM	0	8	3	11	0	7	2	9	0	0	0	0	0	0	4	4	24
7:25 AM	0	13	0	13	0	5	3	8	0	0	1	1	0	0	5	5	27
7:30 AM	0	2	2	4	0	6	4	10	0	0	0	0	0	0	2	2	16
7:35 AM	0	7	0	7	0	4	1	5	0	0	0	0	0	0	6	6	18
7:40 AM	0	5	0	5	0	6	3	9	0	0	0	0	0	0	2	2	16
7:45 AM	0	2	0	2	0	14	6	20	0	0	0	0	0	0	7	7	29
7:50 AM	0	5	1	6	0	2	2	4	0	0	0	0	0	0	2	2	12
7:55 AM	0	8	1	9	0	12	1	13	0	0	1	1	0	0	4	4	27
8:00 AM	0	14	2	16	0	9	1	10	0	0	1	1	0	0	4	4	31
8:05 AM	0	13	3	16	0	8	3	11	0	0	0	0	0	0	4	4	31
8:10 AM	0	9	0	9	0	8	3	11	0	0	0	0	0	0	5	5	25
8:15 AM	0	16	2	18	0	10	7	17	0	0	1	1	0	0	2	2	38
8:20 AM	0	12	1	13	0	7	3	10	0	0	0	0	0	0	4	4	27
8:25 AM	0	14	2	16	0	8	6	14	0	0	2	2	0	0	6	6	38
8:30 AM	0	10	1	11	0	11	5	16	0	0	0	0	0	0	6	6	33
8:35 AM	0	5	2	7	0	7	3	10	0	0	0	0	0	0	7	7	24
8:40 AM	0	6	4	10	0	11	4	15	0	0	0	0	0	0	3	3	28
8:45 AM	0	6	5	11	0	8	6	14	0	0	1	1	0	0	4	4	30
8:50 AM	0	10	0	10	0	13	3	16	0	0	1	1	0	0	8	8	35
8:55 AM	0	17	1	18	0	6	6	12	0	0	1	1	0	0	6	6	37
Total Survey	0	206	32	238	0	192	81	273	0	0	9	9	0	0	105	105	625

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	16	2	18	0	19	5	24	0	0	0	0	0	0	7	7	49
7:15 AM	0	29	3	32	0	23	9	32	0	0	1	1	0	0	16	16	81
7:30 AM	0	14	2	16	0	16	8	24	0	0	0	0	0	0	10	10	50
7:45 AM	0	15	2	17	0	28	9	37	0	0	1	1	0	0	13	13	68
8:00 AM	0	36	5	41	0	25	7	32	0	0	1	1	0	0	13	13	87
8:15 AM	0	42	5	47	0	25	16	41	0	0	3	3	0	0	12	12	103
8:30 AM	0	21	7	28	0	29	12	41	0	0	0	0	0	0	16	16	85
8:45 AM	0	33	6	39	0	27	15	42	0	0	3	3	0	0	18	18	102
Total Survey	0	206	32	238	0	192	81	273	0	0	9	9	0	0	105	105	625

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Clackamas River Dr			Westbound Clackamas River Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	103	93	196	121	140	261	3	31	34	50	13	63	277
PHF	0.63			0.82			0.38			0.78			0.78

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	90	13	103	0	90	31	121	0	0	3	3	0	0	50	50	277
PHF	0.00	0.64	0.54	0.63	0.00	0.78	0.70	0.82	0.00	0.00	0.38	0.38	0.00	0.00	0.78	0.78	0.78

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

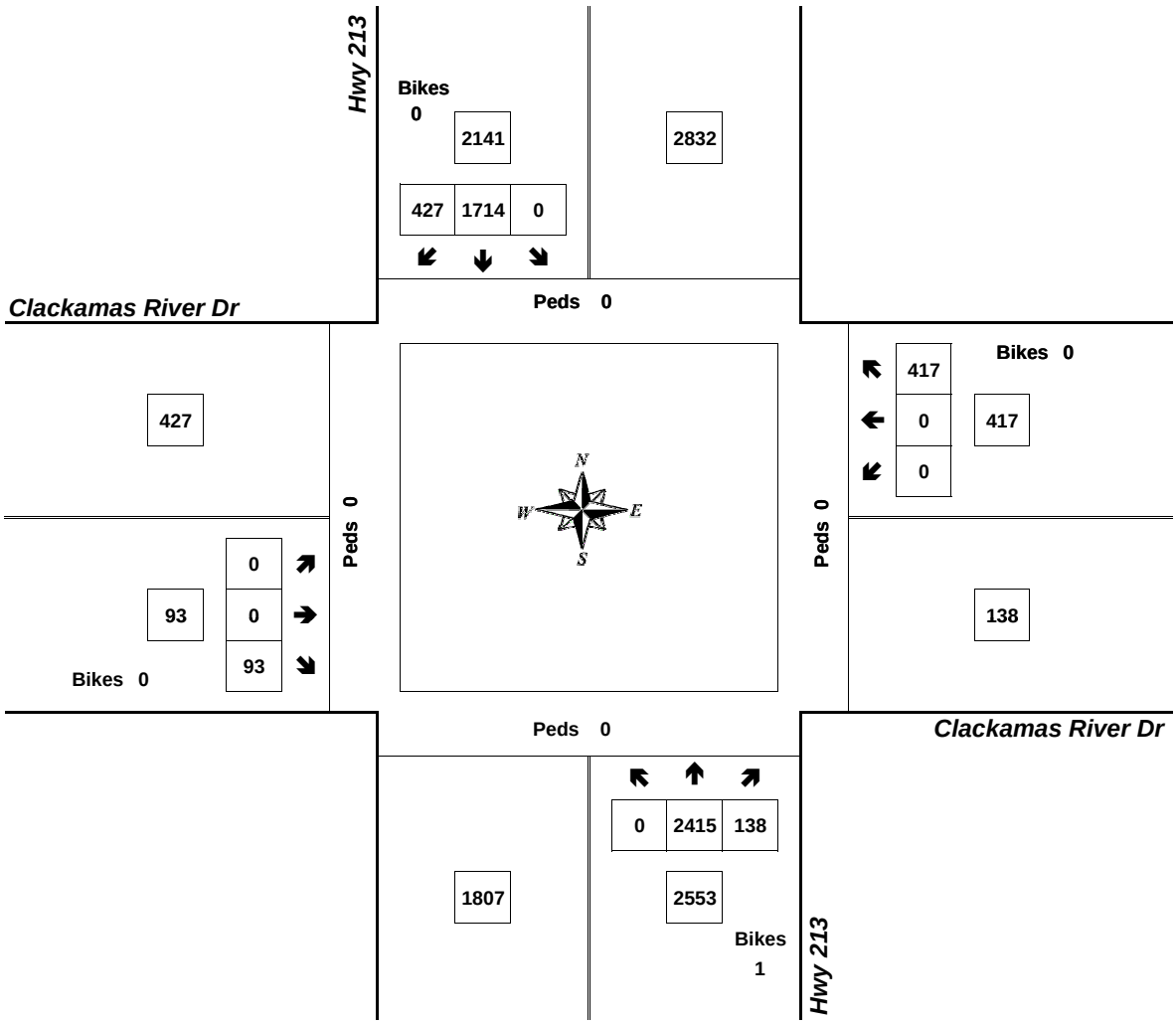
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	74	9	83	0	86	31	117	0	0	2	2	0	0	46	46	248
7:15 AM	0	94	12	106	0	92	33	125	0	0	3	3	0	0	52	52	286
7:30 AM	0	107	14	121	0	94	40	134	0	0	5	5	0	0	48	48	308
7:45 AM	0	114	19	133	0	107	44	151	0	0	5	5	0	0	54	54	343
8:00 AM	0	132	23	155	0	106	50	156	0	0	7	7	0	0	59	59	377

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 213 & Clackamas River Dr

7:10 AM to 8:10 AM
Thursday, January 26, 2017

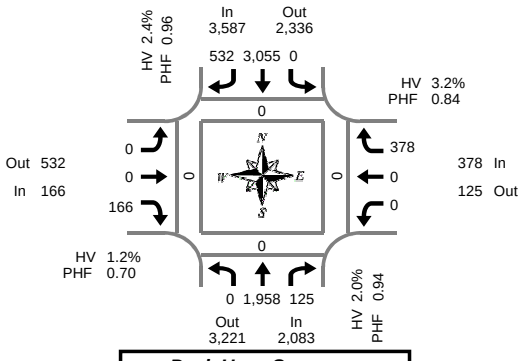


Approach	PHF	HV%	Volume
EB	0.68	3.2%	93
WB	0.85	12.0%	417
NB	0.91	4.0%	2,553
SB	0.88	5.7%	2,141
Intersection	0.97	5.3%	5,204

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:10 PM to 5:10 PM

Hwy 213 & Clackamas River Dr

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	156	13	0	0	249	49	0	0	0	14	0	0	0	24	0	505	0	0	0	0
4:05 PM	0	145	16	0	0	224	54	0	0	0	11	0	0	0	39	0	489	0	0	0	0
4:10 PM	0	194	11	0	0	264	49	0	0	0	11	0	0	0	35	0	564	0	0	0	0
4:15 PM	0	170	14	0	0	283	41	0	0	0	13	0	0	0	24	0	545	0	0	0	0
4:20 PM	0	155	10	0	0	250	46	0	0	0	14	0	0	0	24	0	499	0	0	0	0
4:25 PM	0	141	10	0	0	254	46	0	0	0	11	0	0	0	43	0	505	0	0	0	0
4:30 PM	0	170	12	0	0	241	52	0	0	0	11	0	0	0	35	0	521	0	0	0	0
4:35 PM	0	168	8	0	0	246	52	0	0	0	12	0	0	0	34	0	520	0	0	0	0
4:40 PM	0	139	12	0	0	225	42	0	0	0	34	0	0	0	29	0	481	0	0	0	0
4:45 PM	0	190	7	0	0	277	47	0	0	0	13	0	0	0	33	0	567	0	0	0	0
4:50 PM	0	162	11	0	0	270	36	0	0	0	11	0	0	0	27	0	517	0	0	0	0
4:55 PM	0	128	7	0	0	217	44	0	0	0	21	0	0	0	27	0	444	0	0	0	0
5:00 PM	0	169	9	0	0	271	37	0	0	0	10	0	0	0	31	0	527	0	0	0	0
5:05 PM	0	172	14	0	0	257	40	0	0	0	5	0	0	0	36	0	524	0	0	0	0
5:10 PM	0	172	11	0	0	235	41	0	0	0	16	0	0	0	40	0	515	0	0	0	0
5:15 PM	0	163	14	0	0	261	45	0	0	0	19	0	0	0	33	0	535	0	0	0	0
5:20 PM	0	190	14	0	0	248	37	0	0	0	12	0	0	0	20	0	521	0	0	0	0
5:25 PM	0	148	17	0	0	261	30	0	0	0	8	0	0	0	29	0	493	0	0	0	0
5:30 PM	0	115	10	0	0	238	39	0	0	0	13	0	0	0	27	0	442	0	0	0	0
5:35 PM	0	154	5	0	0	249	36	0	0	0	9	0	0	0	32	0	485	0	0	0	0
5:40 PM	0	167	15	0	0	215	36	0	0	0	10	0	0	0	17	0	460	0	0	0	0
5:45 PM	0	154	9	0	0	214	33	0	0	0	9	0	0	0	21	0	440	0	0	0	0
5:50 PM	0	165	8	0	0	252	36	0	0	0	5	0	0	0	22	0	488	0	0	0	0
5:55 PM	0	114	12	0	0	219	41	0	0	0	14	0	0	0	18	0	418	0	0	0	0
Total Survey	0	3,801	269	0	0	5,920	1,009	0	0	0	306	0	0	0	700	0	12,005	0	0	0	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	495	40	0	0	737	152	0	0	0	36	0	0	0	98	0	1,558	0	0	0	0
4:15 PM	0	466	34	0	0	787	133	0	0	0	38	0	0	0	91	0	1,549	0	0	0	0
4:30 PM	0	477	32	0	0	712	146	0	0	0	57	0	0	0	98	0	1,522	0	0	0	0
4:45 PM	0	480	25	0	0	764	127	0	0	0	45	0	0	0	87	0	1,528	0	0	0	0
5:00 PM	0	513	34	0	0	763	118	0	0	0	31	0	0	0	107	0	1,566	0	0	0	0
5:15 PM	0	501	45	0	0	770	112	0	0	0	39	0	0	0	82	0	1,549	0	0	0	0
5:30 PM	0	436	30	0	0	702	111	0	0	0	32	0	0	0	76	0	1,387	0	0	0	0
5:45 PM	0	433	29	0	0	685	110	0	0	0	28	0	0	0	61	0	1,346	0	0	0	0
Total Survey	0	3,801	269	0	0	5,920	1,009	0	0	0	306	0	0	0	700	0	12,005	0	0	0	0

Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	2,083	3,221	5,304	0	3,587	2,336	5,923	0	166	532	698	0	378	125	503	0	6,214	0	0	0	0
%HV	2.0%				2.4%				1.2%				3.2%				2.3%				
PHF	0.94				0.96				0.70				0.84				0.97				

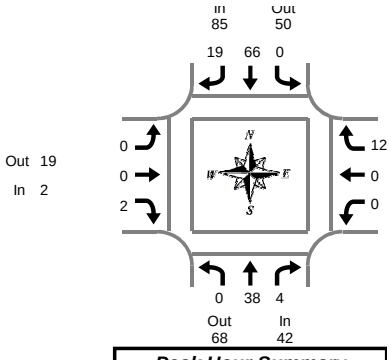
By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	1,958	125	2,083	0	3,055	532	3,587	0	0	166	166	0	0	378	378	6,214
%HV	0.0%	1.9%	3.2%	2.0%	0.0%	2.2%	3.6%	2.4%	0.0%	0.0%	1.2%	1.2%	0.0%	0.0%	3.2%	3.2%	2.3%
PHF	0.00	0.94	0.89	0.94	0.00	0.96	0.89	0.96	0.00	0.00	0.70	0.70	0.00	0.00	0.84	0.84	0.97

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	1,918	131	0	0	3,000	558	0	0	0	176	0	0	0	374	0	6,157	0	0	0	0
4:15 PM	0	1,936	125	0	0	3,026	524	0	0	0	171	0	0	0	383	0	6,165	0	0	0	0
4:30 PM	0	1,971	136	0	0	3,009	503	0	0	0	172	0	0	0	374	0	6,165	0	0	0	0
4:45 PM	0	1,930	134	0	0	2,999	468	0	0	0	147	0	0	0	352	0	6,030	0	0	0	0
5:00 PM	0	1,883	138	0	0	2,920	451	0	0	0	130	0	0	0	326	0	5,848	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 213 & Clackamas River Dr

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:10 PM to 5:10 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	6	1	7	0	4	2	6	0	0	0	0	0	0	1	1	14
4:05 PM	0	6	1	7	0	9	1	10	0	0	0	0	0	0	5	5	22
4:10 PM	0	7	0	7	0	10	4	14	0	0	1	1	0	0	1	1	23
4:15 PM	0	5	0	5	0	7	1	8	0	0	1	1	0	0	0	0	14
4:20 PM	0	3	0	3	0	5	4	9	0	0	0	0	0	0	1	1	13
4:25 PM	0	1	0	1	0	7	2	9	0	0	0	0	0	0	2	2	12
4:30 PM	0	4	0	4	0	5	1	6	0	0	0	0	0	0	0	0	10
4:35 PM	0	3	0	3	0	7	1	8	0	0	0	0	0	0	1	1	12
4:40 PM	0	3	1	4	0	3	2	5	0	0	0	0	0	0	1	1	10
4:45 PM	0	2	1	3	0	2	1	3	0	0	0	0	0	0	3	3	9
4:50 PM	0	4	1	5	0	3	1	4	0	0	0	0	0	0	0	0	9
4:55 PM	0	1	0	1	0	7	1	8	0	0	0	0	0	0	1	1	10
5:00 PM	0	3	0	3	0	5	0	5	0	0	0	0	0	0	2	2	10
5:05 PM	0	2	1	3	0	5	1	6	0	0	0	0	0	0	0	0	9
5:10 PM	0	5	2	7	0	6	3	9	0	0	0	0	0	0	1	1	17
5:15 PM	0	4	0	4	0	5	1	6	0	0	0	0	0	0	1	1	11
5:20 PM	0	2	0	2	0	8	1	9	0	0	1	1	0	0	0	0	12
5:25 PM	0	2	0	2	0	5	1	6	0	0	0	0	0	0	2	2	10
5:30 PM	0	3	0	3	0	3	1	4	0	0	0	0	0	0	0	0	7
5:35 PM	0	5	0	5	0	4	1	5	0	0	0	0	0	0	1	1	11
5:40 PM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	4
5:45 PM	0	2	1	3	0	2	2	4	0	0	0	0	0	0	0	0	7
5:50 PM	0	3	0	3	0	5	0	5	0	0	2	2	0	0	1	1	11
5:55 PM	0	1	0	1	0	1	2	3	0	0	1	1	0	0	0	0	5
Total Survey	0	78	9	87	0	121	34	155	0	0	6	6	0	0	24	24	272

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	19	2	21	0	23	7	30	0	0	1	1	0	0	7	7	59
4:15 PM	0	9	0	9	0	19	7	26	0	0	1	1	0	0	3	3	39
4:30 PM	0	10	1	11	0	15	4	19	0	0	0	0	0	0	2	2	32
4:45 PM	0	7	2	9	0	12	3	15	0	0	0	0	0	0	4	4	28
5:00 PM	0	10	3	13	0	16	4	20	0	0	0	0	0	0	3	3	36
5:15 PM	0	8	0	8	0	18	3	21	0	0	1	1	0	0	3	3	33
5:30 PM	0	9	0	9	0	10	2	12	0	0	0	0	0	0	1	1	22
5:45 PM	0	6	1	7	0	8	4	12	0	0	3	3	0	0	1	1	23
Total Survey	0	78	9	87	0	121	34	155	0	0	6	6	0	0	24	24	272

Heavy Vehicle Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Clackamas River Dr			Westbound Clackamas River Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	42	68	110	85	50	135	2	19	21	12	4	16	141
PHF	0.70			0.69			0.25			0.60			0.71

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	38	4	42	0	66	19	85	0	0	2	2	0	0	12	12	141
PHF	0.00	0.63	0.33	0.70	0.00	0.75	0.53	0.69	0.00	0.00	0.25	0.25	0.00	0.00	0.60	0.60	0.71

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

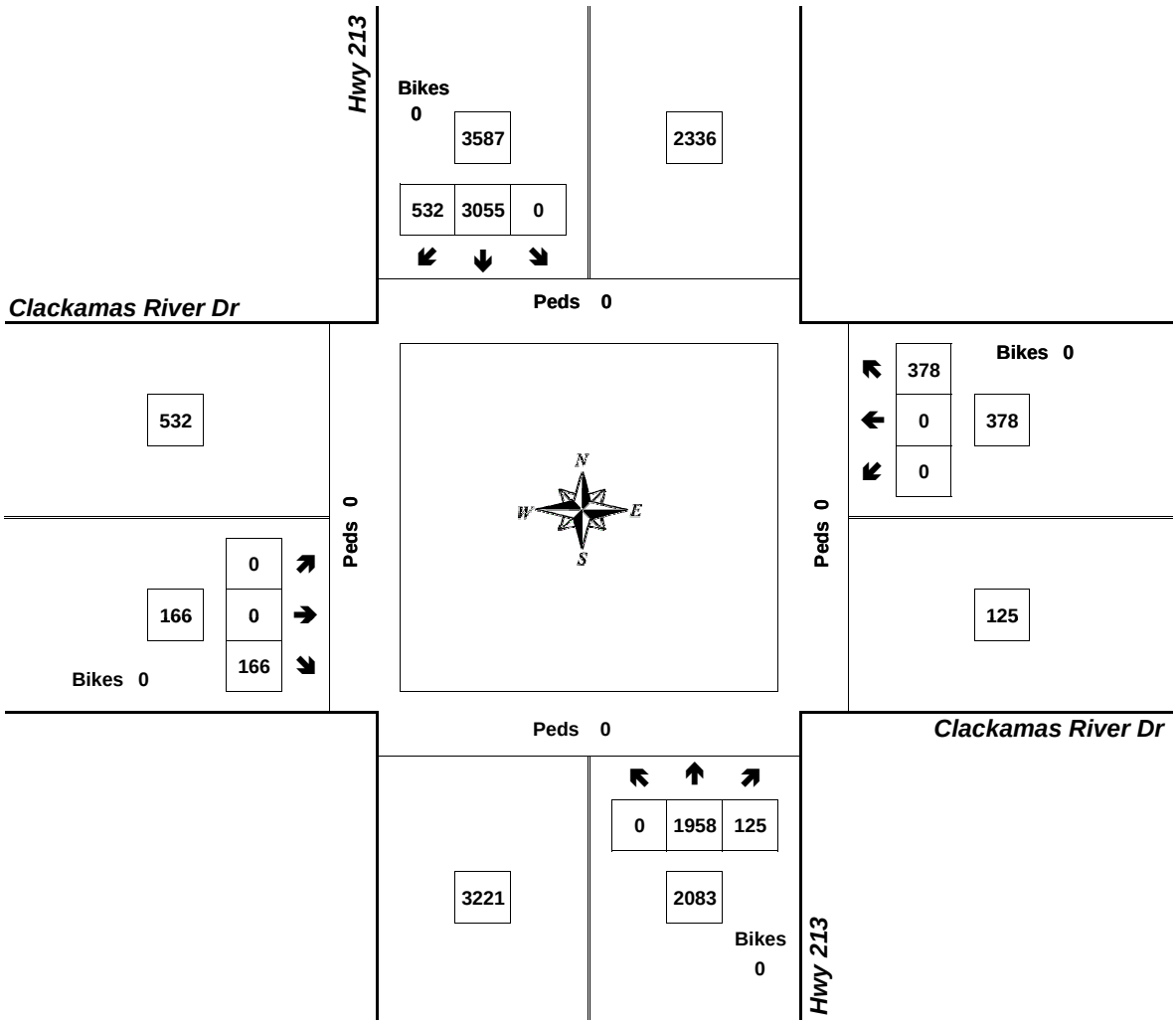
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	45	5	50	0	69	21	90	0	0	2	2	0	0	16	16	158
4:15 PM	0	36	6	42	0	62	18	80	0	0	1	1	0	0	12	12	135
4:30 PM	0	35	6	41	0	61	14	75	0	0	1	1	0	0	12	12	129
4:45 PM	0	34	5	39	0	56	12	68	0	0	1	1	0	0	11	11	119
5:00 PM	0	33	4	37	0	52	13	65	0	0	4	4	0	0	8	8	114

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 213 & Clackamas River Dr

4:10 PM to 5:10 PM
Wednesday, January 25, 2017



Approach	PHF	HV%	Volume
EB	0.70	1.2%	166
WB	0.84	3.2%	378
NB	0.94	2.0%	2,083
SB	0.96	2.4%	3,587
Intersection	0.97	2.3%	6,214

Count Period: 4:00 PM to 6:00 PM

TRIP GENERATION CALCULATIONS

Land Use: Apartment
Land Use Code: 220
Variable: Dwelling Units
Variable Value: 131

AM PEAK HOUR

Trip Rate: 0.51

	Enter	Exit	Total
Directional Distribution	20%	80%	
Trip Ends	**13**	**54**	**67**

PM PEAK HOUR

Trip Rate: 0.62

	Enter	Exit	Total
Directional Distribution	65%	35%	
Trip Ends	**53**	**28**	**81**

WEEKDAY

Trip Rate: 6.65

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**436**	**436**	**872**

SATURDAY

Trip Rate: 6.39

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**419**	**419**	**838**

Source: TRIP GENERATION, Ninth Edition

TRIP GENERATION CALCULATIONS

Land Use: Hotel
Land Use Code: 310
Variable: Rooms
Variable Value: 99

AM PEAK HOUR

Trip Rate: 0.53

	Enter	Exit	Total
Directional Distribution	59%	41%	
Trip Ends	**31**	**21**	**52**

PM PEAK HOUR

Trip Rate: 0.6

	Enter	Exit	Total
Directional Distribution	51%	49%	
Trip Ends	**30**	**29**	**59**

WEEKDAY

Trip Rate: 8.17

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**404**	**404**	**808**

SATURDAY

Trip Rate: 8.19

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**405**	**405**	**810**

Source: TRIP GENERATION, Ninth Edition

TRIP GENERATION CALCULATIONS

Land Use: Shopping Center
Land Use Code: 820
Variable: 1,000 Sq Ft Gross Leasable Area
Variable Value: 9.5

AM PEAK HOUR

Trip Rate: 0.96

	Enter	Exit	Total
Directional Distribution	62%	38%	
Trip Ends	**6**	**3**	**9**

PM PEAK HOUR

Trip Rate: 3.71

	Enter	Exit	Total
Directional Distribution	48%	52%	
Trip Ends	**17**	**18**	**35**

WEEKDAY

Trip Rate: 42.7

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**203**	**203**	**406**

SATURDAY

Trip Rate: 49.97

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**237**	**237**	**474**

Source: TRIP GENERATION, Ninth Edition

TRIP GENERATION CALCULATIONS

Land Use: Coffee/Donut Shop without Drive-Through Window
Land Use Code: 936
Variable: 1000 Sq Ft Gross Floor Area
Variable Quantity: 2.5

AM PEAK HOUR

Trip Rate: 108.38

	Enter	Exit	Total
Directional Distribution	51%	49%	
Trip Ends	**138**	**133**	**271**

PM PEAK HOUR

Trip Rate: 40.75

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**51**	**51**	**102**

SATURDAY PEAK

Trip Rate: 65.96

	Enter	Exit	Total
Directional Distribution	48%	52%	
Trip Ends	**79**	**86**	**165**

Source: TRIP GENERATION, Ninth Edition

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	Abernethy Place Mixed-Use Development	**Organization:**	Lancaster Engineering
Project Location:	Oregon City, OR	**Performed By:**	Daniel Stumpf, EI
Scenario Description:	Background plus Site Conditions	**Date:**	18-Apr-17
Analysis Year:	2022	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (***For Information Only***)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	820	9,500	Sq.Ft. GFA	9	6	3
Restaurant	936	2,500	Sq.Ft. GFA	271	138	133
Cinema/Entertainment				0		
Residential	220	131	Dwelling Units	67	13	54
Hotel	310	99	Rooms	52	31	21
All Other Land Uses[2]				0		
Total				399	188	211

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.25	0%	0%	1.25	0%	0%
Retail						
Restaurant						
Cinema/Entertainment						
Residential	1.25	0%	0%	1.25	0%	0%
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	14	0		0
Hotel	0	0	2	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	416	191	225
Internal Capture Percentage	9%	10%	8%
External Vehicle-Trips[3]	364	169	195
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	17%	0%
Restaurant	12%	2%
Cinema/Entertainment	N/A	N/A
Residential	6%	22%
Hotel	3%	10%

[1]Land Use Codes (LUCs) from ***Trip Generation Informational Report***, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	Abernethy Place Mixed-Use Development
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.25	0	0	1.25	0	0
Retail	1.00	6	6	1.00	3	3
Restaurant	1.00	138	138	1.00	133	133
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.25	13	16	1.25	54	68
Hotel	1.00	31	31	1.00	21	21

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		0	0	0	0
Restaurant	41	19		0	5	4
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	14	0		0
Hotel	16	3	2	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	32	0	0	0
Retail	0		69	0	0	0
Restaurant	0	0		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	28	0		0
Hotel	0	0	8	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	1	5	6	5	0	0
Restaurant	16	122	138	122	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	15	16	12	0	0
Hotel	1	30	31	30	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	0	3	3	3	0	0
Restaurant	2	131	133	131	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	15	53	68	42	0	0
Hotel	2	19	21	19	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	Abernethy Place Mixed-Use Development	**Organization:**	Lancaster Engineering
Project Location:	Oregon City, OR	**Performed By:**	Daniel Stumpf, EI
Scenario Description:	Background plus Site Conditions	**Date:**	18-Apr-17
Analysis Year:	2022	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (***For Information Only***)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	820	9,500	Sq.Ft. GFA	35	17	18
Restaurant	936	2,500	Sq.Ft. GFA	102	51	51
Cinema/Entertainment				0		
Residential	220	131	Dwelling Units	81	53	28
Hotel	310	99	Rooms	59	30	29
All Other Land Uses[2]				0		
Total				277	151	126

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.25	0%	0%	1.25	0%	0%
Retail						
Restaurant						
Cinema/Entertainment						
Residential	1.25	0%	0%	1.25	0%	0%
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0		0	
Retail					0	
Restaurant					0	
Cinema/Entertainment					0	
Residential		0	0			
Hotel					600	

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		5	0	5	1
Restaurant	0	9		0	9	4
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	7	0		1
Hotel	0	0	3	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	297	164	133
Internal Capture Percentage	31%	28%	35%
External Vehicle-Trips[3]	190	108	82
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	65%	61%
Restaurant	29%	43%
Cinema/Entertainment	N/A	N/A
Residential	21%	29%
Hotel	20%	10%

[1]Land Use Codes (LUCs) from ***Trip Generation Informational Report***, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	Abernethy Place Mixed-Use Development
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends							
Land Use	Table 7-P (D): Entering Trips				Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*		Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.25	0	0		1.25	0	0
Retail	1.00	17	17		1.00	18	18
Restaurant	1.00	51	51		1.00	51	51
Cinema/Entertainment	1.00	0	0		1.00	0	0
Residential	1.25	53	66		1.25	28	35
Hotel	1.00	30	30		1.00	29	29

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		5	1	5	1
Restaurant	2	21		4	9	4
Cinema/Entertainment	0	0	0		0	0
Residential	1	15	7	0		1
Hotel	0	5	20	0	1	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	1	0	3	0
Retail	0		15	0	30	5
Restaurant	0	9		0	11	21
Cinema/Entertainment	0	1	2		3	0
Residential	0	2	7	0		4
Hotel	0	0	3	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)							
Destination Land Use	Person-Trip Estimates				External Trips by Mode*		
	Internal	External	Total		Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0		0	0	0
Retail	11	6	17		6	0	0
Restaurant	15	36	51		36	0	0
Cinema/Entertainment	0	0	0		0	0	0
Residential	14	52	66		42	0	0
Hotel	6	24	30		24	0	0
All Other Land Uses[3]	0	0	0		0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)							
Origin Land Use	Person-Trip Estimates				External Trips by Mode*		
	Internal	External	Total		Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0		0	0	0
Retail	11	7	18		7	0	0
Restaurant	22	29	51		29	0	0
Cinema/Entertainment	0	0	0		0	0	0
Residential	10	25	35		20	0	0
Hotel	3	26	29		26	0	0
All Other Land Uses[3]	0	0	0		0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Table 7.1a Adjusted Internal Trip Capture Rates for Trip Origins within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Office	0.0%	0.0%
	To Retail	28.0%	20.0%
	To Restaurant	63.0%	4.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	1.0%	2.0%
	To Hotel	0.0%	0.0%
From RETAIL	To Office	29.0%	2.0%
	To Retail	0.0%	0.0%
	To Restaurant	13.0%	29.0%
	To Cinema/Entertainment	0.0%	4.0%
	To Residential	14.0%	26.0%
	To Hotel	0.0%	5.0%
From RESTAURANT	To Office	31.0%	3.0%
	To Retail	14.0%	41.0%
	To Restaurant	0.0%	0.0%
	To Cinema/Entertainment	0.0%	8.0%
	To Residential	4.0%	18.0%
	To Hotel	3.0%	7.0%
From CINEMA/ENTERTAINMENT	To Office	0.0%	2.0%
	To Retail	0.0%	21.0%
	To Restaurant	0.0%	31.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	8.0%
	To Hotel	0.0%	2.0%
From RESIDENTIAL	To Office	2.0%	4.0%
	To Retail	1.0%	42.0%
	To Restaurant	20.0%	21.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	0.0%
	To Hotel	0.0%	3.0%
From HOTEL	To Office	75.0%	0.0%
	To Retail	14.0%	16.0%
	To Restaurant	9.0%	68.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	2.0%
	To Hotel	0.0%	0.0%

Table 7.2a Adjusted Internal Trip Capture Rates for Trip Destinations within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Office	0.0%	0.0%
	From Retail	4.0%	31.0%
	From Restaurant	14.0%	30.0%
	From Cinema/Entertainment	0.0%	6.0%
	From Residential	3.0%	57.0%
	From Hotel	3.0%	0.0%
To RETAIL	From Office	32.0%	8.0%
	From Retail	0.0%	0.0%
	From Restaurant	8.0%	50.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	17.0%	10.0%
	From Hotel	4.0%	2.0%
To RESTAURANT	From Office	23.0%	2.0%
	From Retail	50.0%	29.0%
	From Restaurant	0.0%	0.0%
	From Cinema/Entertainment	0.0%	3.0%
	From Residential	20.0%	14.0%
	From Hotel	6.0%	5.0%
To CINEMA/ENTERTAINMENT	From Office	0.0%	1.0%
	From Retail	0.0%	26.0%
	From Restaurant	0.0%	32.0%
	From Cinema/Entertainment	0.0%	0.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To RESIDENTIAL	From Office	0.0%	4.0%
	From Retail	2.0%	46.0%
	From Restaurant	5.0%	16.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To HOTEL	From Office	0.0%	0.0%
	From Retail	0.0%	17.0%
	From Restaurant	4.0%	71.0%
	From Cinema/Entertainment	0.0%	1.0%
	From Residential	0.0%	12.0%
	From Hotel	0.0%	0.0%

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ATTACHMENT A

Redmond Elks
Starbucks Trip Generation Summary
TENW Project No. 2025

Starbucks Trip Generation Summary

AM PEAK HOUR TRIP GENERATION RATE (Sit-Down + Drive-Thru)

Location[1]	Square Feet	AM Peak Hour Trips[2] Entering	Exiting	Total	PM Peak Hour Trip Rates Entering	Exiting	Total
Lynnwood	1,798	89	89	178	49.5	49.5	99
Kenmore	2,782	59	59	118	21.21	21.21	42.42
Federal Way	1,983	53	53	106	26.72	26.73	53.45
Puyallup	1,820	73	73	146	40.11	40.11	80.22
Bonney Lake	1,800	48	48	96	26.66	26.67	53.33
				Average =	***32.84***	***32.84***	***65.68***

PERCENT PASS-BY/DIVERTED LINK TRIPS

Location[1]	Total Survey[2]	Primary Trips[2]	Percent Primary Trips	Percent Pass-by/Diverted Link Trips
Lynnwood	141	30	21%	79%
Kenmore	100	12	12%	88%
Federal Way	98	25	26%	74%
Puyallup	116	19	16%	84%
Bonney Lake	16	2	13%	87%
			Average =	***82%***

Notes
1. All Starbucks locations included drive through windows.
2. Data collected by Transportation Planning & Engineering 11/99-12/99.

AM PEAK HOUR TRIP GENERATION RATE (Sit Down Area)

Location[1]	Square Feet	AM Peak Hour Trips[2] Entering	Exiting	Total	AM Peak Hour Trip Rates Entering	Exiting	Total
Lynnwood	1,798	40	40	80	22.24	22.25	44.49
Kenmore	2,782	20	20	40	7.19	7.19	14.38
Federal Way	1,983	22	22	44	11.09	11.1	22.19
Puyallup	1,820	28	28	56	15.38	15.39	30.77
Bonney Lake	1,800	24	24	48	13.33	13.34	26.67
				Average =	***13.85***	***13.85***	***27.70***

AM PEAK HOUR TRIP GENERATION RATE (Drive-Thru)

Location[1]	Square Feet	AM Peak Hour Trips[2] Entering	Exiting	Total	AM Peak Hour Trip Rates Entering	Exiting	Total
Lynnwood	1,798	49	49	98	27.25	27.26	54.51
Kenmore	2,782	39	39	78	14.02	14.02	28.04
Federal Way	1,983	31	31	62	15.63	15.64	31.27
Puyallup	1,820	45	45	90	24.72	24.73	49.45
Bonney Lake	1,800	24	24	48	13.33	13.34	26.67
				Average =	***18.99***	***19.00***	***37.99***

Notes
1. All Starbucks locations included drive through windows.
2. Data collected by Transportation Planning & Engineering 11/99-12/99.

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ATTACHMENT A

Redmond Elks
Starbucks Trip Generation Summary
TENW Project No. 2025

Starbucks Trip Generation Summary

PM PEAK HOUR TRIP GENERATION RATE (Sit-Down + Drive-Thru)

		PM Peak Hour Trips[2]			PM Peak Hour Trip Rates		
Location[1]	Square Feet	Entering	Exiting	Total	Entering	Exiting	Total
Lynnwood	1,798	47	47	94	26.14	26.14	52.28
Kenmore	2,782	24	24	48	8.62	8.63	17.25
Federal Way	1,983	17	17	34	8.57	8.58	17.15
Puyallup	1,820	44	44	88	24.17	24.18	48.35
Bonney Lake	1,800	31	31	62	17.22	17.22	34.44
				Average =	***16.94***	***16.95***	***33.89***

PERCENT PASS-BY/DIVERTED LINK TRIPS

Location[1]	Total Survey[2]	Primary Trips[2]	Percent Primary Trips	Percent Pass-by/Diverted Link Trips
Lynnwood	64	12	19%	81%
Kenmore	41	13	32%	68%
Federal Way	33	7	21%	79%
Puyallup	62	9	15%	85%
Bonney Lake	24	11	46%	54%
			Average =	*73%*

Notes
1. All Starbucks locations included drive through windows.
2. Data collected by Transportation Planning & Engineering 11/99-12/99.

PM PEAK HOUR TRIP GENERATION RATE (Sit Down Area)

		PM Peak Hour Trips[2]			PM Peak Hour Trip Rates		
Location[1]	Square Feet	Entering	Exiting	Total	Entering	Exiting	Total
Lynnwood	1,798	28	28	56	15.57	15.58	31.15
Kenmore	2,782	14	14	28	5.03	5.03	10.06
Federal Way	1,983	5	5	10	2.52	2.52	5.04
Puyallup	1,820	22	22	44	12.09	12.09	24.18
Bonney Lake	1,800	23	23	46	12.78	12.78	25.56
				Average =	***9.60***	***9.60***	***19.20***

PM PEAK HOUR TRIP GENERATION RATE (Drive-Thru)

		PM Peak Hour Trips[2]			PM Peak Hour Trip Rates		
Location[1]	Square Feet	Entering	Exiting	Total	Entering	Exiting	Total
Lynnwood	1,798	19	19	38	10.56	10.57	21.13
Kenmore	2,782	10	10	20	3.59	3.6	7.19
Federal Way	1,983	12	12	24	6.05	6.05	12.1
Puyallup	1,820	22	22	44	12.09	12.09	24.18
Bonney Lake	1,800	8	8	16	4.44	4.45	8.89
				Average =	***7.35***	***7.35***	***14.70***

Notes
1. All Starbucks locations included drive through windows.
2. Data collected by Transportation Planning & Engineering 11/99-12/99.

LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	373	224	1415	271	599	918
Future Volume (vph)	373	224	1415	271	599	918
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3273	1509	4988	1510	1752	5036
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3273	1509	4988	1510	1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	405	243	1538	295	651	998
RTOR Reduction (vph)	0	0	0	207	0	0
Lane Group Flow (vph)	405	243	1538	89	651	998
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	7%	7%	4%	4%	3%	3%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.7	49.5	27.0	27.0	33.8	65.3
Effective Green, g (s)	15.7	49.5	27.0	27.0	33.8	65.3
Actuated g/C Ratio	0.17	0.55	0.30	0.30	0.38	0.73
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	570	905	1496	453	657	3653
v/s Ratio Prot	c0.12	0.10	c0.31		c0.37	0.20
v/s Ratio Perm		0.06		0.06		
v/c Ratio	0.71	0.27	1.03	0.20	0.99	0.27
Uniform Delay, d1	35.0	10.7	31.5	23.4	27.9	4.2
Progression Factor	1.00	1.00	0.93	2.14	1.00	1.00
Incremental Delay, d2	4.2	0.2	28.7	0.8	32.7	0.2
Delay (s)	39.2	10.8	57.9	50.9	60.6	4.4
Level of Service	D	B	E	D	E	A
Approach Delay (s)	28.5		56.8			26.6
Approach LOS	C		E			C

Intersection Summary			
HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	143	402	1280	880	242	1058
Future Volume (vph)	143	402	1280	880	242	1058
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1719	1538	4940	1496	1719	4940
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1719	1538	4940	1496	1719	4940
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	151	423	1347	926	255	1114
RTOR Reduction (vph)	0	259	0	319	0	0
Lane Group Flow (vph)	151	164	1347	607	255	1114
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	13.9	13.9	46.4	46.4	16.2	67.1
Effective Green, g (s)	13.9	13.9	46.4	46.4	16.2	67.1
Actuated g/C Ratio	0.15	0.15	0.52	0.52	0.18	0.75
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	265	237	2546	771	309	3683
v/s Ratio Prot	0.09		0.27		c0.15	0.23
v/s Ratio Perm		c0.11		c0.41		
v/c Ratio	0.57	0.69	0.53	0.79	0.83	0.30
Uniform Delay, d1	35.3	36.0	14.5	17.8	35.5	3.8
Progression Factor	1.00	1.00	1.00	1.00	0.81	1.38
Incremental Delay, d2	2.8	8.5	0.8	8.0	15.5	0.2
Delay (s)	38.1	44.5	15.3	25.7	44.3	5.4
Level of Service	D	D	B	C	D	A
Approach Delay (s)	42.8		19.6			12.6
Approach LOS	D		B			B

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1950	12	0	1229	0	208
Future Volume (Veh/h)	1950	12	0	1229	0	208
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	2097	13	0	1322	0	224
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.57		0.61	0.57
vC, conflicting volume			2110		2544	1055
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1445		1580	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		100	64
cM capacity (veh/h)			255		61	621

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1398	712	441	441	441	224
Volume Left	0	0	0	0	0	0
Volume Right	0	13	0	0	0	224
cSH	1700	1700	1700	1700	1700	621
Volume to Capacity	0.82	0.42	0.26	0.26	0.26	0.36
Queue Length 95th (ft)	0	0	0	0	0	41
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	14.0
Lane LOS						B
Approach Delay (s)	0.0		0.0			14.0
Approach LOS						B

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	73.8%	ICU Level of Service		D
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	1.9

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1950	12	0	1229	0	208
Future Vol, veh/h	1950	12	0	1229	0	208
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	2097	13	0	1322	0	224

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1055
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	350
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	350
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	31.8
HCM LOS			D

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	350	-
HCM Lane V/C Ratio	-	-	0.639	-
HCM Control Delay (s)	-	-	31.8	-
HCM Lane LOS	-	-	D	-
HCM 95th %tile Q(veh)	-	-	4.2	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1478	22	293	932	71	465
Future Volume (vph)	1478	22	293	932	71	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3398		1703	3406	1736	1553
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	3398		125	3406	1736	1553
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1572	23	312	991	76	495
RTOR Reduction (vph)	1	0	0	0	0	10
Lane Group Flow (vph)	1594	0	312	991	76	485
Confl. Peds. (#/hr)		1	1		3	
Heavy Vehicles (%)	6%	6%	6%	6%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	52.8		82.5	82.5	8.5	33.7
Effective Green, g (s)	52.8		82.5	82.5	8.5	33.7
Actuated g/C Ratio	0.53		0.82	0.82	0.08	0.34
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1794		500	2809	147	593
v/s Ratio Prot	c0.47		0.16	0.29	0.04	c0.21
v/s Ratio Perm			0.36			0.11
v/c Ratio	0.89		0.62	0.35	0.52	0.82
Uniform Delay, d1	21.0		25.1	2.2	43.8	30.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	7.0		2.4	0.1	3.1	8.6
Delay (s)	28.0		27.5	2.2	46.8	38.9
Level of Service	C		C	A	D	D
Approach Delay (s)	28.0			8.3	40.0	
Approach LOS	C			A	D	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	20	265	26	117	521	11	5	23	53	0	11	10
Future Volume (Veh/h)	20	265	26	117	521	11	5	23	53	0	11	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	22	285	28	126	560	12	5	25	57	0	12	11
Pedestrians		2			10			4				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			0				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.94						0.94	0.94		0.94	0.94	0.94
vC, conflicting volume	572			317			1184	1171	313	1198	1179	568
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	516			317			1165	1151	313	1180	1160	512
tC, single (s)	4.1			4.1			7.2	6.6	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	98			90			96	84	92	100	93	98
cM capacity (veh/h)	980			1233			130	158	702	115	163	533

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	22	313	698	87	23
Volume Left	22	0	126	5	0
Volume Right	0	28	12	57	11
cSH	980	1700	1233	446	244
Volume to Capacity	0.02	0.18	0.10	0.20	0.09
Queue Length 95th (ft)	2	0	9	18	8
Control Delay (s)	8.8	0.0	2.5	18.7	21.3
Lane LOS	A		A	C	C
Approach Delay (s)	0.6		2.5	18.7	21.3
Approach LOS				C	C

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	20	265	26	117	521	11	5	23	53	0	11	10
Future Vol, veh/h	20	265	26	117	521	11	5	23	53	0	11	10
Conflicting Peds, #/hr	0	0	4	4	0	0	2	0	10	10	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	4	4	4	3	3	3	9	9	9	0	0	0
Mvmt Flow	22	285	28	126	560	12	5	25	57	0	12	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	572	0	0	317	0	0	1177	1170	313	1182	1178	568
Stage 1	-	-	-	-	-	-	346	346	-	818	818	-
Stage 2	-	-	-	-	-	-	831	824	-	364	360	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.19	6.59	6.29	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.581	4.081	3.381	3.5	4	3.3
Pot Cap-1 Maneuver	991	-	-	1237	-	-	163	187	711	168	192	526
Stage 1	-	-	-	-	-	-	655	623	-	373	393	-
Stage 2	-	-	-	-	-	-	354	378	-	659	630	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	989	-	-	1225	-	-	130	155	702	117	159	525
Mov Cap-2 Maneuver	-	-	-	-	-	-	130	155	-	117	159	-
Stage 1	-	-	-	-	-	-	638	607	-	365	334	-
Stage 2	-	-	-	-	-	-	283	321	-	563	614	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.6	1.5	19	21.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	150	702	1225	-	-	989	-	-	238
HCM Lane V/C Ratio	0.201	0.081	0.103	-	-	0.022	-	-	0.095
HCM Control Delay (s)	34.9	10.6	8.3	0	-	8.7	-	-	21.7
HCM Lane LOS	D	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.7	0.3	0.3	-	-	0.1	-	-	0.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	322	45	0	353	280	136	254	7	154	126	44
Future Volume (vph)	0	322	45	0	353	280	136	254	7	154	126	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1881	1565		1863	1539	1736	1819		1703	1712	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1881	1565		1863	1539	1736	1819		1703	1712	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	379	53	0	415	329	160	299	8	181	148	52
RTOR Reduction (vph)	0	0	37	0	0	227	0	1	0	0	19	0
Lane Group Flow (vph)	0	379	16	0	415	102	160	306	0	181	181	0
Confl. Peds. (#/hr)	5		1	1		5	2		4	4		2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	4%	4%	4%	6%	6%	6%
Turn Type		NA	Perm		NA	Perm	Split	NA		Split	NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases			6			2						
Actuated Green, G (s)		18.0	18.0		18.0	18.0	14.5	14.5		11.9	11.9	
Effective Green, g (s)		18.0	18.0		18.0	18.0	14.5	14.5		11.9	11.9	
Actuated g/C Ratio		0.31	0.31		0.31	0.31	0.25	0.25		0.21	0.21	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		584	486		579	478	434	455		350	351	
v/s Ratio Prot		0.20			c0.22		0.09	c0.17		c0.11	0.11	
v/s Ratio Perm			0.01			0.07						
v/c Ratio		0.65	0.03		0.72	0.21	0.37	0.67		0.52	0.52	
Uniform Delay, d1		17.2	13.9		17.7	14.7	17.9	19.6		20.4	20.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.5	0.0		4.2	0.2	0.5	3.9		1.3	1.3	
Delay (s)		19.7	13.9		21.9	15.0	18.5	23.4		21.7	21.7	
Level of Service		B	B		C	B	B	C		C	C	
Approach Delay (s)		19.0			18.8			21.7			21.7	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	57.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	170	32	106	3	37	3	293	188	7	1	260	276
Future Volume (vph)	170	32	106	3	37	3	293	188	7	1	260	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.97		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.92	
Flt Protected		0.96	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750	1508		1838		1752	1833		1716	1646	
Flt Permitted		0.73	1.00		0.98		0.17	1.00		0.62	1.00	
Satd. Flow (perm)		1324	1508		1810		309	1833		1119	1646	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	193	36	120	3	42	3	333	214	8	1	295	314
RTOR Reduction (vph)	0	0	94	0	2	0	0	1	0	0	43	0
Lane Group Flow (vph)	0	229	26	0	46	0	333	221	0	1	566	0
Confl. Peds. (#/hr)	1		4	4		1	3		2	2		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		17.2	17.2		17.2		54.3	48.9		35.0	34.1	
Effective Green, g (s)		17.2	17.2		17.2		54.3	48.9		35.0	34.1	
Actuated g/C Ratio		0.21	0.21		0.21		0.67	0.61		0.43	0.42	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		282	322		386		489	1113		493	697	
v/s Ratio Prot							c0.13	0.12		0.00	c0.34	
v/s Ratio Perm		c0.17	0.02		0.03		0.33			0.00		
v/c Ratio		0.81	0.08		0.12		0.68	0.20		0.00	0.81	
Uniform Delay, d1		30.1	25.3		25.5		12.4	7.1		12.9	20.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		16.1	0.1		0.1		3.9	0.1		0.0	7.1	
Delay (s)		46.2	25.4		25.7		16.2	7.1		12.9	27.5	
Level of Service		D	C		C		B	A		B	C	
Approach Delay (s)		39.1			25.7			12.6			27.5	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	80.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	13	14	13	10	64	31	25	262	85	49	500	194
Future Volume (vph)	13	14	13	10	64	31	25	262	85	49	500	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.96		1.00	0.96		1.00	0.96	
Flt Protected		0.98			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1478			1669		1703	1717		1735	1740	
Flt Permitted		0.91			0.97		0.25	1.00		0.48	1.00	
Satd. Flow (perm)		1368			1621		442	1717		874	1740	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	15	16	15	11	72	35	28	294	96	55	562	218
RTOR Reduction (vph)	0	13	0	0	18	0	0	13	0	0	15	0
Lane Group Flow (vph)	0	33	0	0	100	0	28	377	0	55	765	0
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	20%	20%	20%	8%	8%	8%	6%	6%	6%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		7.7			7.7		35.5	34.1		38.3	35.5	
Effective Green, g (s)		7.7			7.7		35.5	34.1		38.3	35.5	
Actuated g/C Ratio		0.13			0.13		0.61	0.59		0.66	0.61	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		181			214		300	1007		617	1063	
v/s Ratio Prot							0.00	0.22		c0.00	c0.44	
v/s Ratio Perm		0.02			c0.06		0.05			0.05		
v/c Ratio		0.18			0.47		0.09	0.37		0.09	0.72	
Uniform Delay, d1		22.4			23.3		5.6	6.4		3.6	7.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			1.6		0.1	0.2		0.1	2.4	
Delay (s)		22.9			24.9		5.8	6.6		3.7	10.2	
Level of Service		C			C		A	A		A	B	
Approach Delay (s)		22.9			24.9			6.5			9.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	58.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	1	0	387	1	27	1	150	144	15	365	0
Future Volume (vph)	0	1	0	387	1	27	1	150	144	15	365	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		1.00		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1900		1717	1547		1700	1792	1491	1734	1827	
Flt Permitted		1.00		0.76	1.00		0.37	1.00	1.00	0.65	1.00	
Satd. Flow (perm)		1900		1369	1547		654	1792	1491	1181	1827	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1	0	450	1	31	1	174	167	17	424	0
RTOR Reduction (vph)	0	0	0	0	17	0	0	0	109	0	0	0
Lane Group Flow (vph)	0	1	0	450	15	0	1	174	58	17	424	0
Confl. Peds. (#/hr)			1	1			3		1	1		3
Heavy Vehicles (%)	0%	0%	0%	5%	5%	5%	6%	6%	6%	4%	4%	4%
Turn Type		NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		20.0		20.0	20.0		15.3	15.3	15.3	15.3	15.3	
Effective Green, g (s)		20.0		20.0	20.0		15.3	15.3	15.3	15.3	15.3	
Actuated g/C Ratio		0.45		0.45	0.45		0.35	0.35	0.35	0.35	0.35	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		857		618	698		225	618	514	407	630	
v/s Ratio Prot		0.00			0.01			0.10			c0.23	
v/s Ratio Perm				c0.33			0.00		0.04	0.01		
v/c Ratio		0.00		0.73	0.02		0.00	0.28	0.11	0.04	0.67	
Uniform Delay, d1		6.7		9.9	6.7		9.5	10.5	9.9	9.6	12.4	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		4.3	0.0		0.0	0.3	0.1	0.0	2.8	
Delay (s)		6.7		14.2	6.7		9.5	10.8	10.0	9.7	15.2	
Level of Service		A		B	A		A	B	A	A	B	
Approach Delay (s)		6.7			13.7			10.4			15.0	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	44.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	4	0	6	1	0	0	23	151	3	2	373	16
Future Volume (Veh/h)	4	0	6	1	0	0	23	151	3	2	373	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	7	1	0	0	25	164	3	2	405	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								691				
pX, platoon unblocked												
vC, conflicting volume	632	634	414	632	642	166	422			167		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	632	634	414	632	642	166	422			167		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	99	100	100	100	98			100		
cM capacity (veh/h)	386	387	639	382	383	879	1137			1411		

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1	SW 2
Volume Total	11	1	25	167	2	422
Volume Left	4	1	25	0	2	0
Volume Right	7	0	0	3	0	17
cSH	516	382	1137	1700	1411	1700
Volume to Capacity	0.02	0.00	0.02	0.10	0.00	0.25
Queue Length 95th (ft)	2	0	2	0	0	0
Control Delay (s)	12.1	14.4	8.2	0.0	7.6	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	12.1	14.4	1.1		0.0	
Approach LOS	B	B				

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	30.6%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	0.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	4	0	6	1	0	0	23	151	3	2	373	16
Future Vol, veh/h	4	0	6	1	0	0	23	151	3	2	373	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	7	1	0	0	25	164	3	2	405	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	634	635	414	638	643	166	423	0	0	167	0	0
Stage 1	418	418	-	216	216	-	-	-	-	-	-	-
Stage 2	216	217	-	422	427	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	392	396	638	389	392	878	1136	-	-	1411	-	-
Stage 1	612	591	-	786	724	-	-	-	-	-	-	-
Stage 2	786	723	-	609	585	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	385	387	638	378	383	878	1136	-	-	1411	-	-
Mov Cap-2 Maneuver	385	387	-	378	383	-	-	-	-	-	-	-
Stage 1	599	590	-	769	708	-	-	-	-	-	-	-
Stage 2	769	707	-	602	584	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.3	14.6	1.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1136	-	-	378	505	1411	-	-
HCM Lane V/C Ratio	0.022	-	-	0.003	0.022	0.002	-	-
HCM Control Delay (s)	8.2	-	-	14.6	12.3	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.1	0	-	-



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	277	150	226	38	65	232
Future Volume (vph)	277	150	226	38	65	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3155	1455	3126		1736	3471
Flt Permitted	0.95	1.00	1.00		0.39	1.00
Satd. Flow (perm)	3155	1455	3126		721	3471
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	308	167	251	42	72	258
RTOR Reduction (vph)	0	105	25	0	0	0
Lane Group Flow (vph)	308	62	268	0	72	258
Heavy Vehicles (%)	11%	11%	13%	13%	4%	4%
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	9.0	13.9	10.0		19.4	19.4
Effective Green, g (s)	9.0	13.9	10.0		19.4	19.4
Actuated g/C Ratio	0.24	0.37	0.27		0.52	0.52
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	759	715	835		506	1800
v/s Ratio Prot	c0.10	0.01	c0.09		0.02	c0.07
v/s Ratio Perm		0.03			0.06	
v/c Ratio	0.41	0.09	0.32		0.14	0.14
Uniform Delay, d1	11.9	7.6	11.0		4.8	4.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.2		0.1	0.0
Delay (s)	12.3	7.7	11.2		4.9	4.7
Level of Service	B	A	B		A	A
Approach Delay (s)	10.7		11.2			4.8
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	37.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



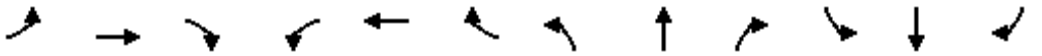
Movement	NWL	NWR	NET	NER	SWL	SWT
Right Turn Channelized				MOYes		
Traffic Volume (veh/h)	64	61	159	188	255	238
Future Volume (veh/h)	64	61	159	188	255	238
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	73	69	181	214	290	270
Approach Volume (veh/h)	142		181			560
Crossing Volume (veh/h)	181		290			73
High Capacity (veh/h)	1202		1103			1308
High v/c (veh/h)	0.12		0.16			0.43
Low Capacity (veh/h)	995		906			1091
Low v/c (veh/h)	0.14		0.20			0.51

Intersection Summary			
Maximum v/c High	0.43		
Maximum v/c Low	0.51		
Intersection Capacity Utilization	52.3%	ICU Level of Service	A

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Approach	NW	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	142	395	560
Demand Flow Rate, veh/h	154	434	577
Vehicles Circulating, veh/h	199	299	79
Vehicles Exiting, veh/h	299	357	274
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.9	3.4	10.6
Approach LOS	A	A	B

Lane	Left	Left	Bypass	Left
Designated Moves	LR	T	R	LT
Assumed Moves	LR	T	R	LT
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Critical Headway, s	5.193	5.193		5.193
Entry Flow, veh/h	154	199	235	577
Cap Entry Lane, veh/h	926	838	2090	1044
Entry HV Adj Factor	0.922	0.909	0.909	0.970
Flow Entry, veh/h	142	181	214	560
Cap Entry, veh/h	854	762	1900	1013
V/C Ratio	0.166	0.237	0.113	0.553
Control Delay, s/veh	5.9	7.4	0.0	10.6
LOS	A	A	A	B
95th %tile Queue, veh	1	1	0	3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	93	0	0	417	0	2415	138	0	1714	427
Future Volume (vph)	0	0	93	0	0	417	0	2415	138	0	1714	427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frpb, ped/bikes			1.00			1.00		1.00	0.98		1.00	1.00
Flpb, ped/bikes			1.00			1.00		1.00	1.00		1.00	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2760			2538		4988	1521		4893	1524
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2760			2538		4988	1521		4893	1524
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	96	0	0	430	0	2490	142	0	1767	440
RTOR Reduction (vph)	0	0	24	0	0	19	0	0	54	0	0	168
Lane Group Flow (vph)	0	0	72	0	0	411	0	2490	88	0	1767	272
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	12%	12%	12%	4%	4%	4%	6%	6%	6%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)			14.5			14.5		38.2	38.2		38.2	38.2
Effective Green, g (s)			14.5			14.5		38.2	38.2		38.2	38.2
Actuated g/C Ratio			0.24			0.24		0.62	0.62		0.62	0.62
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			648			596		3088	941		3029	943
v/s Ratio Prot								c0.50			0.36	
v/s Ratio Perm			0.03			c0.16			0.06			0.18
v/c Ratio			0.11			0.69		0.81	0.09		0.58	0.29
Uniform Delay, d1			18.5			21.5		8.9	4.8		7.0	5.5
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.1			3.3		1.6	0.0		0.3	0.2
Delay (s)			18.6			24.9		10.6	4.8		7.3	5.6
Level of Service			B			C		B	A		A	A
Approach Delay (s)		18.6			24.9			10.2			7.0	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	61.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	819	297	1255	219	463	1647
Future Volume (vph)	819	297	1255	219	463	1647
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	1568	5085	1526	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	1568	5085	1526	1770	5085
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	844	306	1294	226	477	1698
RTOR Reduction (vph)	0	1	0	159	0	0
Lane Group Flow (vph)	844	305	1294	67	477	1698
Confl. Peds. (#/hr)				6	6	
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	24.1	50.0	26.5	26.5	25.9	56.9
Effective Green, g (s)	24.1	50.0	26.5	26.5	25.9	56.9
Actuated g/C Ratio	0.27	0.56	0.29	0.29	0.29	0.63
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	910	949	1497	449	509	3214
v/s Ratio Prot	c0.25	0.09	c0.25		c0.27	0.33
v/s Ratio Perm		0.10		0.04		
v/c Ratio	0.93	0.32	0.86	0.15	0.94	0.53
Uniform Delay, d1	32.1	10.8	30.0	23.4	31.3	9.1
Progression Factor	1.00	1.00	0.84	1.85	1.00	1.00
Incremental Delay, d2	15.1	0.2	6.0	0.6	24.9	0.6
Delay (s)	47.2	11.0	31.1	44.0	56.2	9.8
Level of Service	D	B	C	D	E	A
Approach Delay (s)	37.6		33.0			19.9
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	115	412	1112	763	391	2030
Future Volume (vph)	115	412	1112	763	391	2030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	5036	1510	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	5036	1510	1770	5085
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	117	420	1135	779	399	2071
RTOR Reduction (vph)	0	365	0	305	0	0
Lane Group Flow (vph)	117	55	1135	474	399	2071
Confl. Peds. (#/hr)				7	7	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	11.7	11.7	40.6	40.6	24.2	69.3
Effective Green, g (s)	11.7	11.7	40.6	40.6	24.2	69.3
Actuated g/C Ratio	0.13	0.13	0.45	0.45	0.27	0.77
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	230	205	2271	681	475	3915
v/s Ratio Prot	c0.07		0.23		c0.23	0.41
v/s Ratio Perm		0.03		c0.31		
v/c Ratio	0.51	0.27	0.50	0.70	0.84	0.53
Uniform Delay, d1	36.5	35.3	17.5	19.8	31.1	4.0
Progression Factor	1.00	1.00	1.00	1.00	1.01	0.72
Incremental Delay, d2	1.8	0.7	0.8	5.8	9.6	0.4
Delay (s)	38.2	36.0	18.3	25.6	40.9	3.3
Level of Service	D	D	B	C	D	A
Approach Delay (s)	36.5		21.3			9.4
Approach LOS	D		C			A

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1654	12	0	2175	0	208
Future Volume (Veh/h)	1654	12	0	2175	0	208
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1741	13	0	2289	0	219
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.69		0.77	0.69
vC, conflicting volume			1757		2514	880
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1204		1096	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	71
cM capacity (veh/h)			393		160	748

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1161	593	763	763	763	219
Volume Left	0	0	0	0	0	0
Volume Right	0	13	0	0	0	219
cSH	1700	1700	1700	1700	1700	748
Volume to Capacity	0.68	0.35	0.45	0.45	0.45	0.29
Queue Length 95th (ft)	0	0	0	0	0	30
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.8
Lane LOS						B
Approach Delay (s)	0.0		0.0			11.8
Approach LOS						B

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	65.7%	ICU Level of Service		C
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	1.1

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1654	12	0	2175	0	208
Future Vol, veh/h	1654	12	0	2175	0	208
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1741	13	0	2289	0	219

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	880
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	444
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	443
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	443	-
HCM Lane V/C Ratio	-	-	0.494	-
HCM Control Delay (s)	-	-	20.8	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	2.7	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1298	46	397	1792	63	341
Future Volume (vph)	1298	46	397	1792	63	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3452		1770	3539	1787	1599
Flt Permitted	1.00		0.09	1.00	0.95	1.00
Satd. Flow (perm)	3452		173	3539	1787	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1338	47	409	1847	65	352
RTOR Reduction (vph)	2	0	0	0	0	14
Lane Group Flow (vph)	1383	0	409	1847	65	338
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	4%	4%	2%	2%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	54.6		83.1	83.1	7.9	31.9
Effective Green, g (s)	54.6		83.1	83.1	7.9	31.9
Actuated g/C Ratio	0.55		0.83	0.83	0.08	0.32
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1884		527	2940	141	582
v/s Ratio Prot	0.40		c0.19	0.52	0.04	c0.14
v/s Ratio Perm			c0.46			0.07
v/c Ratio	0.73		0.78	0.63	0.46	0.58
Uniform Delay, d1	17.2		25.0	3.0	44.0	28.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6		7.1	0.4	2.4	1.5
Delay (s)	19.8		32.1	3.4	46.4	30.0
Level of Service	B		C	A	D	C
Approach Delay (s)	19.8			8.6	32.5	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	24	389	27	64	384	11	19	19	146	2	16	22
Future Volume (Veh/h)	24	389	27	64	384	11	19	19	146	2	16	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	26	414	29	68	409	12	20	20	155	2	17	23
Pedestrians		1			7			9				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			1				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.97						0.97	0.97		0.97	0.97	0.97
vC, conflicting volume	421			452			1073	1046	444	1112	1055	416
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	390			452			1061	1034	444	1100	1042	385
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			94			88	90	74	98	92	96
cM capacity (veh/h)	1141			1099			162	204	600	118	205	648

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	26	443	489	195	42
Volume Left	26	0	68	20	2
Volume Right	0	29	12	155	23
cSH	1141	1700	1099	755	310
Volume to Capacity	0.02	0.26	0.06	0.26	0.14
Queue Length 95th (ft)	2	0	5	26	12
Control Delay (s)	8.2	0.0	1.8	16.6	18.4
Lane LOS	A		A	C	C
Approach Delay (s)	0.5		1.8	16.6	18.4
Approach LOS				C	C

Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	66.3%	ICU Level of Service		C
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	24	389	27	64	384	11	19	19	146	2	16	22
Future Vol, veh/h	24	389	27	64	384	11	19	19	146	2	16	22
Conflicting Peds, #/hr	0	0	9	9	0	0	1	0	7	7	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	2	2	2	4	4	4	0	0	0
Mvmt Flow	26	414	29	68	409	12	20	20	155	2	17	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	420	0	0	452	0	0	1060	1044	444	1047	1054	415
Stage 1	-	-	-	-	-	-	488	488	-	551	551	-
Stage 2	-	-	-	-	-	-	572	556	-	496	503	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.14	6.54	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.536	4.036	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	1145	-	-	1109	-	-	200	227	610	208	228	642
Stage 1	-	-	-	-	-	-	558	547	-	522	519	-
Stage 2	-	-	-	-	-	-	502	509	-	559	545	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1144	-	-	1102	-	-	165	202	601	131	203	641
Mov Cap-2 Maneuver	-	-	-	-	-	-	165	202	-	131	203	-
Stage 1	-	-	-	-	-	-	541	530	-	510	477	-
Stage 2	-	-	-	-	-	-	428	468	-	387	528	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.4	1.2	16.7	18.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	182	601	1102	-	-	1144	-	-	312
HCM Lane V/C Ratio	0.222	0.258	0.062	-	-	0.022	-	-	0.136
HCM Control Delay (s)	30.3	13.1	8.5	0	-	8.2	-	-	18.4
HCM Lane LOS	D	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	1	0.2	-	-	0.1	-	-	0.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	472	115	0	321	266	83	165	16	274	242	26
Future Volume (vph)	0	472	115	0	321	266	83	165	16	274	242	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1881	1535		1863	1530	1770	1833		1770	1830	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1881	1535		1863	1530	1770	1833		1770	1830	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	502	122	0	341	283	88	176	17	291	257	28
RTOR Reduction (vph)	0	0	57	0	0	185	0	5	0	0	5	0
Lane Group Flow (vph)	0	502	65	0	341	98	88	188	0	291	280	0
Confl. Peds. (#/hr)	8		12	12		8	7		4	4		7
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA	Perm		NA	Perm	Split	NA		Split	NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases			6			2						
Actuated Green, G (s)		21.4	21.4		21.4	21.4	12.0	12.0		15.1	15.1	
Effective Green, g (s)		21.4	21.4		21.4	21.4	12.0	12.0		15.1	15.1	
Actuated g/C Ratio		0.35	0.35		0.35	0.35	0.19	0.19		0.24	0.24	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		649	529		643	528	342	354		431	445	
v/s Ratio Prot		c0.27			0.18		0.05	c0.10		c0.16	0.15	
v/s Ratio Perm			0.04			0.06						
v/c Ratio		0.77	0.12		0.53	0.19	0.26	0.53		0.68	0.63	
Uniform Delay, d1		18.1	13.9		16.3	14.2	21.2	22.5		21.2	20.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.7	0.1		0.8	0.2	0.4	1.5		4.2	2.8	
Delay (s)		23.9	14.0		17.1	14.4	21.6	24.0		25.4	23.7	
Level of Service		C	B		B	B	C	C		C	C	
Approach Delay (s)		21.9			15.9			23.3			24.6	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	62.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	340	42	180	14	59	8	209	221	9	5	326	143
Future Volume (vph)	340	42	180	14	59	8	209	221	9	5	326	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.95	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1795	1537		1797		1787	1868		1745	1744	
Flt Permitted		0.73	1.00		0.92		0.20	1.00		0.60	1.00	
Satd. Flow (perm)		1371	1537		1663		375	1868		1109	1744	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	46	196	15	64	9	227	240	10	5	354	155
RTOR Reduction (vph)	0	0	130	0	5	0	0	2	0	0	20	0
Lane Group Flow (vph)	0	416	66	0	83	0	227	248	0	5	489	0
Confl. Peds. (#/hr)	2		9	9		2	5		5	5		5
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		25.6	25.6		25.6		41.1	35.7		28.8	27.9	
Effective Green, g (s)		25.6	25.6		25.6		41.1	35.7		28.8	27.9	
Actuated g/C Ratio		0.34	0.34		0.34		0.54	0.47		0.38	0.37	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		463	519		562		365	880		429	642	
v/s Ratio Prot							c0.07	0.13		0.00	c0.28	
v/s Ratio Perm		c0.30	0.04		0.05		0.27			0.00		
v/c Ratio		0.90	0.13		0.15		0.62	0.28		0.01	0.76	
Uniform Delay, d1		23.8	17.3		17.4		12.2	12.2		14.6	21.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		19.8	0.1		0.1		3.3	0.2		0.0	5.3	
Delay (s)		43.6	17.4		17.6		15.5	12.4		14.6	26.3	
Level of Service		D	B		B		B	B		B	C	
Approach Delay (s)		35.2			17.6			13.8			26.2	
Approach LOS		D			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	75.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	40	8	14	27	114	27	30	484	53	39	430	104
Future Volume (vph)	40	8	14	27	114	27	30	484	53	39	430	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.99		1.00	0.97	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1799		1786	1849		1769	1798	
Flt Permitted		0.74			0.93		0.33	1.00		0.33	1.00	
Satd. Flow (perm)		1223			1695		619	1849		608	1798	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	9	15	29	121	29	32	515	56	41	457	111
RTOR Reduction (vph)	0	12	0	0	12	0	0	6	0	0	12	0
Lane Group Flow (vph)	0	55	0	0	167	0	32	565	0	41	556	0
Confl. Peds. (#/hr)	3		4	4		3	6		3	3		6
Heavy Vehicles (%)	10%	10%	10%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		8.4			8.4		24.8	23.3		24.8	23.3	
Effective Green, g (s)		8.4			8.4		24.8	23.3		24.8	23.3	
Actuated g/C Ratio		0.18			0.18		0.53	0.50		0.53	0.50	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		219			304		366	922		360	897	
v/s Ratio Prot							0.00	0.31		c0.00	c0.31	
v/s Ratio Perm		0.04			c0.10		0.04			0.06		
v/c Ratio		0.25			0.55		0.09	0.61		0.11	0.62	
Uniform Delay, d1		16.4			17.4		5.7	8.4		5.7	8.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			2.0		0.1	1.2		0.1	1.3	
Delay (s)		17.0			19.4		5.8	9.7		5.9	9.8	
Level of Service		B			B		A	A		A	A	
Approach Delay (s)		17.0			19.4			9.5			9.5	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	46.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	0	6	184	1	30	5	244	307	31	367	1
Future Volume (vph)	2	0	6	184	1	30	5	244	307	31	367	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.98		1.00	0.98		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.90		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1654		1734	1529		1784	1881	1562	1749	1844	
Flt Permitted		0.95		0.75	1.00		0.50	1.00	1.00	0.59	1.00	
Satd. Flow (perm)		1591		1372	1529		936	1881	1562	1091	1844	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	0	7	204	1	33	6	271	341	34	408	1
RTOR Reduction (vph)	0	7	0	0	25	0	0	0	170	0	0	0
Lane Group Flow (vph)	0	2	0	204	9	0	6	271	171	34	409	0
Confl. Peds. (#/hr)	1		1	1		1	3		3	3		3
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		9.1		9.1	9.1		18.2	18.2	18.2	18.2	18.2	
Effective Green, g (s)		9.1		9.1	9.1		18.2	18.2	18.2	18.2	18.2	
Actuated g/C Ratio		0.25		0.25	0.25		0.50	0.50	0.50	0.50	0.50	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		398		343	383		469	943	783	547	924	
v/s Ratio Prot					0.01			0.14			c0.22	
v/s Ratio Perm		0.00		c0.15			0.01		0.11	0.03		
v/c Ratio		0.01		0.59	0.02		0.01	0.29	0.22	0.06	0.44	
Uniform Delay, d1		10.2		12.0	10.3		4.5	5.3	5.1	4.7	5.8	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		2.8	0.0		0.0	0.2	0.1	0.0	0.3	
Delay (s)		10.2		14.7	10.3		4.6	5.4	5.2	4.7	6.1	
Level of Service		B		B	B		A	A	A	A	A	
Approach Delay (s)		10.2			14.1			5.3			6.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	36.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	14	0	20	2	0	1	20	255	1	0	377	13
Future Volume (Veh/h)	14	0	20	2	0	1	20	255	1	0	377	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	0	22	2	0	1	22	277	1	0	410	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								691				
pX, platoon unblocked												
vC, conflicting volume	739	739	417	754	746	278	424			278		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	739	739	417	754	746	278	424			278		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	97	99	100	100	98			100		
cM capacity (veh/h)	328	338	636	310	335	761	1135			1285		

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1	SW 2
Volume Total	37	3	22	278	0	424
Volume Left	15	2	22	0	0	0
Volume Right	22	1	0	1	0	14
cSH	460	386	1135	1700	1700	1700
Volume to Capacity	0.08	0.01	0.02	0.16	0.00	0.25
Queue Length 95th (ft)	7	1	1	0	0	0
Control Delay (s)	13.5	14.4	8.2	0.0	0.0	0.0
Lane LOS	B	B	A			
Approach Delay (s)	13.5	14.4	0.6		0.0	
Approach LOS	B	B				

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	30.6%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	0.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	14	0	20	2	0	1	20	255	1	0	377	13
Future Vol, veh/h	14	0	20	2	0	1	20	255	1	0	377	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	0	22	2	0	1	22	277	1	0	410	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	739	739	417	749	745	278	424	0	0	278	0	0
Stage 1	417	417	-	321	321	-	-	-	-	-	-	-
Stage 2	322	322	-	428	424	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	333	345	636	328	342	761	1135	-	-	1285	-	-
Stage 1	613	591	-	691	652	-	-	-	-	-	-	-
Stage 2	690	651	-	605	587	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	328	338	636	312	335	761	1135	-	-	1285	-	-
Mov Cap-2 Maneuver	328	338	-	312	335	-	-	-	-	-	-	-
Stage 1	601	591	-	678	639	-	-	-	-	-	-	-
Stage 2	676	638	-	584	587	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	13.5	14.4	0.6	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1135	-	-	388	459	1285	-	-
HCM Lane V/C Ratio	0.019	-	-	0.008	0.081	-	-	-
HCM Control Delay (s)	8.2	-	-	14.4	13.5	0	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.3	0	-	-



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	311	251	312	104	71	157
Future Volume (vph)	311	251	312	104	71	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3367	1553	3395		1735	3471
Flt Permitted	0.95	1.00	1.00		0.33	1.00
Satd. Flow (perm)	3367	1553	3395		607	3471
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	349	282	351	117	80	176
RTOR Reduction (vph)	0	169	61	0	0	0
Lane Group Flow (vph)	349	113	407	0	80	176
Confl. Peds. (#/hr)				2	2	
Heavy Vehicles (%)	4%	4%	2%	2%	4%	4%
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	9.6	16.1	10.5		21.5	21.5
Effective Green, g (s)	9.6	16.1	10.5		21.5	21.5
Actuated g/C Ratio	0.24	0.40	0.26		0.54	0.54
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	806	797	888		508	1861
v/s Ratio Prot	c0.10	c0.02	c0.12		0.03	0.05
v/s Ratio Perm		0.05			0.06	
v/c Ratio	0.43	0.14	0.46		0.16	0.09
Uniform Delay, d1	12.9	7.6	12.4		4.8	4.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.4		0.1	0.0
Delay (s)	13.3	7.7	12.8		5.0	4.6
Level of Service	B	A	B		A	A
Approach Delay (s)	10.8		12.8			4.7
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	40.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



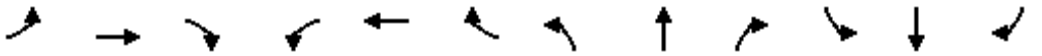
Movement	NWL	NWR	NET	NER	SWL	SWT
Right Turn Channelized				MOYes		
Traffic Volume (veh/h)	71	95	312	237	174	164
Future Volume (veh/h)	71	95	312	237	174	164
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	79	106	347	263	193	182
Approach Volume (veh/h)	185		347			375
Crossing Volume (veh/h)	347		193			79
High Capacity (veh/h)	1054		1191			1302
High v/c (veh/h)	0.18		0.29			0.29
Low Capacity (veh/h)	862		985			1086
Low v/c (veh/h)	0.21		0.35			0.35

Intersection Summary			
Maximum v/c High	0.29		
Maximum v/c Low	0.35		
Intersection Capacity Utilization	54.4%	ICU Level of Service	A

Intersection	
Intersection Delay, s/veh	6.1
Intersection LOS	A

Approach	NW	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	185	610	375
Demand Flow Rate, veh/h	199	628	383
Vehicles Circulating, veh/h	357	197	85
Vehicles Exiting, veh/h	197	271	471
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	4	0	0
Ped Cap Adj	0.999	1.000	1.000
Approach Delay, s/veh	7.8	4.8	7.4
Approach LOS	A	A	A

Lane	Left	Left	Bypass	Left
Designated Moves	LR	T	R	LT
Assumed Moves	LR	T	R	LT
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Critical Headway, s	5.193	5.193		5.193
Entry Flow, veh/h	199	357	271	383
Cap Entry Lane, veh/h	791	928	1957	1038
Entry HV Adj Factor	0.930	0.971	0.971	0.980
Flow Entry, veh/h	185	347	263	375
Cap Entry, veh/h	735	901	1900	1017
V/C Ratio	0.252	0.385	0.138	0.369
Control Delay, s/veh	7.8	8.4	0.0	7.4
LOS	A	A	A	A
95th %tile Queue, veh	1	2	0	2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	166	0	0	378	0	1958	125	0	3055	532
Future Volume (vph)	0	0	166	0	0	378	0	1958	125	0	3055	532
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2814			2760		5085	1583		5085	1583
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2814			2760		5085	1583		5085	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	171	0	0	390	0	2019	129	0	3149	548
RTOR Reduction (vph)	0	0	15	0	0	31	0	0	36	0	0	153
Lane Group Flow (vph)	0	0	156	0	0	359	0	2019	93	0	3149	395
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)			15.5			15.5		63.1	63.1		63.1	63.1
Effective Green, g (s)			15.5			15.5		63.1	63.1		63.1	63.1
Actuated g/C Ratio			0.18			0.18		0.72	0.72		0.72	0.72
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			497			488		3662	1140		3662	1140
v/s Ratio Prot								0.40			c0.62	
v/s Ratio Perm			0.06			c0.13			0.06			0.25
v/c Ratio			0.31			0.74		0.55	0.08		0.86	0.35
Uniform Delay, d1			31.4			34.1		5.7	3.6		9.0	4.6
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.4			5.7		0.2	0.0		2.2	0.2
Delay (s)			31.8			39.8		5.9	3.7		11.2	4.7
Level of Service			C			D		A	A		B	A
Approach Delay (s)		31.8			39.8			5.7			10.3	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	87.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	412	247	1466	299	661	951
Future Volume (vph)	412	247	1466	299	661	951
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3273	1509	4988	1510	1752	5036
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3273	1509	4988	1510	1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	448	268	1593	325	718	1034
RTOR Reduction (vph)	0	0	0	228	0	0
Lane Group Flow (vph)	448	268	1593	98	718	1034
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	7%	7%	4%	4%	3%	3%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	16.3	49.5	27.0	27.0	33.2	64.7
Effective Green, g (s)	16.3	49.5	27.0	27.0	33.2	64.7
Actuated g/C Ratio	0.18	0.55	0.30	0.30	0.37	0.72
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	592	905	1496	453	646	3620
v/s Ratio Prot	c0.14	0.11	c0.32		c0.41	0.21
v/s Ratio Perm		0.07		0.06		
v/c Ratio	0.76	0.30	1.06	0.22	1.11	0.29
Uniform Delay, d1	35.0	10.9	31.5	23.6	28.4	4.5
Progression Factor	1.00	1.00	0.96	2.27	1.00	1.00
Incremental Delay, d2	5.5	0.2	40.4	0.9	70.0	0.2
Delay (s)	40.5	11.1	70.8	54.3	98.4	4.7
Level of Service	D	B	E	D	F	A
Approach Delay (s)	29.5		68.0			43.1
Approach LOS	C		E			D

Intersection Summary			
HCM 2000 Control Delay	51.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	158	444	1327	972	267	1097
Future Volume (vph)	158	444	1327	972	267	1097
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1719	1538	4940	1496	1719	4940
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1719	1538	4940	1496	1719	4940
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	166	467	1397	1023	281	1155
RTOR Reduction (vph)	0	258	0	325	0	0
Lane Group Flow (vph)	166	209	1397	698	281	1155
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.2	15.2	44.5	44.5	16.8	65.8
Effective Green, g (s)	15.2	15.2	44.5	44.5	16.8	65.8
Actuated g/C Ratio	0.17	0.17	0.49	0.49	0.19	0.73
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	290	259	2442	739	320	3611
v/s Ratio Prot	0.10		0.28		c0.16	0.23
v/s Ratio Perm		c0.14		c0.47		
v/c Ratio	0.57	0.81	0.57	0.94	0.88	0.32
Uniform Delay, d1	34.4	36.0	16.0	21.6	35.6	4.2
Progression Factor	1.00	1.00	1.00	1.00	0.79	1.49
Incremental Delay, d2	2.7	16.4	1.0	22.0	21.5	0.2
Delay (s)	37.1	52.4	17.0	43.6	49.6	6.6
Level of Service	D	D	B	D	D	A
Approach Delay (s)	48.4		28.3			15.0
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	2021	13	0	1274	0	230
Future Volume (Veh/h)	2021	13	0	1274	0	230
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	2173	14	0	1370	0	247
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.52		0.56	0.52
vC, conflicting volume			2187		2637	1094
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1449		1541	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		100	57
cM capacity (veh/h)			233		60	568

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1449	738	457	457	457	247
Volume Left	0	0	0	0	0	0
Volume Right	0	14	0	0	0	247
cSH	1700	1700	1700	1700	1700	568
Volume to Capacity	0.85	0.43	0.27	0.27	0.27	0.43
Queue Length 95th (ft)	0	0	0	0	0	55
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	16.1
Lane LOS						C
Approach Delay (s)	0.0		0.0			16.1
Approach LOS						C

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	77.2%	ICU Level of Service		D
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	2.7

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	2021	13	0	1274	0	230
Future Vol, veh/h	2021	13	0	1274	0	230
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	2173	14	0	1370	0	247

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1094
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	332
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	332
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	41.7
HCM LOS			E

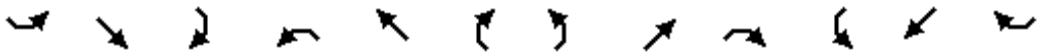
Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	332	-
HCM Lane V/C Ratio	-	-	0.745	-
HCM Control Delay (s)	-	-	41.7	-
HCM Lane LOS	-	-	E	-
HCM 95th %tile Q(veh)	-	-	5.7	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1532	24	323	966	78	513
Future Volume (vph)	1532	24	323	966	78	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3397		1703	3406	1736	1553
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	3397		129	3406	1736	1553
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1630	26	344	1028	83	546
RTOR Reduction (vph)	1	0	0	0	0	8
Lane Group Flow (vph)	1655	0	344	1028	83	538
Confl. Peds. (#/hr)		1	1		3	
Heavy Vehicles (%)	6%	6%	6%	6%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	51.2		82.1	82.1	8.9	35.3
Effective Green, g (s)	51.2		82.1	82.1	8.9	35.3
Actuated g/C Ratio	0.51		0.82	0.82	0.09	0.35
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1739		521	2796	154	618
v/s Ratio Prot	c0.49		0.17	0.30	0.05	c0.23
v/s Ratio Perm			0.37			0.12
v/c Ratio	0.95		0.66	0.37	0.54	0.87
Uniform Delay, d1	23.2		25.8	2.3	43.6	30.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	12.8		3.1	0.1	3.6	12.8
Delay (s)	36.1		29.0	2.4	47.2	43.0
Level of Service	D		C	A	D	D
Approach Delay (s)	36.1			9.0	43.5	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	22	293	29	129	575	12	6	25	59	0	12	11
Future Volume (Veh/h)	22	293	29	129	575	12	6	25	59	0	12	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	24	315	31	139	618	13	6	27	63	0	13	12
Pedestrians		2			10			4				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			0				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.93						0.93	0.93		0.93	0.93	0.93
vC, conflicting volume	631			350			1306	1292	344	1320	1300	626
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	562			350			1290	1275	344	1306	1285	557
tC, single (s)	4.1			4.1			7.2	6.6	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	97			88			94	79	91	100	90	98
cM capacity (veh/h)	926			1199			101	129	674	86	132	493

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	24	346	770	96	25
Volume Left	24	0	139	6	0
Volume Right	0	31	13	63	12
cSH	926	1700	1199	359	204
Volume to Capacity	0.03	0.20	0.12	0.27	0.12
Queue Length 95th (ft)	2	0	10	27	10
Control Delay (s)	9.0	0.0	2.8	22.4	25.1
Lane LOS	A		A	C	D
Approach Delay (s)	0.6		2.8	22.4	25.1
Approach LOS				C	D

Intersection Summary				
Average Delay	4.1			
Intersection Capacity Utilization	73.8%	ICU Level of Service	D	
Analysis Period (min)	15			

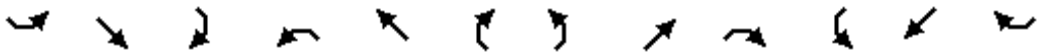
Intersection	
Int Delay, s/veh	3.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	22	293	29	129	575	12	6	25	59	0	12	11
Future Vol, veh/h	22	293	29	129	575	12	6	25	59	0	12	11
Conflicting Peds, #/hr	0	0	4	4	0	0	2	0	10	10	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	4	4	4	3	3	3	9	9	9	0	0	0
Mvmt Flow	24	315	31	139	618	13	6	27	63	0	13	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	631	0	0	350	0	0	1299	1291	345	1303	1300	627
Stage 1	-	-	-	-	-	-	382	382	-	902	902	-
Stage 2	-	-	-	-	-	-	917	909	-	401	398	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.19	6.59	6.29	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.581	4.081	3.381	3.5	4	3.3
Pot Cap-1 Maneuver	942	-	-	1203	-	-	134	158	682	139	163	487
Stage 1	-	-	-	-	-	-	627	601	-	335	359	-
Stage 2	-	-	-	-	-	-	317	345	-	630	606	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	940	-	-	1192	-	-	102	126	673	89	130	486
Mov Cap-2 Maneuver	-	-	-	-	-	-	102	126	-	89	130	-
Stage 1	-	-	-	-	-	-	609	583	-	326	294	-
Stage 2	-	-	-	-	-	-	242	283	-	525	588	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.6	1.5	22.9	25.5
HCM LOS			C	D

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	121	673	1192	-	-	940	-	-	200
HCM Lane V/C Ratio	0.275	0.094	0.116	-	-	0.025	-	-	0.124
HCM Control Delay (s)	45.7	10.9	8.4	0	-	8.9	-	-	25.5
HCM Lane LOS	E	B	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	1	0.3	0.4	-	-	0.1	-	-	0.4



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	356	50	0	390	309	150	280	8	170	139	49
Future Volume (vph)	0	356	50	0	390	309	150	280	8	170	139	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1881	1564		1863	1539	1736	1818		1703	1712	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1881	1564		1863	1539	1736	1818		1703	1712	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	419	59	0	459	364	176	329	9	200	164	58
RTOR Reduction (vph)	0	0	40	0	0	249	0	1	0	0	19	0
Lane Group Flow (vph)	0	419	19	0	459	115	176	337	0	200	203	0
Confl. Peds. (#/hr)	5		1	1		5	2		4	4		2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	4%	4%	4%	6%	6%	6%
Turn Type		NA	Perm		NA	Perm	Split	NA		Split	NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases			6			2						
Actuated Green, G (s)		19.2	19.2		19.2	19.2	15.4	15.4		12.6	12.6	
Effective Green, g (s)		19.2	19.2		19.2	19.2	15.4	15.4		12.6	12.6	
Actuated g/C Ratio		0.32	0.32		0.32	0.32	0.25	0.25		0.21	0.21	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		594	494		589	486	440	461		353	355	
v/s Ratio Prot		0.22			c0.25		0.10	c0.19		0.12	c0.12	
v/s Ratio Perm			0.01			0.07						
v/c Ratio		0.71	0.04		0.78	0.24	0.40	0.73		0.57	0.57	
Uniform Delay, d1		18.3	14.4		18.8	15.3	18.8	20.7		21.6	21.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.8	0.0		6.5	0.3	0.6	5.7		2.1	2.2	
Delay (s)		22.1	14.4		25.3	15.6	19.4	26.5		23.7	23.8	
Level of Service		C	B		C	B	B	C		C	C	
Approach Delay (s)		21.1			21.0			24.1			23.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	60.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	188	35	117	3	41	3	323	208	8	1	287	305
Future Volume (vph)	188	35	117	3	41	3	323	208	8	1	287	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.97		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.92	
Flt Protected		0.96	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750	1507		1840		1752	1833		1716	1646	
Flt Permitted		0.75	1.00		0.98		0.14	1.00		0.61	1.00	
Satd. Flow (perm)		1361	1507		1814		255	1833		1096	1646	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	214	40	133	3	47	3	367	236	9	1	326	347
RTOR Reduction (vph)	0	0	105	0	2	0	0	2	0	0	43	0
Lane Group Flow (vph)	0	254	28	0	51	0	367	243	0	1	630	0
Confl. Peds. (#/hr)	1		4	4		1	3		2	2		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		17.8	17.8		17.8		58.7	53.3		39.1	38.2	
Effective Green, g (s)		17.8	17.8		17.8		58.7	53.3		39.1	38.2	
Actuated g/C Ratio		0.21	0.21		0.21		0.69	0.62		0.46	0.45	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		283	313		377		455	1142		507	735	
v/s Ratio Prot							c0.15	0.13		0.00	0.38	
v/s Ratio Perm		c0.19	0.02		0.03		c0.40			0.00		
v/c Ratio		0.90	0.09		0.13		0.81	0.21		0.00	0.86	
Uniform Delay, d1		33.0	27.3		27.6		18.9	7.0		12.6	21.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		28.4	0.1		0.2		10.1	0.1		0.0	9.7	
Delay (s)		61.4	27.4		27.7		28.9	7.1		12.6	30.9	
Level of Service		E	C		C		C	A		B	C	
Approach Delay (s)		49.7			27.7			20.2			30.9	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	85.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	14	15	14	11	71	34	28	289	94	54	552	214
Future Volume (vph)	14	15	14	11	71	34	28	289	94	54	552	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.96		1.00	0.96		1.00	0.96	
Flt Protected		0.98			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1478			1670		1703	1717		1735	1740	
Flt Permitted		0.88			0.97		0.21	1.00		0.46	1.00	
Satd. Flow (perm)		1329			1623		384	1717		837	1740	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	16	17	16	12	80	38	31	325	106	61	620	240
RTOR Reduction (vph)	0	14	0	0	18	0	0	12	0	0	13	0
Lane Group Flow (vph)	0	35	0	0	112	0	31	419	0	61	847	0
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	20%	20%	20%	8%	8%	8%	6%	6%	6%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		8.5			8.5		43.4	41.9		45.8	43.1	
Effective Green, g (s)		8.5			8.5		43.4	41.9		45.8	43.1	
Actuated g/C Ratio		0.13			0.13		0.65	0.63		0.69	0.65	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		169			207		279	1080		612	1126	
v/s Ratio Prot							0.00	0.24		c0.00	c0.49	
v/s Ratio Perm		0.03			c0.07		0.07			0.06		
v/c Ratio		0.21			0.54		0.11	0.39		0.10	0.75	
Uniform Delay, d1		26.0			27.2		6.1	6.1		3.5	8.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			2.7		0.2	0.2		0.1	2.9	
Delay (s)		26.6			29.9		6.3	6.3		3.6	11.0	
Level of Service		C			C		A	A		A	B	
Approach Delay (s)		26.6			29.9			6.3			10.5	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	66.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	1	0	427	1	30	1	166	159	17	403	0
Future Volume (vph)	0	1	0	427	1	30	1	166	159	17	403	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		1.00		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1900		1717	1546		1700	1792	1491	1734	1827	
Flt Permitted		1.00		0.76	1.00		0.30	1.00	1.00	0.64	1.00	
Satd. Flow (perm)		1900		1368	1546		535	1792	1491	1161	1827	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1	0	497	1	35	1	193	185	20	469	0
RTOR Reduction (vph)	0	0	0	0	19	0	0	0	121	0	0	0
Lane Group Flow (vph)	0	1	0	497	17	0	1	193	64	20	469	0
Confl. Peds. (#/hr)			1	1			3		1	1		3
Heavy Vehicles (%)	0%	0%	0%	5%	5%	5%	6%	6%	6%	4%	4%	4%
Turn Type		NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		22.6		22.6	22.6		16.8	16.8	16.8	16.8	16.8	
Effective Green, g (s)		22.6		22.6	22.6		16.8	16.8	16.8	16.8	16.8	
Actuated g/C Ratio		0.47		0.47	0.47		0.35	0.35	0.35	0.35	0.35	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		887		638	721		185	622	517	402	634	
v/s Ratio Prot		0.00			0.01			0.11			c0.26	
v/s Ratio Perm				c0.36			0.00		0.04	0.02		
v/c Ratio		0.00		0.78	0.02		0.01	0.31	0.12	0.05	0.74	
Uniform Delay, d1		6.9		10.8	7.0		10.3	11.6	10.8	10.5	13.9	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		6.0	0.0		0.0	0.3	0.1	0.1	4.5	
Delay (s)		6.9		16.8	7.0		10.3	11.8	10.9	10.5	18.4	
Level of Service		A		B	A		B	B	B	B	B	
Approach Delay (s)		6.9			16.1			11.4			18.1	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	48.4	Sum of lost time (s)	9.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	4	0	6	1	0	0	23	170	3	2	413	16
Future Volume (Veh/h)	4	0	6	1	0	0	23	170	3	2	413	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	7	1	0	0	25	185	3	2	449	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								691				
pX, platoon unblocked												
vC, conflicting volume	696	700	458	696	706	186	466			188		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	696	700	458	696	706	186	466			188		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	99	100	100	100	98			100		
cM capacity (veh/h)	349	355	603	345	352	856	1095			1386		

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1	SW 2
Volume Total	11	1	25	188	2	466
Volume Left	4	1	25	0	2	0
Volume Right	7	0	0	3	0	17
cSH	477	345	1095	1700	1386	1700
Volume to Capacity	0.02	0.00	0.02	0.11	0.00	0.27
Queue Length 95th (ft)	2	0	2	0	0	0
Control Delay (s)	12.7	15.5	8.4	0.0	7.6	0.0
Lane LOS	B	C	A		A	
Approach Delay (s)	12.7	15.5	1.0		0.0	
Approach LOS	B	C				

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	32.7%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	0.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	4	0	6	1	0	0	23	170	3	2	413	16
Future Vol, veh/h	4	0	6	1	0	0	23	170	3	2	413	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	7	1	0	0	25	185	3	2	449	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	698	700	458	701	707	186	466	0	0	188	0	0
Stage 1	462	462	-	236	236	-	-	-	-	-	-	-
Stage 2	236	238	-	465	471	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	355	363	603	353	360	856	1095	-	-	1386	-	-
Stage 1	580	565	-	767	710	-	-	-	-	-	-	-
Stage 2	767	708	-	578	560	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	348	354	603	343	351	856	1095	-	-	1386	-	-
Mov Cap-2 Maneuver	348	354	-	343	351	-	-	-	-	-	-	-
Stage 1	567	564	-	749	694	-	-	-	-	-	-	-
Stage 2	749	692	-	571	559	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.9	15.5	1	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1095	-	-	343	466	1386	-	-
HCM Lane V/C Ratio	0.023	-	-	0.003	0.023	0.002	-	-
HCM Control Delay (s)	8.4	-	-	15.5	12.9	7.6	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.1	0	-	-



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	306	166	250	42	72	256
Future Volume (vph)	306	166	250	42	72	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3155	1455	3125		1736	3471
Flt Permitted	0.95	1.00	1.00		0.39	1.00
Satd. Flow (perm)	3155	1455	3125		704	3471
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	340	184	278	47	80	284
RTOR Reduction (vph)	0	114	26	0	0	0
Lane Group Flow (vph)	340	70	299	0	80	284
Heavy Vehicles (%)	11%	11%	13%	13%	4%	4%
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	9.6	14.6	10.2		19.7	19.7
Effective Green, g (s)	9.6	14.6	10.2		19.7	19.7
Actuated g/C Ratio	0.25	0.38	0.27		0.51	0.51
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	790	725	832		496	1785
v/s Ratio Prot	c0.11	0.01	c0.10		0.02	c0.08
v/s Ratio Perm		0.04			0.06	
v/c Ratio	0.43	0.10	0.36		0.16	0.16
Uniform Delay, d1	12.1	7.6	11.4		5.0	4.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.3		0.2	0.0
Delay (s)	12.4	7.7	11.7		5.2	5.0
Level of Service	B	A	B		A	A
Approach Delay (s)	10.8		11.7			5.0
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	38.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



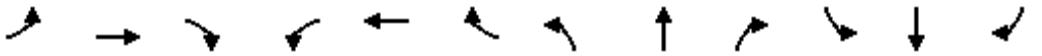
Movement	NWL	NWR	NET	NER	SWL	SWT
Right Turn Channelized				MOYes		
Traffic Volume (veh/h)	71	67	176	208	282	263
Future Volume (veh/h)	71	67	176	208	282	263
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	81	76	200	236	320	299
Approach Volume (veh/h)	157		200			619
Crossing Volume (veh/h)	200		320			81
High Capacity (veh/h)	1184		1077			1300
High v/c (veh/h)	0.13		0.19			0.48
Low Capacity (veh/h)	979		883			1084
Low v/c (veh/h)	0.16		0.23			0.57

Intersection Summary			
Maximum v/c High	0.48		
Maximum v/c Low	0.57		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Approach	NW	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	157	436	619
Demand Flow Rate, veh/h	169	480	638
Vehicles Circulating, veh/h	220	330	87
Vehicles Exiting, veh/h	330	395	302
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.2	3.7	12.2
Approach LOS	A	A	B

Lane	Left	Left	Bypass	Left
Designated Moves	LR	T	R	LT
Assumed Moves	LR	T	R	LT
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Critical Headway, s	5.193	5.193		5.193
Entry Flow, veh/h	169	220	260	638
Cap Entry Lane, veh/h	907	812	2090	1036
Entry HV Adj Factor	0.929	0.909	0.909	0.970
Flow Entry, veh/h	157	200	236	619
Cap Entry, veh/h	842	738	1900	1005
V/C Ratio	0.186	0.271	0.124	0.616
Control Delay, s/veh	6.2	8.0	0.0	12.2
LOS	A	A	A	B
95th %tile Queue, veh	1	1	0	4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	103	0	0	460	0	2558	152	0	1816	471
Future Volume (vph)	0	0	103	0	0	460	0	2558	152	0	1816	471
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frpb, ped/bikes			1.00			1.00		1.00	0.98		1.00	1.00
Flpb, ped/bikes			1.00			1.00		1.00	1.00		1.00	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2760			2538		4988	1521		4893	1524
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2760			2538		4988	1521		4893	1524
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	106	0	0	474	0	2637	157	0	1872	486
RTOR Reduction (vph)	0	0	19	0	0	19	0	0	61	0	0	189
Lane Group Flow (vph)	0	0	87	0	0	455	0	2637	96	0	1872	297
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	12%	12%	12%	4%	4%	4%	6%	6%	6%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)			15.2			15.2		38.1	38.1		38.1	38.1
Effective Green, g (s)			15.2			15.2		38.1	38.1		38.1	38.1
Actuated g/C Ratio			0.24			0.24		0.61	0.61		0.61	0.61
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			673			619		3050	930		2992	932
v/s Ratio Prot								c0.53			0.38	
v/s Ratio Perm			0.03			c0.18			0.06			0.20
v/c Ratio			0.13			0.74		0.86	0.10		0.63	0.32
Uniform Delay, d1			18.4			21.7		10.0	5.0		7.6	5.8
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.1			4.5		2.8	0.0		0.4	0.2
Delay (s)			18.5			26.2		12.8	5.1		8.0	6.0
Level of Service			B			C		B	A		A	A
Approach Delay (s)		18.5			26.2			12.3			7.6	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	904	328	1301	242	511	1707
Future Volume (vph)	904	328	1301	242	511	1707
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	1568	5085	1526	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	1568	5085	1526	1770	5085
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	932	338	1341	249	527	1760
RTOR Reduction (vph)	0	0	0	178	0	0
Lane Group Flow (vph)	932	338	1341	71	527	1760
Confl. Peds. (#/hr)				6	6	
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	24.5	51.0	25.5	25.5	26.5	56.5
Effective Green, g (s)	24.5	51.0	25.5	25.5	26.5	56.5
Actuated g/C Ratio	0.27	0.57	0.28	0.28	0.29	0.63
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	925	966	1440	432	521	3192
v/s Ratio Prot	c0.27	0.10	c0.26		c0.30	0.35
v/s Ratio Perm		0.11		0.05		
v/c Ratio	1.01	0.35	0.93	0.16	1.01	0.55
Uniform Delay, d1	32.8	10.5	31.4	24.2	31.8	9.5
Progression Factor	1.00	1.00	0.92	2.24	1.00	1.00
Incremental Delay, d2	31.5	0.2	10.3	0.7	42.3	0.7
Delay (s)	64.2	10.8	39.2	55.1	74.1	10.2
Level of Service	E	B	D	E	E	B
Approach Delay (s)	50.0		41.7			24.9
Approach LOS	D		D			C

Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	127	455	1152	842	432	2104
Future Volume (vph)	127	455	1152	842	432	2104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	5036	1510	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	5036	1510	1770	5085
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	130	464	1176	859	441	2147
RTOR Reduction (vph)	0	391	0	312	0	0
Lane Group Flow (vph)	130	73	1176	547	441	2147
Confl. Peds. (#/hr)				7	7	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	12.2	12.2	37.9	37.9	26.4	68.8
Effective Green, g (s)	12.2	12.2	37.9	37.9	26.4	68.8
Actuated g/C Ratio	0.14	0.14	0.42	0.42	0.29	0.76
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	239	214	2120	635	519	3887
v/s Ratio Prot	c0.07		0.23		c0.25	0.42
v/s Ratio Perm		0.05		c0.36		
v/c Ratio	0.54	0.34	0.55	0.86	0.85	0.55
Uniform Delay, d1	36.3	35.3	19.7	23.7	29.9	4.3
Progression Factor	1.00	1.00	1.00	1.00	0.94	0.79
Incremental Delay, d2	2.5	1.0	1.1	14.3	8.9	0.4
Delay (s)	38.8	36.2	20.7	38.0	36.9	3.8
Level of Service	D	D	C	D	D	A
Approach Delay (s)	36.8		28.0			9.4
Approach LOS	D		C			A

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1714	13	0	2254	0	230
Future Volume (Veh/h)	1714	13	0	2254	0	230
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1804	14	0	2373	0	242
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.64		0.73	0.64
vC, conflicting volume			1821		2605	912
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1172		992	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	65
cM capacity (veh/h)			377		178	697

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1203	615	791	791	791	242
Volume Left	0	0	0	0	0	0
Volume Right	0	14	0	0	0	242
cSH	1700	1700	1700	1700	1700	697
Volume to Capacity	0.71	0.36	0.47	0.47	0.47	0.35
Queue Length 95th (ft)	0	0	0	0	0	39
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	12.9
Lane LOS						B
Approach Delay (s)	0.0		0.0			12.9
Approach LOS						B

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	68.7%	ICU Level of Service		C
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	1.3

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1714	13	0	2254	0	230
Future Vol, veh/h	1714	13	0	2254	0	230
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1804	14	0	2373	0	242

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	912
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	425
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	424
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	24.2
HCM LOS			C

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	424	-
HCM Lane V/C Ratio	-	-	0.571	-
HCM Control Delay (s)	-	-	24.2	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	3.5	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1345	51	438	1857	70	376
Future Volume (vph)	1345	51	438	1857	70	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3450		1770	3539	1787	1599
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	3450		134	3539	1787	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1387	53	452	1914	72	388
RTOR Reduction (vph)	2	0	0	0	0	11
Lane Group Flow (vph)	1438	0	452	1914	72	377
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	4%	4%	2%	2%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	51.1		82.8	82.8	8.2	35.4
Effective Green, g (s)	51.1		82.8	82.8	8.2	35.4
Actuated g/C Ratio	0.51		0.83	0.83	0.08	0.35
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1762		555	2930	146	638
v/s Ratio Prot	0.42		c0.22	0.54	0.04	c0.16
v/s Ratio Perm			c0.45			0.08
v/c Ratio	0.82		0.81	0.65	0.49	0.59
Uniform Delay, d1	20.5		27.5	3.2	43.9	26.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3		8.9	0.5	2.6	1.5
Delay (s)	24.8		36.4	3.8	46.5	27.9
Level of Service	C		D	A	D	C
Approach Delay (s)	24.8			10.0	30.8	
Approach LOS	C			A	C	

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	26	429	30	71	424	12	21	21	161	2	18	24
Future Volume (Veh/h)	26	429	30	71	424	12	21	21	161	2	18	24
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	28	456	32	76	451	13	22	22	171	2	19	26
Pedestrians		1			7			9				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			1				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.95						0.95	0.95		0.95	0.95	0.95
vC, conflicting volume	464			497			1183	1153	488	1225	1162	458
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	411			497			1167	1135	488	1211	1145	405
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			93			83	87	70	98	89	96
cM capacity (veh/h)	1097			1058			129	171	567	88	172	618

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	28	488	540	215	47
Volume Left	28	0	76	22	2
Volume Right	0	32	13	171	26
cSH	1097	1700	1058	713	268
Volume to Capacity	0.03	0.29	0.07	0.30	0.18
Queue Length 95th (ft)	2	0	6	32	16
Control Delay (s)	8.4	0.0	2.0	19.1	21.3
Lane LOS	A		A	C	C
Approach Delay (s)	0.5		2.0	19.1	21.3
Approach LOS				C	C

Intersection Summary				
Average Delay	4.9			
Intersection Capacity Utilization	71.3%	ICU Level of Service	C	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	4.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	26	429	30	71	424	12	21	21	161	2	18	24
Future Vol, veh/h	26	429	30	71	424	12	21	21	161	2	18	24
Conflicting Peds, #/hr	0	0	9	9	0	0	1	0	7	7	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	2	2	2	4	4	4	0	0	0
Mvmt Flow	28	456	32	76	451	13	22	22	171	2	19	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	464	0	0	497	0	0	1169	1152	488	1155	1162	458
Stage 1	-	-	-	-	-	-	537	537	-	609	609	-
Stage 2	-	-	-	-	-	-	632	615	-	546	553	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.14	6.54	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.536	4.036	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	1103	-	-	1067	-	-	169	196	576	175	197	607
Stage 1	-	-	-	-	-	-	524	520	-	486	488	-
Stage 2	-	-	-	-	-	-	465	479	-	526	518	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1102	-	-	1060	-	-	133	171	567	99	172	606
Mov Cap-2 Maneuver	-	-	-	-	-	-	133	171	-	99	172	-
Stage 1	-	-	-	-	-	-	506	502	-	474	441	-
Stage 2	-	-	-	-	-	-	384	433	-	340	501	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.4	1.2	19.2	21.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	150	567	1060	-	-	1102	-	-	268
HCM Lane V/C Ratio	0.298	0.302	0.071	-	-	0.025	-	-	0.175
HCM Control Delay (s)	38.9	14.1	8.7	0	-	8.4	-	-	21.3
HCM Lane LOS	E	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	1.2	1.3	0.2	-	-	0.1	-	-	0.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	521	127	0	354	294	92	182	18	303	267	29
Future Volume (vph)	0	521	127	0	354	294	92	182	18	303	267	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1881	1533		1863	1529	1770	1833		1770	1829	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1881	1533		1863	1529	1770	1833		1770	1829	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	554	135	0	377	313	98	194	19	322	284	31
RTOR Reduction (vph)	0	0	56	0	0	202	0	5	0	0	5	0
Lane Group Flow (vph)	0	554	79	0	377	111	98	208	0	322	310	0
Confl. Peds. (#/hr)	8		12	12		8	7		4	4		7
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA	Perm		NA	Perm	Split	NA		Split	NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases			6			2						
Actuated Green, G (s)		23.2	23.2		23.2	23.2	12.7	12.7		16.0	16.0	
Effective Green, g (s)		23.2	23.2		23.2	23.2	12.7	12.7		16.0	16.0	
Actuated g/C Ratio		0.35	0.35		0.35	0.35	0.19	0.19		0.24	0.24	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		667	543		660	542	343	355		433	447	
v/s Ratio Prot		c0.29			0.20		0.06	c0.11		c0.18	0.17	
v/s Ratio Perm			0.05			0.07						
v/c Ratio		0.83	0.15		0.57	0.20	0.29	0.59		0.74	0.69	
Uniform Delay, d1		19.3	14.4		17.1	14.7	22.5	24.0		22.8	22.5	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		8.7	0.1		1.2	0.2	0.5	2.5		6.8	4.6	
Delay (s)		28.0	14.5		18.3	14.9	22.9	26.4		29.6	27.1	
Level of Service		C	B		B	B	C	C		C	C	
Approach Delay (s)		25.3			16.7			25.3			28.3	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	65.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	375	46	199	15	65	9	231	244	10	6	360	158
Future Volume (vph)	375	46	199	15	65	9	231	244	10	6	360	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.95	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1795	1535		1798		1787	1868		1745	1743	
Flt Permitted		0.72	1.00		0.91		0.15	1.00		0.59	1.00	
Satd. Flow (perm)		1345	1535		1649		281	1868		1083	1743	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	408	50	216	16	71	10	251	265	11	7	391	172
RTOR Reduction (vph)	0	0	141	0	5	0	0	2	0	0	19	0
Lane Group Flow (vph)	0	458	75	0	92	0	251	274	0	7	544	0
Confl. Peds. (#/hr)	2		9	9		2	5		5	5		5
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		28.0	28.0		28.0		43.6	38.1		30.9	29.9	
Effective Green, g (s)		28.0	28.0		28.0		43.6	38.1		30.9	29.9	
Actuated g/C Ratio		0.35	0.35		0.35		0.54	0.47		0.38	0.37	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		467	533		572		323	883		423	646	
v/s Ratio Prot							c0.09	0.15		0.00	c0.31	
v/s Ratio Perm		c0.34	0.05		0.06		0.33			0.01		
v/c Ratio		0.98	0.14		0.16		0.78	0.31		0.02	0.84	
Uniform Delay, d1		26.0	18.0		18.2		14.6	13.1		15.4	23.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		36.5	0.1		0.1		11.2	0.2		0.0	9.7	
Delay (s)		62.5	18.2		18.3		25.7	13.3		15.4	32.9	
Level of Service		E	B		B		C	B		B	C	
Approach Delay (s)		48.3			18.3			19.2			32.7	
Approach LOS		D			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	33.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	80.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	44	9	15	30	126	30	33	534	59	43	475	115
Future Volume (vph)	44	9	15	30	126	30	33	534	59	43	475	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.99		1.00	0.97	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1612			1799		1786	1849		1769	1798	
Flt Permitted		0.76			0.94		0.27	1.00		0.26	1.00	
Satd. Flow (perm)		1261			1706		499	1849		488	1798	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	47	10	16	32	134	32	35	568	63	46	505	122
RTOR Reduction (vph)	0	13	0	0	12	0	0	6	0	0	12	0
Lane Group Flow (vph)	0	60	0	0	186	0	35	625	0	46	615	0
Confl. Peds. (#/hr)	3		4	4		3	6		3	3		6
Heavy Vehicles (%)	10%	10%	10%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		11.1			11.1		26.7	25.1		26.7	25.1	
Effective Green, g (s)		11.1			11.1		26.7	25.1		26.7	25.1	
Actuated g/C Ratio		0.22			0.22		0.52	0.49		0.52	0.49	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		272			369		299	904		293	879	
v/s Ratio Prot							0.00	0.34		c0.00	c0.34	
v/s Ratio Perm		0.05			c0.11		0.06			0.08		
v/c Ratio		0.22			0.50		0.12	0.69		0.16	0.70	
Uniform Delay, d1		16.5			17.7		6.9	10.1		7.0	10.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4			1.1		0.2	2.3		0.3	2.5	
Delay (s)		17.0			18.8		7.1	12.4		7.3	12.6	
Level of Service		B			B		A	B		A	B	
Approach Delay (s)		17.0			18.8			12.1			12.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	51.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	0	7	203	1	33	6	269	339	34	405	1
Future Volume (vph)	2	0	7	203	1	33	6	269	339	34	405	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.98		1.00	0.98		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.89		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1649		1734	1528		1784	1881	1562	1749	1844	
Flt Permitted		0.96		0.75	1.00		0.43	1.00	1.00	0.58	1.00	
Satd. Flow (perm)		1607		1371	1528		813	1881	1562	1063	1844	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	0	8	226	1	37	7	299	377	38	450	1
RTOR Reduction (vph)	0	7	0	0	26	0	0	0	200	0	0	0
Lane Group Flow (vph)	0	3	0	226	12	0	7	299	177	38	451	0
Confl. Peds. (#/hr)	1		1	1		1	3		3	3		3
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		12.2		12.2	12.2		18.7	18.7	18.7	18.7	18.7	
Effective Green, g (s)		12.2		12.2	12.2		18.7	18.7	18.7	18.7	18.7	
Actuated g/C Ratio		0.31		0.31	0.31		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		491		419	467		381	881	732	498	864	
v/s Ratio Prot					0.01			0.16			c0.24	
v/s Ratio Perm		0.00		c0.16			0.01		0.11	0.04		
v/c Ratio		0.01		0.54	0.03		0.02	0.34	0.24	0.08	0.52	
Uniform Delay, d1		9.6		11.5	9.7		5.7	6.7	6.4	5.8	7.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		1.3	0.0		0.0	0.2	0.2	0.1	0.6	
Delay (s)		9.6		12.9	9.7		5.7	6.9	6.5	5.9	8.0	
Level of Service		A		B	A		A	A	A	A	A	
Approach Delay (s)		9.6			12.4			6.7			7.9	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	39.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	14	0	20	2	0	1	20	283	1	0	418	13
Future Volume (Veh/h)	14	0	20	2	0	1	20	283	1	0	418	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	0	22	2	0	1	22	308	1	0	454	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								691				
pX, platoon unblocked	0.99	0.99		0.99	0.99	0.99				0.99		
vC, conflicting volume	814	814	461	828	820	308	468			309		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	806	806	461	821	813	295	468			295		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	96	99	100	100	98			100		
cM capacity (veh/h)	292	306	600	275	303	736	1094			1252		

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1	SW 2
Volume Total	37	3	22	309	0	468
Volume Left	15	2	22	0	0	0
Volume Right	22	1	0	1	0	14
cSH	420	348	1094	1700	1700	1700
Volume to Capacity	0.09	0.01	0.02	0.18	0.00	0.28
Queue Length 95th (ft)	7	1	2	0	0	0
Control Delay (s)	14.4	15.4	8.4	0.0	0.0	0.0
Lane LOS	B	C	A			
Approach Delay (s)	14.4	15.4	0.6		0.0	
Approach LOS	B	C				

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	32.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	0.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	14	0	20	2	0	1	20	283	1	0	418	13
Future Vol, veh/h	14	0	20	2	0	1	20	283	1	0	418	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	0	22	2	0	1	22	308	1	0	454	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	813	813	461	824	820	308	468	0	0	309	0	0
Stage 1	461	461	-	352	352	-	-	-	-	-	-	-
Stage 2	352	352	-	472	468	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	297	313	600	292	310	732	1094	-	-	1252	-	-
Stage 1	581	565	-	665	632	-	-	-	-	-	-	-
Stage 2	665	632	-	573	561	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	292	307	600	277	304	732	1094	-	-	1252	-	-
Mov Cap-2 Maneuver	292	307	-	277	304	-	-	-	-	-	-	-
Stage 1	569	565	-	652	619	-	-	-	-	-	-	-
Stage 2	651	619	-	552	561	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	14.4	15.4	0.5	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1094	-	-	349	418	1252	-	-
HCM Lane V/C Ratio	0.02	-	-	0.009	0.088	-	-	-
HCM Control Delay (s)	8.4	-	-	15.4	14.4	0	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.3	0	-	-



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	343	277	344	115	78	173
Future Volume (vph)	343	277	344	115	78	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3367	1553	3395		1735	3471
Flt Permitted	0.95	1.00	1.00		0.31	1.00
Satd. Flow (perm)	3367	1553	3395		560	3471
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	385	311	387	129	88	194
RTOR Reduction (vph)	0	145	59	0	0	0
Lane Group Flow (vph)	385	166	457	0	88	194
Confl. Peds. (#/hr)				2	2	
Heavy Vehicles (%)	4%	4%	2%	2%	4%	4%
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	10.2	16.9	11.6		22.8	22.8
Effective Green, g (s)	10.2	16.9	11.6		22.8	22.8
Actuated g/C Ratio	0.24	0.40	0.28		0.54	0.54
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	817	791	937		491	1884
v/s Ratio Prot	c0.11	c0.03	c0.13		0.03	0.06
v/s Ratio Perm		0.07			0.07	
v/c Ratio	0.47	0.21	0.49		0.18	0.10
Uniform Delay, d1	13.6	8.2	12.7		5.0	4.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.4		0.2	0.0
Delay (s)	14.0	8.3	13.1		5.2	4.7
Level of Service	B	A	B		A	A
Approach Delay (s)	11.5		13.1			4.8
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	42.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



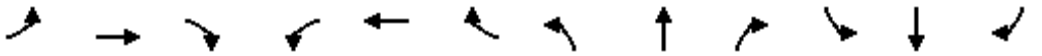
Movement	NWL	NWR	NET	NER	SWL	SWT
Right Turn Channelized				MOYes		
Traffic Volume (veh/h)	78	105	344	262	192	181
Future Volume (veh/h)	78	105	344	262	192	181
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	87	117	382	291	213	201
Approach Volume (veh/h)	204		382			414
Crossing Volume (veh/h)	382		213			87
High Capacity (veh/h)	1025		1172			1294
High v/c (veh/h)	0.20		0.33			0.32
Low Capacity (veh/h)	836		968			1079
Low v/c (veh/h)	0.24		0.39			0.38

Intersection Summary				
Maximum v/c High		0.33		
Maximum v/c Low		0.39		
Intersection Capacity Utilization		59.0%	ICU Level of Service	B

Intersection	
Intersection Delay, s/veh	6.7
Intersection LOS	A

Approach	NW	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	204	673	414
Demand Flow Rate, veh/h	220	693	422
Vehicles Circulating, veh/h	393	217	94
Vehicles Exiting, veh/h	217	299	519
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	4	0	0
Ped Cap Adj	0.999	1.000	1.000
Approach Delay, s/veh	8.6	5.3	8.1
Approach LOS	A	A	A

Lane	Left	Left	Bypass	Left
Designated Moves	LR	T	R	LT
Assumed Moves	LR	T	R	LT
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Critical Headway, s	5.193	5.193		5.193
Entry Flow, veh/h	220	393	300	422
Cap Entry Lane, veh/h	763	910	1957	1029
Entry HV Adj Factor	0.927	0.971	0.971	0.981
Flow Entry, veh/h	204	382	291	414
Cap Entry, veh/h	707	883	1900	1009
V/C Ratio	0.289	0.432	0.153	0.410
Control Delay, s/veh	8.6	9.3	0.0	8.1
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	183	0	0	417	0	2074	138	0	3236	587
Future Volume (vph)	0	0	183	0	0	417	0	2074	138	0	3236	587
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2814			2760		5085	1583		5085	1583
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2814			2760		5085	1583		5085	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	189	0	0	430	0	2138	142	0	3336	605
RTOR Reduction (vph)	0	0	15	0	0	24	0	0	41	0	0	174
Lane Group Flow (vph)	0	0	174	0	0	406	0	2138	101	0	3336	431
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)			16.5			16.5		63.0	63.0		63.0	63.0
Effective Green, g (s)			16.5			16.5		63.0	63.0		63.0	63.0
Actuated g/C Ratio			0.19			0.19		0.71	0.71		0.71	0.71
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			524			514		3619	1126		3619	1126
v/s Ratio Prot								0.42			c0.66	
v/s Ratio Perm			0.06			c0.15			0.06			0.27
v/c Ratio			0.33			0.79		0.59	0.09		0.92	0.38
Uniform Delay, d1			31.2			34.3		6.3	3.9		10.7	5.0
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.4			7.9		0.3	0.0		4.5	0.2
Delay (s)			31.6			42.2		6.6	4.0		15.2	5.3
Level of Service			C			D		A	A		B	A
Approach Delay (s)		31.6			42.2			6.4			13.7	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	416	247	1477	301	661	959
Future Volume (vph)	416	247	1477	301	661	959
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3273	1509	4988	1510	1752	5036
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3273	1509	4988	1510	1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	452	268	1605	327	718	1042
RTOR Reduction (vph)	0	0	0	229	0	0
Lane Group Flow (vph)	452	268	1605	98	718	1042
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	7%	7%	4%	4%	3%	3%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	16.4	49.5	27.0	27.0	33.1	64.6
Effective Green, g (s)	16.4	49.5	27.0	27.0	33.1	64.6
Actuated g/C Ratio	0.18	0.55	0.30	0.30	0.37	0.72
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	596	905	1496	453	644	3614
v/s Ratio Prot	c0.14	0.11	c0.32		c0.41	0.21
v/s Ratio Perm		0.07		0.06		
v/c Ratio	0.76	0.30	1.07	0.22	1.11	0.29
Uniform Delay, d1	34.9	10.9	31.5	23.6	28.4	4.5
Progression Factor	1.00	1.00	0.97	2.31	1.00	1.00
Incremental Delay, d2	5.5	0.2	43.3	0.9	71.4	0.2
Delay (s)	40.4	11.1	73.8	55.3	99.8	4.7
Level of Service	D	B	E	E	F	A
Approach Delay (s)	29.5		70.7			43.5
Approach LOS	C		E			D

Intersection Summary			
HCM 2000 Control Delay	53.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	159	444	1340	977	267	1109
Future Volume (vph)	159	444	1340	977	267	1109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1719	1538	4940	1496	1719	4940
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1719	1538	4940	1496	1719	4940
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	167	467	1411	1028	281	1167
RTOR Reduction (vph)	0	258	0	325	0	0
Lane Group Flow (vph)	167	209	1411	703	281	1167
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.2	15.2	44.5	44.5	16.8	65.8
Effective Green, g (s)	15.2	15.2	44.5	44.5	16.8	65.8
Actuated g/C Ratio	0.17	0.17	0.49	0.49	0.19	0.73
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	290	259	2442	739	320	3611
v/s Ratio Prot	0.10		0.29		c0.16	0.24
v/s Ratio Perm		c0.14		c0.47		
v/c Ratio	0.58	0.81	0.58	0.95	0.88	0.32
Uniform Delay, d1	34.4	36.0	16.1	21.7	35.6	4.3
Progression Factor	1.00	1.00	1.00	1.00	0.79	1.49
Incremental Delay, d2	2.8	16.7	1.0	23.1	21.4	0.2
Delay (s)	37.2	52.7	17.1	44.8	49.5	6.6
Level of Service	D	D	B	D	D	A
Approach Delay (s)	48.6		28.8			14.9
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1973	61	0	1287	0	296
Future Volume (Veh/h)	1973	61	0	1287	0	296
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	2122	66	0	1384	0	318
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.52		0.56	0.52
vC, conflicting volume			2188		2616	1094
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1441		1484	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		100	44
cM capacity (veh/h)			233		65	565

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1415	773	461	461	461	318
Volume Left	0	0	0	0	0	0
Volume Right	0	66	0	0	0	318
cSH	1700	1700	1700	1700	1700	565
Volume to Capacity	0.83	0.45	0.27	0.27	0.27	0.56
Queue Length 95th (ft)	0	0	0	0	0	87
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	19.3
Lane LOS						C
Approach Delay (s)	0.0		0.0			19.3
Approach LOS						C

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	81.5%	ICU Level of Service	D	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	6.2

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1973	61	0	1287	0	296
Future Vol, veh/h	1973	61	0	1287	0	296
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	2122	66	0	1384	0	318

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1094
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	332
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	332
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	75.6
HCM LOS			F

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	332	-
HCM Lane V/C Ratio	-	-	0.959	-
HCM Control Delay (s)	-	-	75.6	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	10.1	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1532	25	336	966	80	513
Future Volume (vph)	1532	25	336	966	80	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3397		1703	3406	1736	1553
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	3397		129	3406	1736	1553
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1630	27	357	1028	85	546
RTOR Reduction (vph)	1	0	0	0	0	7
Lane Group Flow (vph)	1656	0	357	1028	85	539
Confl. Peds. (#/hr)		1	1		3	
Heavy Vehicles (%)	6%	6%	6%	6%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	50.9		82.0	82.0	9.0	35.6
Effective Green, g (s)	50.9		82.0	82.0	9.0	35.6
Actuated g/C Ratio	0.51		0.82	0.82	0.09	0.36
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1729		524	2792	156	622
v/s Ratio Prot	c0.49		0.18	0.30	0.05	c0.23
v/s Ratio Perm			0.38			0.12
v/c Ratio	0.96		0.68	0.37	0.54	0.87
Uniform Delay, d1	23.5		26.2	2.3	43.5	30.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	13.7		3.6	0.1	3.9	12.1
Delay (s)	37.2		29.8	2.4	47.4	42.1
Level of Service	D		C	A	D	D
Approach Delay (s)	37.2			9.5	42.8	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	22	307	29	133	577	12	6	25	62	0	12	11
Future Volume (Veh/h)	22	307	29	133	577	12	6	25	62	0	12	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	24	330	31	143	620	13	6	27	67	0	13	12
Pedestrians		2			10			4				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			0				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.92						0.92	0.92		0.92	0.92	0.92
vC, conflicting volume	633			365			1330	1316	360	1348	1326	628
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	561			365			1316	1301	360	1335	1311	556
tC, single (s)	4.1			4.1			7.2	6.6	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	97			88			94	78	90	100	90	98
cM capacity (veh/h)	924			1184			95	123	661	80	126	492

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	24	361	776	100	25
Volume Left	24	0	143	6	0
Volume Right	0	31	13	67	12
cSH	924	1700	1184	357	196
Volume to Capacity	0.03	0.21	0.12	0.28	0.13
Queue Length 95th (ft)	2	0	10	28	11
Control Delay (s)	9.0	0.0	2.9	22.9	26.0
Lane LOS	A		A	C	D
Approach Delay (s)	0.6		2.9	22.9	26.0
Approach LOS				C	D

Intersection Summary				
Average Delay	4.2			
Intersection Capacity Utilization	74.8%	ICU Level of Service	D	
Analysis Period (min)	15			

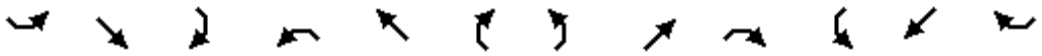
Intersection	
Int Delay, s/veh	3.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	22	307	29	133	577	12	6	25	62	0	12	11
Future Vol, veh/h	22	307	29	133	577	12	6	25	62	0	12	11
Conflicting Peds, #/hr	0	0	4	4	0	0	2	0	10	10	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	4	4	4	3	3	3	9	9	9	0	0	0
Mvmt Flow	24	330	31	143	620	13	6	27	67	0	13	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	633	0	0	365	0	0	1324	1316	360	1329	1326	629
Stage 1	-	-	-	-	-	-	397	397	-	913	913	-
Stage 2	-	-	-	-	-	-	927	919	-	416	413	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.19	6.59	6.29	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.581	4.081	3.381	3.5	4	3.3
Pot Cap-1 Maneuver	940	-	-	1188	-	-	129	153	669	133	157	486
Stage 1	-	-	-	-	-	-	615	591	-	330	355	-
Stage 2	-	-	-	-	-	-	313	341	-	618	597	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	938	-	-	1177	-	-	97	121	660	83	124	485
Mov Cap-2 Maneuver	-	-	-	-	-	-	97	121	-	83	124	-
Stage 1	-	-	-	-	-	-	597	574	-	322	288	-
Stage 2	-	-	-	-	-	-	236	277	-	511	580	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.5	1.6	23.6	26.4
HCM LOS			C	D

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	115	660	1177	-	-	938	-	-	193
HCM Lane V/C Ratio	0.29	0.101	0.122	-	-	0.025	-	-	0.128
HCM Control Delay (s)	48.6	11.1	8.5	0	-	8.9	-	-	26.4
HCM Lane LOS	E	B	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	1.1	0.3	0.4	-	-	0.1	-	-	0.4



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	356	50	0	390	316	150	286	8	179	147	49
Future Volume (vph)	0	356	50	0	390	316	150	286	8	179	147	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1881	1564		1863	1538	1736	1819		1703	1715	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1881	1564		1863	1538	1736	1819		1703	1715	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	419	59	0	459	372	176	336	9	211	173	58
RTOR Reduction (vph)	0	0	41	0	0	256	0	1	0	0	18	0
Lane Group Flow (vph)	0	419	18	0	459	116	176	344	0	211	213	0
Confl. Peds. (#/hr)	5		1	1		5	2		4	4		2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	4%	4%	4%	6%	6%	6%
Turn Type		NA	Perm		NA	Perm	Split	NA		Split	NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases			6			2						
Actuated Green, G (s)		19.2	19.2		19.2	19.2	15.6	15.6		13.1	13.1	
Effective Green, g (s)		19.2	19.2		19.2	19.2	15.6	15.6		13.1	13.1	
Actuated g/C Ratio		0.31	0.31		0.31	0.31	0.25	0.25		0.21	0.21	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		588	489		582	480	441	462		363	365	
v/s Ratio Prot		0.22			c0.25		0.10	c0.19		0.12	c0.12	
v/s Ratio Perm			0.01			0.08						
v/c Ratio		0.71	0.04		0.79	0.24	0.40	0.74		0.58	0.58	
Uniform Delay, d1		18.7	14.7		19.2	15.7	19.0	21.1		21.7	21.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		4.1	0.0		7.0	0.3	0.6	6.4		2.4	2.4	
Delay (s)		22.7	14.7		26.3	16.0	19.6	27.4		24.1	24.1	
Level of Service		C	B		C	B	B	C		C	C	
Approach Delay (s)		21.7			21.6			24.8			24.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	61.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	205	35	117	3	41	3	323	221	8	1	304	311
Future Volume (vph)	205	35	117	3	41	3	323	221	8	1	304	311
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.97		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.92	
Flt Protected		0.96	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1749	1507		1840		1752	1834		1716	1649	
Flt Permitted		0.75	1.00		0.98		0.12	1.00		0.60	1.00	
Satd. Flow (perm)		1373	1507		1813		222	1834		1081	1649	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	233	40	133	3	47	3	367	251	9	1	345	353
RTOR Reduction (vph)	0	0	104	0	2	0	0	1	0	0	40	0
Lane Group Flow (vph)	0	273	29	0	51	0	367	259	0	1	658	0
Confl. Peds. (#/hr)	1		4	4		1	3		2	2		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		19.2	19.2		19.2		60.3	54.9		40.6	39.7	
Effective Green, g (s)		19.2	19.2		19.2		60.3	54.9		40.6	39.7	
Actuated g/C Ratio		0.22	0.22		0.22		0.68	0.62		0.46	0.45	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		297	326		393		429	1137		502	739	
v/s Ratio Prot							c0.16	0.14		0.00	0.40	
v/s Ratio Perm		c0.20	0.02		0.03		c0.43			0.00		
v/c Ratio		0.92	0.09		0.13		0.86	0.23		0.00	0.89	
Uniform Delay, d1		33.9	27.7		27.9		22.2	7.4		13.0	22.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		31.6	0.1		0.1		15.3	0.1		0.0	12.9	
Delay (s)		65.5	27.8		28.1		37.5	7.5		13.0	35.3	
Level of Service		E	C		C		D	A		B	D	
Approach Delay (s)		53.1			28.1			25.1			35.3	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	62	15	14	11	71	38	28	319	94	59	575	280
Future Volume (vph)	62	15	14	11	71	38	28	319	94	59	575	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.96		1.00	0.97		1.00	0.95	
Flt Protected		0.97			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1493			1663		1703	1722		1735	1725	
Flt Permitted		0.66			0.97		0.15	1.00		0.41	1.00	
Satd. Flow (perm)		1016			1619		260	1722		748	1725	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	70	17	16	12	80	43	31	358	106	66	646	315
RTOR Reduction (vph)	0	8	0	0	19	0	0	12	0	0	17	0
Lane Group Flow (vph)	0	95	0	0	116	0	31	452	0	66	944	0
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	20%	20%	20%	8%	8%	8%	6%	6%	6%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		12.1			12.1		47.0	45.3		52.0	47.8	
Effective Green, g (s)		12.1			12.1		47.0	45.3		52.0	47.8	
Actuated g/C Ratio		0.16			0.16		0.63	0.60		0.69	0.64	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		163			260		195	1038		573	1097	
v/s Ratio Prot							0.00	0.26		c0.01	c0.55	
v/s Ratio Perm		c0.09			0.07		0.10			0.07		
v/c Ratio		0.59			0.45		0.16	0.44		0.12	0.86	
Uniform Delay, d1		29.2			28.5		9.5	8.0		4.2	11.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.3			1.2		0.4	0.3		0.1	7.0	
Delay (s)		34.5			29.7		9.9	8.3		4.3	18.0	
Level of Service		C			C		A	A		A	B	
Approach Delay (s)		34.5			29.7			8.4			17.1	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	5	3	6	408	2	54	6	250	152	31	510	4
Future Volume (vph)	5	3	6	408	2	54	6	250	152	31	510	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.99		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.94		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1738		1717	1546		1701	1792	1491	1734	1824	
Flt Permitted		0.94		0.75	1.00		0.21	1.00	1.00	0.54	1.00	
Satd. Flow (perm)		1672		1350	1546		369	1792	1491	984	1824	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	6	3	7	474	2	63	7	291	177	36	593	5
RTOR Reduction (vph)	0	4	0	0	36	0	0	0	106	0	1	0
Lane Group Flow (vph)	0	12	0	474	29	0	7	291	71	36	597	0
Confl. Peds. (#/hr)			1	1			3		1	1		3
Heavy Vehicles (%)	0%	0%	0%	5%	5%	5%	6%	6%	6%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		22.3		22.3	22.3		20.9	20.9	20.9	20.9	20.9	
Effective Green, g (s)		22.3		22.3	22.3		20.9	20.9	20.9	20.9	20.9	
Actuated g/C Ratio		0.43		0.43	0.43		0.40	0.40	0.40	0.40	0.40	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		714		576	660		147	717	596	393	730	
v/s Ratio Prot					0.02			0.16			c0.33	
v/s Ratio Perm		0.01		c0.35			0.02		0.05	0.04		
v/c Ratio		0.02		0.82	0.04		0.05	0.41	0.12	0.09	0.82	
Uniform Delay, d1		8.6		13.2	8.7		9.6	11.2	9.9	9.7	14.0	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		9.3	0.0		0.1	0.4	0.1	0.1	7.1	
Delay (s)		8.6		22.5	8.8		9.7	11.6	9.9	9.8	21.1	
Level of Service		A		C	A		A	B	A	A	C	
Approach Delay (s)		8.6			20.8			10.9			20.4	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	15	63	54	255	482	18
Future Volume (Veh/h)	15	63	54	255	482	18
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	68	59	277	524	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				212		
pX, platoon unblocked	0.89					
vC, conflicting volume	929	534	544			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	860	534	544			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	88	94			
cM capacity (veh/h)	274	546	1025			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	84	336	544
Volume Left	16	59	0
Volume Right	68	0	20
cSH	459	1025	1700
Volume to Capacity	0.18	0.06	0.32
Queue Length 95th (ft)	17	5	0
Control Delay (s)	14.6	2.0	0.0
Lane LOS	B	A	
Approach Delay (s)	14.6	2.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.8

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	15	63	54	255	482	18
Future Vol, veh/h	15	63	54	255	482	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	68	59	277	524	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	929	534	543	0	-	0
Stage 1	534	-	-	-	-	-
Stage 2	395	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	297	546	1026	-	-	-
Stage 1	588	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	277	546	1026	-	-	-
Mov Cap-2 Maneuver	277	-	-	-	-	-
Stage 1	588	-	-	-	-	-
Stage 2	635	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	14.6	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1026	-	460	-	-
HCM Lane V/C Ratio	0.057	-	0.184	-	-
HCM Control Delay (s)	8.7	0	14.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	29	0	82	1	0	0	87	180	3	2	417	41
Future Volume (Veh/h)	29	0	82	1	0	0	87	180	3	2	417	41
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	0	89	1	0	0	95	196	3	2	453	45
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								691				
pX, platoon unblocked												
vC, conflicting volume	866	868	476	934	890	198	498			199		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	866	868	476	934	890	198	498			199		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	100	85	99	100	100	91			100		
cM capacity (veh/h)	255	264	589	195	257	844	1066			1373		

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1	SW 2
Volume Total	121	1	95	199	2	498
Volume Left	32	1	95	0	2	0
Volume Right	89	0	0	3	0	45
cSH	437	195	1066	1700	1373	1700
Volume to Capacity	0.28	0.01	0.09	0.12	0.00	0.29
Queue Length 95th (ft)	28	0	7	0	0	0
Control Delay (s)	16.3	23.6	8.7	0.0	7.6	0.0
Lane LOS	C	C	A		A	
Approach Delay (s)	16.3	23.6	2.8		0.0	
Approach LOS	C	C				

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	45.3%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	3.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	29	0	82	1	0	0	87	180	3	2	417	41
Future Vol, veh/h	29	0	82	1	0	0	87	180	3	2	417	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	0	89	1	0	0	95	196	3	2	453	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	866	868	476	910	888	197	498	0	0	199	0	0
Stage 1	480	480	-	386	386	-	-	-	-	-	-	-
Stage 2	386	388	-	524	502	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	274	290	589	255	283	844	1066	-	-	1373	-	-
Stage 1	567	554	-	637	610	-	-	-	-	-	-	-
Stage 2	637	609	-	537	542	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	255	264	589	201	257	844	1066	-	-	1373	-	-
Mov Cap-2 Maneuver	255	264	-	201	257	-	-	-	-	-	-	-
Stage 1	516	553	-	580	556	-	-	-	-	-	-	-
Stage 2	580	555	-	455	541	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	16.3	23	2.8	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1066	-	-	201	439	1373	-	-
HCM Lane V/C Ratio	0.089	-	-	0.005	0.275	0.002	-	-
HCM Control Delay (s)	8.7	-	-	23	16.3	7.6	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0	1.1	0	-	-



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	327	166	281	46	72	264
Future Volume (vph)	327	166	281	46	72	264
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3155	1455	3127		1736	3471
Flt Permitted	0.95	1.00	1.00		0.38	1.00
Satd. Flow (perm)	3155	1455	3127		686	3471
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	363	184	312	51	80	293
RTOR Reduction (vph)	0	113	24	0	0	0
Lane Group Flow (vph)	363	71	339	0	80	293
Heavy Vehicles (%)	11%	11%	13%	13%	4%	4%
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	10.1	15.0	10.6		20.0	20.0
Effective Green, g (s)	10.1	15.0	10.6		20.0	20.0
Actuated g/C Ratio	0.26	0.38	0.27		0.51	0.51
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	814	725	847		482	1775
v/s Ratio Prot	c0.12	0.01	c0.11		0.02	c0.08
v/s Ratio Perm		0.04			0.06	
v/c Ratio	0.45	0.10	0.40		0.17	0.17
Uniform Delay, d1	12.2	7.7	11.7		5.2	5.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.3		0.2	0.0
Delay (s)	12.5	7.8	12.0		5.3	5.1
Level of Service	B	A	B		A	A
Approach Delay (s)	10.9		12.0			5.2
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	39.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



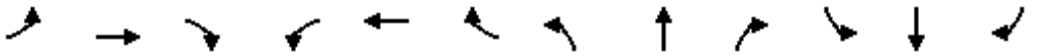
Movement	NWL	NWR	NET	NER	SWL	SWT
Right Turn Channelized				MOYes		
Traffic Volume (veh/h)	75	67	180	235	282	267
Future Volume (veh/h)	75	67	180	235	282	267
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	85	76	205	267	320	303
Approach Volume (veh/h)	161		205			623
Crossing Volume (veh/h)	205		320			85
High Capacity (veh/h)	1179		1077			1296
High v/c (veh/h)	0.14		0.19			0.48
Low Capacity (veh/h)	975		883			1080
Low v/c (veh/h)	0.17		0.23			0.58

Intersection Summary			
Maximum v/c High	0.48		
Maximum v/c Low	0.58		
Intersection Capacity Utilization	57.4%	ICU Level of Service	B

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Approach	NW	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	161	472	623
Demand Flow Rate, veh/h	174	520	642
Vehicles Circulating, veh/h	225	330	92
Vehicles Exiting, veh/h	330	404	307
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.3	3.5	12.5
Approach LOS	A	A	B

Lane	Left	Left	Bypass	Left
Designated Moves	LR	T	R	LT
Assumed Moves	LR	T	R	LT
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Critical Headway, s	5.193	5.193		5.193
Entry Flow, veh/h	174	226	294	642
Cap Entry Lane, veh/h	902	812	2090	1031
Entry HV Adj Factor	0.925	0.909	0.909	0.970
Flow Entry, veh/h	161	205	267	623
Cap Entry, veh/h	835	738	1900	1000
V/C Ratio	0.193	0.278	0.141	0.623
Control Delay, s/veh	6.3	8.1	0.0	12.5
LOS	A	A	A	B
95th %tile Queue, veh	1	1	0	5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	107	0	0	487	0	2558	156	0	1816	492
Future Volume (vph)	0	0	107	0	0	487	0	2558	156	0	1816	492
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frpb, ped/bikes			1.00			1.00		1.00	0.98		1.00	1.00
Flpb, ped/bikes			1.00			1.00		1.00	1.00		1.00	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2760			2538		4988	1521		4893	1524
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2760			2538		4988	1521		4893	1524
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	110	0	0	502	0	2637	161	0	1872	507
RTOR Reduction (vph)	0	0	19	0	0	19	0	0	63	0	0	199
Lane Group Flow (vph)	0	0	91	0	0	483	0	2637	98	0	1872	308
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	12%	12%	12%	4%	4%	4%	6%	6%	6%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)			15.7			15.7		38.1	38.1		38.1	38.1
Effective Green, g (s)			15.7			15.7		38.1	38.1		38.1	38.1
Actuated g/C Ratio			0.25			0.25		0.61	0.61		0.61	0.61
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			690			634		3026	922		2968	924
v/s Ratio Prot								c0.53			0.38	
v/s Ratio Perm			0.03			c0.19			0.06			0.20
v/c Ratio			0.13			0.76		0.87	0.11		0.63	0.33
Uniform Delay, d1			18.3			21.8		10.3	5.2		7.9	6.1
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.1			5.4		3.0	0.1		0.4	0.2
Delay (s)			18.4			27.2		13.3	5.2		8.3	6.3
Level of Service			B			C		B	A		A	A
Approach Delay (s)		18.4			27.2			12.9			7.9	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	909	328	1309	243	511	1717
Future Volume (vph)	909	328	1309	243	511	1717
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	1568	5085	1526	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	1568	5085	1526	1770	5085
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	937	338	1349	251	527	1770
RTOR Reduction (vph)	0	0	0	180	0	0
Lane Group Flow (vph)	937	338	1349	71	527	1770
Confl. Peds. (#/hr)				6	6	
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	24.6	51.1	25.4	25.4	26.5	56.4
Effective Green, g (s)	24.6	51.1	25.4	25.4	26.5	56.4
Actuated g/C Ratio	0.27	0.57	0.28	0.28	0.29	0.63
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	929	968	1435	430	521	3186
v/s Ratio Prot	c0.28	0.10	c0.27		c0.30	0.35
v/s Ratio Perm		0.11		0.05		
v/c Ratio	1.01	0.35	0.94	0.16	1.01	0.56
Uniform Delay, d1	32.7	10.5	31.6	24.3	31.8	9.6
Progression Factor	1.00	1.00	0.93	2.28	1.00	1.00
Incremental Delay, d2	31.7	0.2	11.2	0.7	42.3	0.7
Delay (s)	64.4	10.7	40.4	56.0	74.1	10.3
Level of Service	E	B	D	E	E	B
Approach Delay (s)	50.1		42.9			25.0
Approach LOS	D		D			C

Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	129	455	1161	846	432	2119
Future Volume (vph)	129	455	1161	846	432	2119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	5036	1510	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	5036	1510	1770	5085
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	132	464	1185	863	441	2162
RTOR Reduction (vph)	0	389	0	313	0	0
Lane Group Flow (vph)	132	75	1185	550	441	2162
Confl. Peds. (#/hr)				7	7	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	12.3	12.3	37.8	37.8	26.4	68.7
Effective Green, g (s)	12.3	12.3	37.8	37.8	26.4	68.7
Actuated g/C Ratio	0.14	0.14	0.42	0.42	0.29	0.76
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	241	216	2115	634	519	3881
v/s Ratio Prot	c0.07		0.24		c0.25	0.43
v/s Ratio Perm		0.05		c0.36		
v/c Ratio	0.55	0.35	0.56	0.87	0.85	0.56
Uniform Delay, d1	36.3	35.2	19.8	23.8	29.9	4.4
Progression Factor	1.00	1.00	1.00	1.00	0.94	0.79
Incremental Delay, d2	2.5	1.0	1.1	14.9	8.9	0.4
Delay (s)	38.8	36.2	20.9	38.8	37.0	3.9
Level of Service	D	D	C	D	D	A
Approach Delay (s)	36.7		28.4			9.5
Approach LOS	D		C			A

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1714	13	0	2271	0	243
Future Volume (Veh/h)	1714	13	0	2271	0	243
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1804	14	0	2391	0	256
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.64		0.73	0.64
vC, conflicting volume			1821		2611	912
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1159		966	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	63
cM capacity (veh/h)			379		184	693

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1203	615	797	797	797	256
Volume Left	0	0	0	0	0	0
Volume Right	0	14	0	0	0	256
cSH	1700	1700	1700	1700	1700	693
Volume to Capacity	0.71	0.36	0.47	0.47	0.47	0.37
Queue Length 95th (ft)	0	0	0	0	0	43
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.2
Lane LOS						B
Approach Delay (s)	0.0		0.0			13.2
Approach LOS						B

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	69.5%	ICU Level of Service		C
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	1.5

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1714	13	0	2271	0	243
Future Vol, veh/h	1714	13	0	2271	0	243
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1804	14	0	2391	0	256

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	912
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	425
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	424
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	25.6
HCM LOS			D

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	424	-
HCM Lane V/C Ratio	-	-	0.603	-
HCM Control Delay (s)	-	-	25.6	-
HCM Lane LOS	-	-	D	-
HCM 95th %tile Q(veh)	-	-	3.9	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1345	53	455	1857	71	376
Future Volume (vph)	1345	53	455	1857	71	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3449		1770	3539	1787	1599
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	3449		135	3539	1787	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1387	55	469	1914	73	388
RTOR Reduction (vph)	2	0	0	0	0	9
Lane Group Flow (vph)	1440	0	469	1914	73	379
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	4%	4%	2%	2%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	50.6		82.7	82.7	8.3	35.9
Effective Green, g (s)	50.6		82.7	82.7	8.3	35.9
Actuated g/C Ratio	0.51		0.83	0.83	0.08	0.36
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1745		562	2926	148	645
v/s Ratio Prot	0.42		c0.23	0.54	0.04	c0.16
v/s Ratio Perm			c0.46			0.08
v/c Ratio	0.82		0.83	0.65	0.49	0.59
Uniform Delay, d1	20.9		27.7	3.3	43.8	26.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.6		10.3	0.5	2.6	1.4
Delay (s)	25.5		38.0	3.8	46.4	27.4
Level of Service	C		D	A	D	C
Approach Delay (s)	25.5			10.5	30.4	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	26	448	30	74	425	12	21	21	164	2	18	24
Future Volume (Veh/h)	26	448	30	74	425	12	21	21	164	2	18	24
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	28	477	32	79	452	13	22	22	174	2	19	26
Pedestrians		1			7			9				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			1				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.95						0.95	0.95		0.95	0.95	0.95
vC, conflicting volume	465			518			1211	1181	509	1254	1190	460
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	408			518			1195	1164	509	1241	1174	402
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			92			82	87	68	98	88	96
cM capacity (veh/h)	1096			1039			122	163	552	81	164	618

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	28	509	544	218	47
Volume Left	28	0	79	22	2
Volume Right	0	32	13	174	26
cSH	1096	1700	1039	691	257
Volume to Capacity	0.03	0.30	0.08	0.32	0.18
Queue Length 95th (ft)	2	0	6	34	16
Control Delay (s)	8.4	0.0	2.1	19.9	22.1
Lane LOS	A		A	C	C
Approach Delay (s)	0.4		2.1	19.9	22.1
Approach LOS				C	C

Intersection Summary				
Average Delay	5.0			
Intersection Capacity Utilization	72.5%	ICU Level of Service	C	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	4.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	26	448	30	74	425	12	21	21	164	2	18	24
Future Vol, veh/h	26	448	30	74	425	12	21	21	164	2	18	24
Conflicting Peds, #/hr	0	0	9	9	0	0	1	0	7	7	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	2	2	2	4	4	4	0	0	0
Mvmt Flow	28	477	32	79	452	13	22	22	174	2	19	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	465	0	0	518	0	0	1196	1179	509	1182	1189	460
Stage 1	-	-	-	-	-	-	557	557	-	616	616	-
Stage 2	-	-	-	-	-	-	639	622	-	566	573	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.14	6.54	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.536	4.036	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	1102	-	-	1048	-	-	161	189	560	168	190	605
Stage 1	-	-	-	-	-	-	511	509	-	481	485	-
Stage 2	-	-	-	-	-	-	461	476	-	513	507	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1101	-	-	1041	-	-	126	164	551	92	165	604
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	164	-	92	165	-
Stage 1	-	-	-	-	-	-	494	492	-	469	435	-
Stage 2	-	-	-	-	-	-	378	427	-	324	490	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.4	1.3	19.9	22
HCM LOS			C	C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	143	551	1041	-	-	1101	-	-	258
HCM Lane V/C Ratio	0.312	0.317	0.076	-	-	0.025	-	-	0.181
HCM Control Delay (s)	41.2	14.5	8.7	0	-	8.4	-	-	22
HCM Lane LOS	E	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	1.2	1.4	0.2	-	-	0.1	-	-	0.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	521	127	0	354	303	92	190	18	310	273	29
Future Volume (vph)	0	521	127	0	354	303	92	190	18	310	273	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1881	1533		1863	1529	1770	1834		1770	1830	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1881	1533		1863	1529	1770	1834		1770	1830	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	554	135	0	377	322	98	202	19	330	290	31
RTOR Reduction (vph)	0	0	56	0	0	208	0	5	0	0	5	0
Lane Group Flow (vph)	0	554	79	0	377	114	98	216	0	330	316	0
Confl. Peds. (#/hr)	8		12	12		8	7		4	4		7
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA	Perm		NA	Perm	Split	NA		Split	NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases			6			2						
Actuated Green, G (s)		23.3	23.3		23.3	23.3	13.0	13.0		16.2	16.2	
Effective Green, g (s)		23.3	23.3		23.3	23.3	13.0	13.0		16.2	16.2	
Actuated g/C Ratio		0.35	0.35		0.35	0.35	0.20	0.20		0.25	0.25	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		664	541		657	539	348	361		434	449	
v/s Ratio Prot		c0.29			0.20		0.06	c0.12		c0.19	0.17	
v/s Ratio Perm			0.05			0.07						
v/c Ratio		0.83	0.15		0.57	0.21	0.28	0.60		0.76	0.70	
Uniform Delay, d1		19.6	14.6		17.3	14.9	22.5	24.1		23.1	22.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		8.9	0.1		1.2	0.2	0.4	2.7		7.7	4.9	
Delay (s)		28.5	14.7		18.5	15.1	23.0	26.8		30.8	27.7	
Level of Service		C	B		B	B	C	C		C	C	
Approach Delay (s)		25.8			17.0			25.6			29.2	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	66.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	397	46	199	15	65	9	231	261	10	6	373	162
Future Volume (vph)	397	46	199	15	65	9	231	261	10	6	373	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.95	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1794	1535		1798		1787	1868		1745	1744	
Flt Permitted		0.71	1.00		0.89		0.13	1.00		0.58	1.00	
Satd. Flow (perm)		1340	1535		1613		249	1868		1065	1744	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	432	50	216	16	71	10	251	284	11	7	405	176
RTOR Reduction (vph)	0	0	139	0	5	0	0	2	0	0	19	0
Lane Group Flow (vph)	0	482	77	0	92	0	251	293	0	7	562	0
Confl. Peds. (#/hr)	2		9	9		2	5		5	5		5
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		29.3	29.3		29.3		43.8	38.3		31.5	30.5	
Effective Green, g (s)		29.3	29.3		29.3		43.8	38.3		31.5	30.5	
Actuated g/C Ratio		0.36	0.36		0.36		0.53	0.47		0.38	0.37	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		478	547		575		297	871		416	647	
v/s Ratio Prot							c0.09	0.16		0.00	0.32	
v/s Ratio Perm		c0.36	0.05		0.06		c0.36			0.01		
v/c Ratio		1.01	0.14		0.16		0.85	0.34		0.02	0.87	
Uniform Delay, d1		26.4	17.9		18.0		15.8	13.9		15.7	23.9	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		43.3	0.1		0.1		19.3	0.2		0.0	11.9	
Delay (s)		69.7	18.0		18.1		35.1	14.1		15.7	35.8	
Level of Service		E	B		B		D	B		B	D	
Approach Delay (s)		53.7			18.1			23.7			35.6	
Approach LOS		D			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	37.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	82.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	44	9	15	30	126	34	33	573	59	46	492	128
Future Volume (vph)	44	9	15	30	126	34	33	573	59	46	492	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.99		1.00	0.97	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1612			1794		1786	1851		1769	1794	
Flt Permitted		0.73			0.94		0.26	1.00		0.22	1.00	
Satd. Flow (perm)		1216			1703		492	1851		412	1794	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	47	10	16	32	134	36	35	610	63	49	523	136
RTOR Reduction (vph)	0	13	0	0	13	0	0	5	0	0	13	0
Lane Group Flow (vph)	0	60	0	0	189	0	35	668	0	49	646	0
Confl. Peds. (#/hr)	3		4	4		3	6		3	3		6
Heavy Vehicles (%)	10%	10%	10%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		11.3			11.3		28.6	26.9		30.4	27.8	
Effective Green, g (s)		11.3			11.3		28.6	26.9		30.4	27.8	
Actuated g/C Ratio		0.21			0.21		0.53	0.50		0.56	0.51	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		253			354		299	916		295	918	
v/s Ratio Prot							0.00	c0.36		c0.01	0.36	
v/s Ratio Perm		0.05			c0.11		0.06			0.08		
v/c Ratio		0.24			0.53		0.12	0.73		0.17	0.70	
Uniform Delay, d1		17.9			19.1		7.1	10.8		7.0	10.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			1.5		0.2	2.9		0.3	2.5	
Delay (s)		18.4			20.7		7.3	13.8		7.3	12.6	
Level of Service		B			C		A	B		A	B	
Approach Delay (s)		18.4			20.7			13.4			12.2	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	54.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	6	1	12	203	3	40	12	307	338	40	433	6
Future Volume (vph)	6	1	12	203	3	40	12	307	338	40	433	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.99		1.00	0.98		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.92		1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1690		1734	1539		1784	1881	1562	1749	1840	
Flt Permitted		0.93		0.74	1.00		0.40	1.00	1.00	0.54	1.00	
Satd. Flow (perm)		1601		1357	1539		753	1881	1562	997	1840	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	7	1	13	226	3	44	13	341	376	44	481	7
RTOR Reduction (vph)	0	9	0	0	31	0	0	0	195	0	1	0
Lane Group Flow (vph)	0	12	0	226	16	0	13	341	181	44	487	0
Confl. Peds. (#/hr)	1		1	1		1	3		3	3		3
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		12.4		12.4	12.4		19.8	19.8	19.8	19.8	19.8	
Effective Green, g (s)		12.4		12.4	12.4		19.8	19.8	19.8	19.8	19.8	
Actuated g/C Ratio		0.30		0.30	0.30		0.48	0.48	0.48	0.48	0.48	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		481		408	463		361	903	750	479	884	
v/s Ratio Prot					0.01			0.18			c0.26	
v/s Ratio Perm		0.01		c0.17			0.02		0.12	0.04		
v/c Ratio		0.02		0.55	0.04		0.04	0.38	0.24	0.09	0.55	
Uniform Delay, d1		10.1		12.1	10.2		5.7	6.8	6.3	5.8	7.6	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		1.6	0.0		0.0	0.3	0.2	0.1	0.7	
Delay (s)		10.2		13.7	10.2		5.7	7.1	6.5	5.9	8.3	
Level of Service		B		B	B		A	A	A	A	A	
Approach Delay (s)		10.2			13.1			6.7			8.1	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	41.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	15	22	24	329	457	20
Future Volume (Veh/h)	15	22	24	329	457	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	24	26	358	497	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				212		
pX, platoon unblocked	0.89					
vC, conflicting volume	918	508	519			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	843	508	519			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	96	98			
cM capacity (veh/h)	289	565	1047			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	40	384	519
Volume Left	16	26	0
Volume Right	24	0	22
cSH	408	1047	1700
Volume to Capacity	0.10	0.02	0.31
Queue Length 95th (ft)	8	2	0
Control Delay (s)	14.8	0.8	0.0
Lane LOS	B	A	
Approach Delay (s)	14.8	0.8	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.9

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	15	22	24	329	457	20
Future Vol, veh/h	15	22	24	329	457	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	24	26	358	497	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	918	508	518	0	-	0
Stage 1	508	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	302	565	1048	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	293	565	1048	-	-	-
Mov Cap-2 Maneuver	293	-	-	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	649	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	14.7	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1048	-	411	-	-
HCM Lane V/C Ratio	0.025	-	0.098	-	-
HCM Control Delay (s)	8.5	0	14.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	35	0	52	2	0	1	55	288	1	0	423	42
Future Volume (Veh/h)	35	0	52	2	0	1	55	288	1	0	423	42
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	0	57	2	0	1	60	313	1	0	460	46
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								691				
pX, platoon unblocked												
vC, conflicting volume	917	917	483	950	940	314	506			314		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	917	917	483	950	940	314	506			314		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	84	100	90	99	100	100	94			100		
cM capacity (veh/h)	241	257	584	207	249	727	1059			1246		

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1	SW 2
Volume Total	95	3	60	314	0	506
Volume Left	38	2	60	0	0	0
Volume Right	57	1	0	1	0	46
cSH	372	272	1059	1700	1700	1700
Volume to Capacity	0.26	0.01	0.06	0.18	0.00	0.30
Queue Length 95th (ft)	25	1	4	0	0	0
Control Delay (s)	17.9	18.4	8.6	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s)	17.9	18.4	1.4		0.0	
Approach LOS	C	C				

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	43.4%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	2.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	35	0	52	2	0	1	55	288	1	0	423	42
Future Vol, veh/h	35	0	52	2	0	1	55	288	1	0	423	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	0	57	2	0	1	60	313	1	0	460	46

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	917	917	483	944	938	314	505	0	0	314	0	0
Stage 1	483	483	-	433	433	-	-	-	-	-	-	-
Stage 2	434	434	-	511	505	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	253	272	584	242	264	726	1060	-	-	1246	-	-
Stage 1	565	553	-	601	582	-	-	-	-	-	-	-
Stage 2	600	581	-	545	540	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	242	257	584	209	249	726	1060	-	-	1246	-	-
Mov Cap-2 Maneuver	242	257	-	209	249	-	-	-	-	-	-	-
Stage 1	533	553	-	567	549	-	-	-	-	-	-	-
Stage 2	565	548	-	492	540	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	17.9	18.3	1.4	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1060	-	-	274	372	1246	-	-
HCM Lane V/C Ratio	0.056	-	-	0.012	0.254	-	-	-
HCM Control Delay (s)	8.6	-	-	18.3	17.9	0	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0	1	0	-	-



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	369	277	367	118	78	181
Future Volume (vph)	369	277	367	118	78	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3367	1553	3398		1735	3471
Flt Permitted	0.95	1.00	1.00		0.29	1.00
Satd. Flow (perm)	3367	1553	3398		536	3471
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	415	311	412	133	88	203
RTOR Reduction (vph)	0	131	56	0	0	0
Lane Group Flow (vph)	415	180	489	0	88	203
Confl. Peds. (#/hr)				2	2	
Heavy Vehicles (%)	4%	4%	2%	2%	4%	4%
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	10.8	17.5	12.5		23.7	23.7
Effective Green, g (s)	10.8	17.5	12.5		23.7	23.7
Actuated g/C Ratio	0.25	0.40	0.29		0.54	0.54
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	835	785	976		476	1891
v/s Ratio Prot	c0.12	c0.04	c0.14		0.03	0.06
v/s Ratio Perm		0.08			0.07	
v/c Ratio	0.50	0.23	0.50		0.18	0.11
Uniform Delay, d1	14.0	8.6	12.9		5.2	4.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.5	0.1	0.4		0.2	0.0
Delay (s)	14.5	8.7	13.3		5.4	4.8
Level of Service	B	A	B		A	A
Approach Delay (s)	12.0		13.3			5.0
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	43.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



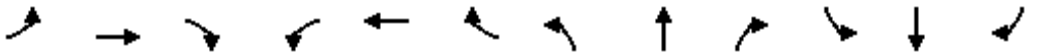
Movement	NWL	NWR	NET	NER	SWL	SWT
Right Turn Channelized				MOYes		
Traffic Volume (veh/h)	82	105	347	282	192	185
Future Volume (veh/h)	82	105	347	282	192	185
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	91	117	386	313	213	206
Approach Volume (veh/h)	208		386			419
Crossing Volume (veh/h)	386		213			91
High Capacity (veh/h)	1022		1172			1290
High v/c (veh/h)	0.20		0.33			0.32
Low Capacity (veh/h)	834		968			1075
Low v/c (veh/h)	0.25		0.40			0.39

Intersection Summary				
Maximum v/c High		0.33		
Maximum v/c Low		0.40		
Intersection Capacity Utilization		59.6%	ICU Level of Service	B

Intersection	
Intersection Delay, s/veh	6.7
Intersection LOS	A

Approach	NW	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	208	699	419
Demand Flow Rate, veh/h	224	720	427
Vehicles Circulating, veh/h	398	217	98
Vehicles Exiting, veh/h	217	308	524
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	4	0	0
Ped Cap Adj	0.999	1.000	1.000
Approach Delay, s/veh	8.7	5.2	8.2
Approach LOS	A	A	A

Lane	Left	Left	Bypass	Left
Designated Moves	LR	T	R	LT
Assumed Moves	LR	T	R	LT
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Critical Headway, s	5.193	5.193		5.193
Entry Flow, veh/h	224	398	322	427
Cap Entry Lane, veh/h	759	910	1957	1024
Entry HV Adj Factor	0.929	0.971	0.971	0.981
Flow Entry, veh/h	208	386	313	419
Cap Entry, veh/h	704	883	1900	1005
V/C Ratio	0.295	0.438	0.165	0.417
Control Delay, s/veh	8.7	9.4	0.0	8.2
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	186	0	0	437	0	2074	142	0	3236	613
Future Volume (vph)	0	0	186	0	0	437	0	2074	142	0	3236	613
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2814			2760		5085	1583		5085	1583
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2814			2760		5085	1583		5085	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	192	0	0	451	0	2138	146	0	3336	632
RTOR Reduction (vph)	0	0	15	0	0	24	0	0	42	0	0	184
Lane Group Flow (vph)	0	0	177	0	0	427	0	2138	104	0	3336	448
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)			16.8			16.8		63.0	63.0		63.0	63.0
Effective Green, g (s)			16.8			16.8		63.0	63.0		63.0	63.0
Actuated g/C Ratio			0.19			0.19		0.71	0.71		0.71	0.71
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			532			522		3607	1123		3607	1123
v/s Ratio Prot								0.42			c0.66	
v/s Ratio Perm			0.06			c0.15			0.07			0.28
v/c Ratio			0.33			0.82		0.59	0.09		0.92	0.40
Uniform Delay, d1			31.2			34.5		6.5	4.0		10.9	5.2
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.4			9.6		0.3	0.0		4.7	0.2
Delay (s)			31.5			44.1		6.7	4.0		15.6	5.5
Level of Service			C			D		A	A		B	A
Approach Delay (s)		31.5			44.1			6.6			14.0	
Approach LOS		C			D			A			B	

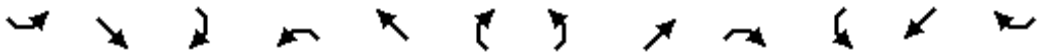
Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	88.8	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1532	25	336	966	80	533
Future Volume (vph)	1532	25	336	966	80	533
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	0.95
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	0.89	0.85
Flt Protected	1.00		0.95	1.00	0.99	1.00
Satd. Flow (prot)	3397		1703	3406	1603	1475
Flt Permitted	1.00		0.07	1.00	0.99	1.00
Satd. Flow (perm)	3397		128	3406	1603	1475
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1630	27	357	1028	85	567
RTOR Reduction (vph)	1	0	0	0	105	8
Lane Group Flow (vph)	1656	0	357	1028	224	315
Confl. Peds. (#/hr)		1	1		3	
Heavy Vehicles (%)	6%	6%	6%	6%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	51.7		74.5	74.5	16.5	34.8
Effective Green, g (s)	51.7		74.5	74.5	16.5	34.8
Actuated g/C Ratio	0.52		0.74	0.74	0.16	0.35
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1756		383	2537	264	579
v/s Ratio Prot	0.49		c0.17	0.30	c0.14	0.10
v/s Ratio Perm			c0.52			0.11
v/c Ratio	0.94		0.93	0.41	0.85	0.54
Uniform Delay, d1	22.8		32.2	4.7	40.5	26.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	11.7		29.3	0.1	21.5	1.0
Delay (s)	34.4		61.5	4.8	62.0	27.3
Level of Service	C		E	A	E	C
Approach Delay (s)	34.4			19.4	44.8	
Approach LOS	C			B	D	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	22	307	29	133	597	12	6	25	62	0	12	11
Future Volume (vph)	22	307	29	133	597	12	6	25	62	0	12	11
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	24	330	31	143	642	13	6	27	67	0	13	12

Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NE 1	NE 2	SW 1
Volume Total (vph)	189	196	464	334	33	67	25
Volume Left (vph)	24	0	143	0	6	0	0
Volume Right (vph)	0	31	0	13	0	67	12
Hadj (s)	0.13	-0.04	0.21	0.02	0.24	-0.55	-0.29
Departure Headway (s)	6.0	5.8	5.6	5.4	7.3	6.5	6.7
Degree Utilization, x	0.31	0.32	0.72	0.50	0.07	0.12	0.05
Capacity (veh/h)	576	599	636	654	452	503	488
Control Delay (s)	10.5	10.3	20.3	12.5	9.6	9.2	10.1
Approach Delay (s)	10.4		17.1		9.4		10.1
Approach LOS	B		C		A		B

Intersection Summary				
Delay	14.4			
Level of Service	B			
Intersection Capacity Utilization	49.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	15.5
Intersection LOS	C

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	22	307	29	0	133	597	12	0	6	25	62
Future Vol, veh/h	0	22	307	29	0	133	597	12	0	6	25	62
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	4	4	4	2	3	3	3	2	9	9	9
Mvmt Flow	0	24	330	31	0	143	642	13	0	6	27	67
Number of Lanes	0	0	2	0	0	0	2	0	0	0	1	1

Approach	SE	NW	NE
Opposing Approach	NW	SE	SW
Opposing Lanes	2	2	1
Conflicting Approach Left	SW	NE	SE
Conflicting Lanes Left	1	2	2
Conflicting Approach Right	NE	SW	NW
Conflicting Lanes Right	2	1	2
HCM Control Delay	11.4	18.2	10.4
HCM LOS	B	C	B

Lane	NELn1	NELn2	NWLn1	NWLn2	SELn1	SELn2	SWLn1
Vol Left, %	19%	0%	31%	0%	13%	0%	0%
Vol Thru, %	81%	0%	69%	96%	87%	84%	52%
Vol Right, %	0%	100%	0%	4%	0%	16%	48%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	62	432	311	176	183	23
LT Vol	6	0	133	0	22	0	0
Through Vol	25	0	299	299	154	154	12
RT Vol	0	62	0	12	0	29	11
Lane Flow Rate	33	67	464	334	189	196	25
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.069	0.122	0.722	0.503	0.315	0.318	0.048
Departure Headway (Hd)	7.419	6.607	5.605	5.422	6.009	5.833	6.917
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	543	645	664	598	616	518
Service Time	5.159	4.347	3.329	3.146	3.742	3.566	4.956
HCM Lane V/C Ratio	0.068	0.123	0.719	0.503	0.316	0.318	0.048
HCM Control Delay	10.7	10.3	21.6	13.5	11.5	11.3	10.3
HCM Lane LOS	B	B	C	B	B	B	B
HCM 95th-tile Q	0.2	0.4	6.1	2.8	1.3	1.4	0.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	12	11
Future Vol, veh/h	0	0	12	11
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	13	12
Number of Lanes	0	0	1	0

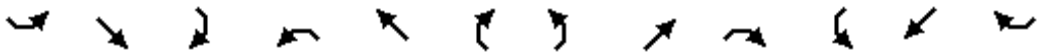
Approach	SW
Opposing Approach	NE
Opposing Lanes	2
Conflicting Approach Left	NW
Conflicting Lanes Left	2
Conflicting Approach Right	SE
Conflicting Lanes Right	2
HCM Control Delay	10.3
HCM LOS	B



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1345	53	455	1857	71	376
Future Volume (vph)	1345	53	455	1857	71	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	0.95
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	0.90	0.85
Flt Protected	1.00		0.95	1.00	0.98	1.00
Satd. Flow (prot)	3449		1770	3539	1661	1519
Flt Permitted	1.00		0.08	1.00	0.98	1.00
Satd. Flow (perm)	3449		141	3539	1661	1519
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1387	55	469	1914	73	388
RTOR Reduction (vph)	3	0	0	0	85	9
Lane Group Flow (vph)	1439	0	469	1914	151	216
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	4%	4%	2%	2%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	48.3		77.6	77.6	13.4	38.2
Effective Green, g (s)	48.3		77.6	77.6	13.4	38.2
Actuated g/C Ratio	0.48		0.78	0.78	0.13	0.38
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1665		513	2746	222	648
v/s Ratio Prot	0.42		c0.23	0.54	c0.09	0.08
v/s Ratio Perm			c0.48			0.06
v/c Ratio	0.86		0.91	0.70	0.68	0.33
Uniform Delay, d1	22.9		29.9	5.5	41.3	21.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	6.3		20.8	0.8	8.3	0.3
Delay (s)	29.2		50.7	6.3	49.6	22.2
Level of Service	C		D	A	D	C
Approach Delay (s)	29.2			15.0	36.2	
Approach LOS	C			B	D	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	26	448	30	74	425	12	21	21	164	2	18	24
Future Volume (vph)	26	448	30	74	425	12	21	21	164	2	18	24
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	28	477	32	79	452	13	22	22	174	2	19	26

Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NE 1	NE 2	SW 1
Volume Total (vph)	267	271	305	239	44	174	47
Volume Left (vph)	28	0	79	0	22	0	2
Volume Right (vph)	0	32	0	13	0	174	26
Hadj (s)	0.07	-0.07	0.16	0.00	0.32	-0.63	-0.32
Departure Headway (s)	6.2	6.1	6.3	6.1	7.5	6.5	7.0
Degree Utilization, x	0.46	0.46	0.53	0.41	0.09	0.31	0.09
Capacity (veh/h)	557	575	557	570	448	513	458
Control Delay (s)	13.2	12.9	15.0	12.0	10.0	11.2	10.8
Approach Delay (s)	13.0		13.7		11.0		10.8
Approach LOS	B		B		B		B

Intersection Summary				
Delay	12.9			
Level of Service	B			
Intersection Capacity Utilization	48.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	14
Intersection LOS	B

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	26	448	30	0	74	425	12	0	21	21	164
Future Vol, veh/h	0	26	448	30	0	74	425	12	0	21	21	164
Peak Hour Factor	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	1	1	1	2	2	2	2	2	4	4	4
Mvmt Flow	0	28	477	32	0	79	452	13	0	22	22	174
Number of Lanes	0	0	2	0	0	0	2	0	0	0	1	1

Approach	SE	NW	NE
Opposing Approach	NW	SE	SW
Opposing Lanes	2	2	1
Conflicting Approach Left	SW	NE	SE
Conflicting Lanes Left	1	2	2
Conflicting Approach Right	NE	SW	NW
Conflicting Lanes Right	2	1	2
HCM Control Delay	14.1	14.8	12.1
HCM LOS	B	B	B

Lane	NELn1	NELn2	NWLn1	NWLn2	SELn1	SELn2	SWLn1
Vol Left, %	50%	0%	26%	0%	10%	0%	5%
Vol Thru, %	50%	0%	74%	95%	90%	88%	41%
Vol Right, %	0%	100%	0%	5%	0%	12%	55%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	164	287	225	250	254	44
LT Vol	21	0	74	0	26	0	2
Through Vol	21	0	213	213	224	224	18
RT Vol	0	164	0	12	0	30	24
Lane Flow Rate	45	174	305	239	266	270	47
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.094	0.318	0.535	0.408	0.461	0.459	0.095
Departure Headway (Hd)	7.538	6.569	6.321	6.152	6.246	6.109	7.279
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	474	544	567	583	574	586	489
Service Time	5.312	4.342	4.086	3.916	4.01	3.873	5.37
HCM Lane V/C Ratio	0.095	0.32	0.538	0.41	0.463	0.461	0.096
HCM Control Delay	11.1	12.4	16.2	13.1	14.3	14	11.1
HCM Lane LOS	B	B	C	B	B	B	B
HCM 95th-tile Q	0.3	1.4	3.1	2	2.4	2.4	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	2	18	24
Future Vol, veh/h	0	2	18	24
Peak Hour Factor	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	2	19	26
Number of Lanes	0	0	1	0

Approach	SW
Opposing Approach	NE
Opposing Lanes	2
Conflicting Approach Left	NW
Conflicting Lanes Left	2
Conflicting Approach Right	SE
Conflicting Lanes Right	2
HCM Control Delay	11.1
HCM LOS	B

Intersection: 4: OR-99E & 14th Street

Movement	NB	NB	SB	SB	SB	NW	NW
Directions Served	T	TR	L	T	T	LR	R
Maximum Queue (ft)	618	610	312	199	180	126	133
Average Queue (ft)	458	408	176	99	54	115	113
95th Queue (ft)	657	627	279	168	125	123	133
Link Distance (ft)	569	569	665	665	665	109	109
Upstream Blk Time (%)	11	8				36	23
Queuing Penalty (veh)	0	0				111	72
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Main Street & 14th Street

Movement	SE	SE	NW	NW	NE	NE	SW
Directions Served	LT	TR	LT	TR	LT	R	LTR
Maximum Queue (ft)	130	117	413	383	67	73	40
Average Queue (ft)	64	70	239	175	24	33	19
95th Queue (ft)	104	109	406	347	56	61	44
Link Distance (ft)	109	109	461	461	296		163
Upstream Blk Time (%)	0	0	1	0			
Queuing Penalty (veh)	0	1	0	0			
Storage Bay Dist (ft)						130	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 184

Intersection: 4: OR-99E & 14th Street

Movement	NB	NB	SB	SB	SB	NW	NW
Directions Served	T	TR	L	T	T	LR	R
Maximum Queue (ft)	595	597	469	401	275	121	127
Average Queue (ft)	444	397	239	179	122	110	92
95th Queue (ft)	651	611	381	304	223	131	134
Link Distance (ft)	569	569	580	580	580	109	109
Upstream Blk Time (%)	9	6	0	0		18	4
Queuing Penalty (veh)	0	0	0	0		43	9
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Main Street & 14th Street

Movement	SE	SE	NW	NW	NE	NE	SW
Directions Served	LT	TR	LT	TR	LT	R	LTR
Maximum Queue (ft)	133	141	227	187	68	86	41
Average Queue (ft)	81	84	96	44	29	46	25
95th Queue (ft)	123	126	180	123	57	73	48
Link Distance (ft)	109	109	468	468	296		163
Upstream Blk Time (%)	1	1					
Queuing Penalty (veh)	1	2					
Storage Bay Dist (ft)						130	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 56

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	4	0	4	0	8	0	4	0	4	0	4	0	0
TURNING MOVEMENTS	0	2	1	3	0	2	0	2	1	3	0	3	0	0
YEAR 2015 TOTAL	**0**	**6**	**1**	**7**	**0**	**10**	**0**	**6**	**1**	**7**	**0**	**7**	**0**	**0**
YEAR: 2014														
REAR-END	0	2	0	2	0	3	0	2	0	1	1	2	0	0
TURNING MOVEMENTS	0	1	2	3	0	1	0	3	0	2	1	3	0	0
YEAR 2014 TOTAL	**0**	**3**	**2**	**5**	**0**	**4**	**0**	**5**	**0**	**3**	**2**	**5**	**0**	**0**
YEAR: 2013														
REAR-END	0	0	1	1	0	0	0	0	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2012														
PEDESTRIAN	0	1	0	1	0	1	0	0	1	1	0	1	0	0
REAR-END	0	2	2	4	0	2	0	2	2	2	2	4	0	0
TURNING MOVEMENTS	0	4	2	6	0	6	0	4	2	2	4	6	0	0
YEAR 2012 TOTAL	**0**	**7**	**4**	**11**	**0**	**9**	**0**	**6**	**5**	**5**	**6**	**11**	**0**	**0**
YEAR: 2011														
REAR-END	0	4	1	5	0	6	0	3	2	5	0	5	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2011 TOTAL	**0**	**4**	**2**	**6**	**0**	**6**	**0**	**3**	**3**	**6**	**0**	**6**	**0**	**0**
FINAL TOTAL	**0**	**20**	**10**	**30**	**0**	**29**	**0**	**20**	**9**	**22**	**8**	**30**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00210	N	N	N			01/18/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE						TU		WB EX PAC HY 99E	N		TRF SIGNAL	N	WET	REAR		UNKN	N -S									000		00
						10A			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK		026	000		07
																							UNK					
															02	NONE 0	STOP											
																PRVTE	N -S									012		00
																PSNGR CAR		01	DRVR	NONE	45	M	OR-Y		000	000		00
																							OR<25					
02676	N	N	N			07/27/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NO RPT						WE		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
						12P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	28	M	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									011		00
																PSNGR CAR		01	DRVR	NONE	20	M	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									011		00
																PSNGR CAR		02	PSNG	INJC	55	M			000	000		00
03094	N	N	N			08/24/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						WE		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
						9A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	52	F	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									012		00
																PSNGR CAR		01	DRVR	INJC	38	F	OR-Y		000	000		00
																							OR<25					
01210	Y	Y	N	N	N	03/31/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											01,07
STATE						SA		WB EX PAC HY 99E	N		L-TURN REF	N	WET	REAR		PRVTE	N -S									000		00
						1A			06	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	64	F	OR-Y		026,047	000		01,07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									012		00
																PSNGR CAR		01	DRVR	INJC	48	F	OR-Y		000	000		00
																							OR<25					
05299	N	N	N			12/30/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013,099	27,29
NO RPT						TU		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
						6P			06	2		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	22	F	OR-Y		016,026	038	099	27,29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									011	013	00
																PSNGR CAR		01	DRVR	INJC	26	M	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	STOP											
																PRVTE	N -S									022		00
																PSNGR CAR		01	DRVR	NONE	77	M	OR-Y		000	000		00
																							OR<25					
01064	N	N	N			03/27/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
NO RPT						FR		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		UNKN	E -W									000		00
						11A			06	1		N	DAY	INJ		UNKNOWN		01	DRVR	NONE	00	Unk	UNK		026	000		29

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																							UNK					
															02	NONE 0	STOP											
																PRVTE	E -W									011	013	00
																PSNGR CAR		01	DRVR	NONE	34	M	OTH-Y		000	000		00
																							N-RES					
															03	NONE 0	STOP											
																PRVTE	E -W									022	013	00
																PSNGR CAR		01	DRVR	INJC	58	F	OR-Y		000	000		00
																							OR<25					
															04	NONE 0	STOP											
																PRVTE	E -W									022		00
																PSNGR CAR		01	DRVR	INJC	43	M	UNK		000	000		00
																							UNK					
															04	NONE 0	STOP											
																PRVTE	E -W									022		00
																PSNGR CAR		02	PSNG	INJC	44	F			000	000		00
															04	NONE 0	STOP											
																PRVTE	E -W									022		00
																PSNGR CAR		03	PSNG	INJC	15	M			000	000		00
02614	N	N	N			06/30/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											013	29
NO RPT						TU		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
						11A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	54	M	OR-Y		026	000		29
																							UNK					
															02	NONE 0	STOP											
																PRVTE	N -S									011	013	00
																PSNGR CAR		01	DRVR	INJB	26	M	OTH-Y		000	000		00
																							N-RES					
															03	NONE 0	STOP											
																UNKN	N -S									022		00
																PSNGR CAR		01	DRVR	NONE	56	M	OR-Y		000	000		00
																							OR<25					
04289	N	N	N			11/13/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT												07
NONE						SU		WB EX PAC HY 99E	E		TRF SIGNAL	N	WET	REAR		PRVTE	E -W									000		00
						11A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	E -W									011		00
																PSNGR CAR		01	DRVR	INJC	17	F	OR-Y		000	000		00
																							OR<25					
01880	N	N	N			05/22/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	PED	01	NONE 0	TURN-R											083	02,19
CITY						TU		WB EX PAC HY 99E	E		TRF SIGNAL	N	WET	PED		PRVTE	E -N									016		00
						11A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	47	M	OR-Y		029	000	083	02
																							OR<25					
																	-											
																	STRGHT	01	CONV	INJB	51	M		I XWLK	000	035		00,19
																	N S											
03460	N	N	N			09/17/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE						MO		WB EX PAC HY 99E	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W S	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
							5P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK OR<25		026	000		07
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W									011		00
04205	N	N	N				11/07/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	01	DRVR	NONE	38	F	OR-Y OR<25		000	000		00
NONE							WE 7A		WB EX PAC HY 99E	E 06	0	TRF SIGNAL	N N	WET DAWN	REAR PDO												000		00 07
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	NONE	52	M	OR-Y OR<25		000	011 000		00 00
02304	N	N	N				06/28/2013	11	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0 PRVTE	STRGHT E -W										000		27,07 00
NONE							FR 3P		WB EX PAC HY 99E	E 06	1	TRF SIGNAL	N N	UNK DAY	REAR PDO		PSNGR CAR		01	DRVR	NONE	43	M	OR-Y OR>25		016,026	000		27,07
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	NONE	00	M	UNK OR<25		000	012 000		00 00
03151	N	N	N				08/15/2014	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0 PRVTE	STRGHT E -W										000	013	29 00
NONE							FR 3P		WB EX PAC HY 99E	E 06	1	TRF SIGNAL	N N	DRY DAY	REAR INJ		PSNGR CAR		01	DRVR	INJC	46	F	OTH-Y N-RES		026	000		29
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	NONE	46	F	OR-Y OR<25		000	011 013 000		00 00
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	02	PSNG	INJC	24	F			000	011 013 000		00 00
																03	NONE 0 UNKN UNKNOWN	STOP E -W	01	DRVR	NONE	00	Unk	UNK UNK		000	022 000		00 00
00830	N	N	N				03/06/2015	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0 PRVTE	STRGHT E -W										000		29 00
NONE							FR 3P		WB EX PAC HY 99E	E 06	2	TRF SIGNAL	N N	DRY DAY	REAR INJ		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y OR<25		026	000		29
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	INJC	36	M	OR-Y OR<25		000	011 000		00 00
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	02	PSNG	INJC	32	F			000	011 000		00 00
02481	N	N	N				06/22/2015	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												29

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
NONE							MO 3P		WB EX PAC HY 99E	E 06	 0	TRF SIGNAL	N N	DRY DAY	REAR INJ		PRVTE PSNGR CAR	E -W	01	DRVR	NONE	41	M	OR-Y OR<25		026	000 000	00 29
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	INJC	68	M	OR-Y OR<25		000	011 000	00 00
02606 NONE	N	N	N				07/18/2012 WE 2P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER S 06	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	17	M	OR-Y OR<25		026	000 000	07 00 07
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJC	43	F	OR-Y OR<25		000	011 000	00 00
01678 NONE	N	N	N				05/07/2012 MO 8P	11	PACIFIC HY 99E WB EX PAC HY 99E	INTER SW 06	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DLIT	BIKE TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-R E -N	01	DRVR	NONE	41	M	OR-Y OR<25		000	000 000	18,19,04 00 00
																		- STRGHT S N	01	BIKE	INJB	20	F		I	XWLK 020,060	035	18,04
00891 NONE	N	N	N				03/15/2011 TU 1P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 03	3-LEG 1	N TRF SIGNAL	N N	RAIN WET DAY	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	NONE	28	M	OR-Y OR<25		020	000 000	04 00 04
																02	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	01	DRVR	NONE	21	F	OR-Y OR<25		000	000 000	00 00
																02	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	02	PSNG	NO<5	01	M			000	000 000	00 00
00905 STATE	N	N	N	N	N		03/14/2011 MO 4P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 04	3-LEG 1	N TRF SIGNAL	N N	CLD DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	INJC	54	F	SUSP OR<25		026	000 000	07 00 07
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJC	58	F	OR-Y OR<25		000	011 000	00 00
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	02	PSNG	INJC	33	M			000	011 000	00 00
01007 NONE	N	N	N				03/17/2012 SA 1P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 01	3-LEG 1	N TRF SIGNAL	N N	RAIN WET DAY	ANGL-OTH TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	01	DRVR	NONE	55	F	OR-Y OR<25		097	000 000	04 00 00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	R G S	S H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															01	NONE 0	TURN-L										
																PRVTE	E -S									000	00
																PSNGR CAR		02	PSNG	INJC	43	F			000	000	00
															02	NONE 0	STRGHT										
																PRVTE	N -S									000	00
																PSNGR CAR		01	DRVR	NONE	52	M	OR-Y OR<25		000	000	00
01096	N	N	N			03/23/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NONE						FR		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
						1P			02	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	45	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-R										
																PRVTE	E -N									015	00
																PSNGR CAR		01	DRVR	NONE	91	M	OR-Y OR<25		028	000	02
01120	N	N	N	N	N	03/24/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT										04
STATE						SA		WB EX PAC HY 99E	CN		L-GRN-SIG	N	DRY	TURN		PRVTE	S -N									000	00
						5A			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	59	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	INJC	44	F	OR-Y OR<25		020	000	04
03764	N	N	N			10/10/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										04
CITY						WE		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
						4A			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	52	M	OR-Y OR<25		097	000	00
															01	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		02	PSNG	INJC	35	M			000	000	00
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	INJC	49	M	OR-Y OR<25		097	000	00
04671	N	N	N			12/04/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-R										02
NONE						TU		WB EX PAC HY 99E	CN		TRF SIGNAL	N	WET	TURN		PRVTE	E -N									000	00
						5P			02	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	67	M	OR-Y OR<25		028	000	02
															02	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		01	DRVR	NONE	42	F	OR-Y OR<25		000	000	00
01191	N	N	N			03/27/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
STATE						TH		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -S									000	00
						3P			03	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	23	M	OTH-Y N-RES		020	000	04
															02	NONE 0	TURN-L										
																PRVTE	E -S									000	00
																PSNGR CAR		01	DRVR	NONE	66	F	OR-Y		000	000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DAY OF WEEK / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER	MOVE FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01560	N	N	N	N	N	04/23/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	ANGL-OTH	01	NONE 0	TURN-L						OR<25					04
NONE						WE		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	E -S									000		00
						11A			01	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	N -S									000		00
																PSNGR CAR		01	DRVR	NONE	52	F	OR-Y		020	000		04
																							OR<25					
															03	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		01	DRVR	NONE	30	F	OR-Y		000	000		00
																							OR<25					
04035	N	N	N			10/10/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										013	04
NO RPT						FR		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -S									000		00
						9P			03	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	19	M	OR-Y		020	000		04
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000	031	00
																PSNGR CAR		01	DRVR	INJC	16	F	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	TURN-L											
																PRVTE	E -S									022		00
																PSNGR CAR		01	DRVR	NONE	35	F	OR-Y		000	000		00
																							OR<25					
02482	N	N	N	N	N	06/22/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
STATE						MO		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000		00
						7A			02	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	45	F	OR-Y		020	000		04
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		01	DRVR	NONE	56	M	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		02	PSNG	INJC	42	F			000	000		00
04797	N	N	N			11/14/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											04
NO RPT						SA		WB EX PAC HY 99E	CN		TRF SIGNAL	N	WET	TURN		PRVTE	S -N									000		00
						2P			02	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	58	M	OTH-Y		000,097	000		00
																							N-RES					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		01	DRVR	NONE	82	M	OR-Y		000	000		00
																							OR>25					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		02	PSNG	INJB	82	F			000,097	000		00
00802	N	N	N	N	N	03/03/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
STATE						TU		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -S									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E	D R S W A U C O H R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / TYPE	INJ / SVRTY	A G E	S X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
			12P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y OR<25		020	000	04
												02	NONE 0 PRVTE	TURN-L E -S									000	00
													PSNGR CAR		01	DRVR	NONE	77	F	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	2	2	4	0	2	0	2	1	3	1	4	0	0
TURNING MOVEMENTS	0	2	0	2	0	3	0	2	0	0	2	2	0	0
YEAR 2015 TOTAL	**0**	**4**	**2**	**6**	**0**	**5**	**0**	**4**	**1**	**3**	**3**	**6**	**0**	**0**
YEAR: 2014														
REAR-END	0	1	0	1	0	2	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	0	2	0	0	2	2	0	0
YEAR 2014 TOTAL	**0**	**1**	**2**	**3**	**0**	**2**	**0**	**2**	**1**	**0**	**3**	**3**	**0**	**0**
YEAR: 2013														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	0	1	1	0	0
REAR-END	0	0	1	1	0	0	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**2**	**1**	**0**	**3**	**3**	**0**	**0**
YEAR: 2012														
REAR-END	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**
YEAR: 2011														
REAR-END	0	0	2	2	0	0	0	1	1	1	1	2	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	1	1	2	0	0
YEAR 2011 TOTAL	**0**	**1**	**3**	**4**	**0**	**1**	**0**	**2**	**2**	**2**	**2**	**4**	**0**	**0**
FINAL TOTAL	**0**	**7**	**10**	**17**	**0**	**9**	**0**	**10**	**6**	**6**	**11**	**17**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 17

SER# / INVEST	S P E D	A L C	D R S L	S W U H	C O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02247	N	N	N			06/22/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										07
NONE						FR		NB EXTO I-205 WB	N		TRF SIGNAL	N	WET	REAR		PRVTE	N -S									000	00
						3P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	55	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		01	DRVR	NONE	55	M	OR-Y OR<25		000	000	00
00404	N	N	N			02/03/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	OTH OBJ	01	NONE 0	TURN-R										044	08
NO RPT						SU		NB EXTO I-205 WB	N		TRF SIGNAL	N	DRY	FIX		PRVTE	E -N									000	044	00
						2A			05	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	56	F	OR-Y OR<25		001	000		08
01897	N	N	N			05/17/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NO RPT						SA		NB EXTO I-205 WB	N		L-GRN-SIG	N	WET	REAR		PRVTE	N -S									000	00
						10P			06	0		N	DARK	INJ		PSNGR CAR		01	DRVR	NONE	37	M	OR-Y OR<25		026	000		29
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		01	DRVR	INJC	34	F	OR-Y OR<25		000	000	00
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		02	PSNG	INJC	47	F			000	000	00
01559	N	N	N			04/28/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						TU		NB EXTO I-205 WB	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000	00
						10A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		026	000		29
															02	NONE 0	STOP										
																PRVTE	N -S									011	00
																PSNGR CAR		01	DRVR	INJC	65	F	OR-Y OR<25		000	000	00
04365	N	N	N			09/20/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						SU		NB EXTO I-205 WB	N		TRF SIGNAL	N	DRY	REAR		UNKN	N -S									000	00
						UNK			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		026	000		29
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		01	DRVR	NONE	34	M	OR-Y OR<25		000	000	00
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		02	PSNG	NO<5	01	M			000	000	00
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		03	PSNG	INJC	29	F			000	000	00
05481	N	N	N			12/18/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR		NB EXTO I-205 WB	N		TRF SIGNAL	N	UNK	REAR		UNKN	N -S									000	00
						6A			06	1		N	DAWN	PDO		PSNGR CAR		01	DRVR	NONE	00	F	UNK		026	000		29

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 17

SER# / INVEST	S P E D	A L C	R S L	W C H	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																							UNK				
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		01	DRVR	NONE	72	M	OR-Y		000	000	00
																							OR<25				
01852	N	N	N			05/27/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	TURN-R										07
NONE						FR		NB EXTO I-205 WB	SE		YIELD	N	DRY	REAR		PRVTE	S -E									000	00
						7A			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	48	F	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	S -E									011	00
																PSNGR CAR		01	DRVR	NONE	31	M	OR-Y		000	000	00
																							OR<25				
04141	N	N	N			11/04/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										07
NO RPT						FR		NB EXTO I-205 WB	S		TRF SIGNAL	N	WET	REAR		PRVTE	S -N									000	00
						9P			06	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	90	F	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	NONE	24	M	OR-Y		000	000	00
																							OR<25				
05083	Y	N	N	N	N	12/30/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										07,01
STATE						MO		NB EXTO I-205 WB	S		TRF SIGNAL	N	WET	REAR		PRVTE	S -N									000	00
						7P			06	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	51	F	OR-Y		043,026,047	000	07,01
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	NONE	50	M	OR-Y		000	000	00
																							OR<25				
00848	N	N	N			03/10/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE						TH		NB EXTO I-205 WB	CN		TRF SIGNAL	N	WET	TURN		PRVTE	S -N									000	00
						8P			04	1		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK		000	000	00
																							OR<25				
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	NONE	57	F	OR-Y		028,004	000	02
																							OR<25				
03084	N	N	N	N	N	08/23/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	TURN-L										04
STATE						TU		NB EXTO I-205 WB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -E									000	00
						8A			04	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	54	F	OR-Y		000	000	00
																							OR<25				
															02	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		01	DRVR	INJA	52	F	OR-Y		020	028	04
																							OR<25				
03065	N	N	N	N	N	08/19/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										27,04
STATE						MO		NB EXTO I-205 WB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
						9P			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	19	F	OR-Y		016,020	038	27,04
																							OR<25				
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 17

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES / EJECT	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	26	M	OR-Y OR<25		000	000	00
00203	N	N	N	N	N	01/16/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	TURN-L										04
CITY						TH		NB EXTO I-205 WB	CN		L-GRN-SIG	N	DRY	TURN		UNKN	N -E									000	00
						11P			04	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		003	000	04
															02	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		01	DRVR	NONE	45	M	OR-Y OR<25		000	000	00
04525	N	N	N	N	N	11/09/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	TURN-L										04
STATE						SU		NB EXTO I-205 WB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -E									000	00
						7A			04	2		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	28	F	OTH-Y N-RES		003	000	04
															02	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		01	DRVR	NONE	31	M	OR-Y OR<25		000	000	00
02021	N	N	N	N	N	05/28/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE						TH		NB EXTO I-205 WB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
						9P			04	2		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	29	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	NONE	19	F	OR-Y OR>25		028,004	000	02
04587	N	N	N			11/03/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										27,04
NO RPT						TU		NB EXTO I-205 WB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
						9P			04	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	25	F	OR-Y OR<25		016,020	000	27,04
															01	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		02	PSNG	INJC	05	F			000	000	00
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		000	000	00
05429	N	N	N			12/17/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	TURN-L										29
NONE						TH		NB EXTO I-205 WB	CN		TRF SIGNAL	N	WET	REAR		PRVTE	N -E									000	00
						1P			01	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	N -E									013	00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	1	0	1	0	1	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	2	0	2	0	3	0	2	0	1	1	2	0	0
YEAR 2015 TOTAL	**0**	**3**	**0**	**3**	**0**	**4**	**0**	**2**	**1**	**1**	**2**	**3**	**0**	**0**
YEAR: 2014														
REAR-END	0	1	3	4	0	1	0	4	0	3	1	4	0	0
YEAR 2014 TOTAL	**0**	**1**	**3**	**4**	**0**	**1**	**0**	**4**	**0**	**3**	**1**	**4**	**0**	**0**
YEAR: 2013														
REAR-END	0	2	1	3	0	2	0	1	1	0	3	3	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**2**	**2**	**4**	**0**	**2**	**0**	**2**	**1**	**0**	**4**	**4**	**0**	**0**
YEAR: 2012														
REAR-END	0	0	5	5	0	0	0	4	1	5	0	5	0	0
TURNING MOVEMENTS	0	2	0	2	0	2	0	1	1	1	1	2	0	0
YEAR 2012 TOTAL	**0**	**2**	**5**	**7**	**0**	**2**	**0**	**5**	**2**	**6**	**1**	**7**	**0**	**0**
YEAR: 2011														
REAR-END	0	3	1	4	0	4	0	2	2	3	1	4	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2011 TOTAL	**0**	**3**	**2**	**5**	**0**	**4**	**0**	**2**	**3**	**3**	**2**	**5**	**0**	**0**

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

FINAL TOTAL	**0**	**11**	**12**	**23**	**0**	**13**	**0**	**15**	**7**	**13**	**10**	**23**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	R U G	S C H	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
04876	N	N	N			11/18/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT										29
NONE						WE		EB EX PAC HY 99E	N		TRF SIGNAL	N	WET	REAR		PRVTE	N -S									000	00
						8A			06	1		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	19	M	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	N -S									011	00
																PSNGR CAR		01	DRVR	INJC	34	M	OR-Y OR<25		000	000	00
04362	N	N	N			11/17/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										07
NONE						TH		EB EX PAC HY 99E	NE		YIELD	N	WET	REAR		PRVTE	SE-NW									000	00
						8A			09	1		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	19	M	UNK OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJA	31	F	OR-Y OR<25		000	000	00
01689	N	N	N			05/08/2012	14	PACIFIC HY 99E	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE						TU		EB EX PAC HY 99E	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						12P			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	77	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	62	M	OR-Y OR<25		000	000	00
01854	N	N	N	N	N	05/19/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										27,07
STATE						SA		EB EX PAC HY 99E	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						7P			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		016,026	000	27,07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	24	F	OR-Y OR>25		000	000	00
01924	N	N	N			05/24/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE						TH		EB EX PAC HY 99E	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						9A			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		000	000	00
02321	N	N	N			06/28/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE						TH		EB EX PAC HY 99E	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						12P			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	24	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	71	M	OR-Y OR<25		000	000	00
03957	N	N	N			10/22/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT										07
NONE						MO		EB EX PAC HY 99E	NE		YIELD	N	WET	REAR		PRVTE	SE-NW									000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	U G S	R H L	S W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
							2P			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OTH-Y N-RES		026	000	07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW								011	00
01366 NONE	N	N	N				04/22/2013 MO 7P	11	EB EX PAC HY 99E PACIFIC HY 99E	INTER NE 09	3-LEG 1	N YIELD	N N N	CLR DRY DUSK	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	42	M	OR-Y OR<25		026	000	07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	NONE	20	M	OR-Y OR<25		000	011 000	00 00
82215 NONE	N	N	N				11/12/2013 TU 8A	11	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N YIELD	N N N	RAIN WET DAWN	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	M	UNK UNK		026	000	07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	INJC	65	F	OR-Y OR<25		000	011 000	00 00
00474 CITY	N	N	N	N	N		02/04/2014 TU 10A	14	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N TRF SIGNAL	N N N	CLD DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	35	M	OR-Y OR<25		026	038	27,07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	NONE	52	F	OR-Y OR<25		000	011 000	00 00
00923 NONE	N	N	N				03/04/2014 TU 8A	14	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N YIELD	N N N	CLR DRY DLIT	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	Unk	OR-Y OR<25		026	000	07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	NONE	52	F	OR-Y OR<25		000	011 000	00 00
02990 NONE	N	N	N				08/03/2014 SU UNK	11	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N TRF SIGNAL	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	60	F	OR-Y OR<25		026	000	29
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	NONE	66	M	OR-Y OR<25		000	011 000	00 00
05025 NONE	N	N	N				12/12/2014 FR 2P	11	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N YIELD	N N N	CLR DRY DAY	S-STRGHT REAR INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-R E -N	01	DRVR	NONE	43	F	OR-Y OR>25		042	000	07
																02	NONE 0	TURN-R									

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																	PRVTE	E -N									000		00
																	PSNGR CAR		01	DRVR	INJC	65	F	OR-Y OR<25		000	000		00
01260	Y	N	N				04/15/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											013	01
NONE							FR		EB EX PAC HY 99E	E		YIELD	N	WET	REAR		UNKN	E -W									000		00
							12P			06	1		N	DAY	INJ		UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		047,026	000		01
																02	NONE 0	STOP											
																	PRVTE	E -W									011	013	00
																	PSNGR CAR		01	DRVR	NONE	24	F	OR-Y OR<25		000	000		00
																03	NONE 0	STOP											
																	PRVTE	E -W									022		00
																	PSNGR CAR		01	DRVR	INJC	41	M	OR-Y OR<25		000	000		00
																03	NONE 0	STOP											
																	PRVTE	E -W									022		00
																	PSNGR CAR		02	PSNG	INJC	15	F			000	000		00
03326	N	N	N				09/08/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NO RPT							TH		EB EX PAC HY 99E	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00
							11A			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	75	M	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	E -W									011		00
																	PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		000	000		00
04032	N	N	N				10/29/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE							SA		EB EX PAC HY 99E	E		TRF SIGNAL	N	DRY	REAR		UNKN	E -W									000		00
							10A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y UNK		026	000		07
																02	NONE 0	STOP											
																	PRVTE	E -W									012		00
																	PSNGR CAR		01	DRVR	INJC	53	F	OR-Y OR<25		000	000		00
04751	N	N	N				12/08/2013	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE							SU		EB EX PAC HY 99E	E		TRF SIGNAL	N	UNK	REAR		PRVTE	E -W									000		00
							5P			06	2		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y UNK		026	000		07
																02	NONE 0	STOP											
																	PRVTE	E -W									012		00
																	PSNGR CAR		01	DRVR	INJC	39	F	OR-Y OR<25		000	000		00
04167	N	N	N				11/05/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-L												04
NONE							SA		EB EX PAC HY 99E	CN		TRF SIGNAL	N	WET	TURN		PRVTE	E -S									000		00
							7A			03	1		N	DAWN	PDO		PSNGR CAR		01	DRVR	NONE	61	F	OR-Y OR<25		097	000		00
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000		00
																	PSNGR CAR		01	DRVR	NONE	64	F	OR-Y OR<25		097	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	D R S	S W U G S	C O H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
03521	N	N	N	N	N		09/22/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
STATE							SA		EB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
							9A			02	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	34	M	OR-Y OR<25		020	000	04
																02	NONE 0	TURN-L										
																	PRVTE	E -S									000	00
																	PSNGR CAR		01	DRVR	INJC	64	F	OR-Y OR<25		000	000	00
04882	N	N	N	N	N		12/17/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										04
STATE							MO		EB EX PAC HY 99E	CN		L-GRN-SIG	N	WET	TURN		PRVTE	S -N									000	00
							9P			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	53	F	OR-Y OR<25		000	000	00
																02	NONE 0	TURN-L										
																	PRVTE	N -E									000	00
																	PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		003	000	04
00576	N	N	N				02/19/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										02
NONE							TU		EB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -E									000	00
							9P			04	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		028	000	02
																02	NONE 0	STRGHT										
																	PRVTE	S -N									000	00
																	PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		000	000	00
01337	N	N	N				04/14/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
NONE							TU		EB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
							3P			02	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	36	M	OR-Y OR<25		020	000	04
																01	NONE 0	STRGHT										
																	PRVTE	S -N									000	00
																	PSNGR CAR		02	PSNG	NO<5	04	M			000	000	00
																02	NONE 0	TURN-L										
																	PRVTE	E -S									000	00
																	PSNGR CAR		01	DRVR	INJC	37	F	OR-Y OR<25		000	000	00
05735	N	N	N				12/31/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
NO RPT							TH		EB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
							7P			02	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	51	F	OR-Y OR<25		020	000	04
																02	NONE 0	TURN-L										
																	PRVTE	E -S									000	00
																	PSNGR CAR		01	DRVR	INJC	25	M	OR-Y OR<25		000	000	00
																02	NONE 0	TURN-L										
																	PRVTE	E -S									000	00
																	PSNGR CAR		02	PSNG	INJC	27	F			000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	1	0	1	0	2	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2015 TOTAL	**0**	**2**	**0**	**2**	**0**	**3**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**
YEAR: 2014														
REAR-END	0	2	1	3	0	2	0	2	1	3	0	3	0	0
YEAR 2014 TOTAL	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**2**	**1**	**3**	**0**	**3**	**0**	**0**
YEAR: 2013														
REAR-END	0	2	2	4	0	2	0	4	0	4	0	4	0	0
TURNING MOVEMENTS	0	1	0	1	0	3	0	1	0	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**3**	**2**	**5**	**0**	**5**	**0**	**5**	**0**	**4**	**1**	**5**	**0**	**0**
YEAR: 2012														
REAR-END	0	0	2	2	0	0	0	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	1	3	4	0	1	0	3	1	2	2	4	0	0
YEAR 2012 TOTAL	**0**	**1**	**5**	**6**	**0**	**1**	**0**	**5**	**1**	**4**	**2**	**6**	**0**	**0**
YEAR: 2011														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	0	2	0	1	1	2	0	0
YEAR 2011 TOTAL	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**3**	**0**	**2**	**1**	**3**	**0**	**0**

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

FINAL TOTAL	**0**	**8**	**11**	**19**	**0**	**11**	**0**	**17**	**2**	**15**	**4**	**19**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 19

SER# / INVEST	S P E D	A L C	D R S L	S W C H	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
00828	N	N	N	N	N	01/09/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
CITY						MO		NB EXTO I-205 EB	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S								000	00
						1P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	40	M	SUSP OR<25		026	000	07
															01	NONE 0	STRGHT									
																PRVTE	N -S								000	00
																PSNGR CAR		02	PSNG	NONE	39	F			000	000	00
															01	NONE 0	STRGHT									
																PRVTE	N -S								000	00
																PSNGR CAR		03	PSNG	NO<5	01	F			000	000	00
															02	NONE 0	STOP									
																PRVTE	N -S								012	00
																PSNGR CAR		01	DRVR	NONE	32	F	OR-Y OR<25		000	000	00
01099	N	N	N			04/01/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
NONE						MO		NB EXTO I-205 EB	N		L-GRN-SIG	N	DRY	REAR		PRVTE	N -S								000	00
						1P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	66	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP									
																PRVTE	N -S								012	00
																PSNGR CAR		01	DRVR	INJC	47	F	OR-Y OR<25		000	000	00
00690	N	N	N			02/22/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									29
NO RPT						SU		NB EXTO I-205 EB	N		L-GRN-SIG	N	DRY	REAR		PRVTE	N -S								000	00
						11A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y UNK		026	000	29
															02	NONE 0	STOP									
																RENTL	N -S								012	00
																PSNGR CAR		01	DRVR	NONE	47	M	OR-Y OR<25		000	000	00
															02	NONE 0	STOP									
																RENTL	N -S								012	00
																PSNGR CAR		02	PSNG	INJC	38	F			000	000	00
															02	NONE 0	STOP									
																RENTL	N -S								012	00
																PSNGR CAR		03	PSNG	INJC	15	M			000	000	00
02254	N	N	N			06/25/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-OTHER	01	NONE 0	TURN-R									08
NONE						SA		NB EXTO I-205 EB	NE		TRF SIGNAL	N	DRY	TURN		PRVTE	S -NE								000	00
						6P			05	1		N	DAY	PDO		MTRCYCLE		01	DRVR	NONE	00	Unk	UNK UNK		006	000	08
															02	NONE 0	TURN-R									
																PRVTE	S -NE								000	00
																PSNGR CAR		01	DRVR	NONE	49	F	OTH-Y N-RES		000	000	00
00395	N	N	N			01/30/2014	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
NONE						TH		NB EXTO I-205 EB	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW								000	00
						3P			09	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	59	M	OR-Y		026	000	07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 19

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		01	DRVR	INJC	25	F	OR-Y		000	000	00
																								OR<25				
04196	N	N	N				10/22/2014	11	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										29
NONE							WE		NB EXTO I-205 EB	NE		YIELD	N	WET	REAR		PRVTE	SE-NW									000	00
							3P			09	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK		026	000	29
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		01	DRVR	INJC	59	F	OR-Y		000	000	00
																								OR<25				
03474	N	N	N				09/05/2014	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE							FR		NB EXTO I-205 EB	E		TRF SIGNAL	N	DRY	REAR		UNKN	E -W									000	00
							11A			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000	29
																								UNK				
																02	NONE 0	STOP										
																	PRVTE	E -W									011	00
																	PSNGR CAR		01	DRVR	NONE	40	F	OR-Y		000	000	00
																								UNK				
02378	N	N	N				07/06/2011	14	PACIFIC HY 99E	INTER		N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE							WE		NB EXTO I-205 EB	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
							2P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y		026	000	07
																								UNK				
																02	NONE 0	STOP										
																	PRVTE	S -N									011	00
																	PSNGR CAR		01	DRVR	NONE	43	F	OR-Y		000	000	00
																								OR<25				
01838	N	N	N				05/18/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										04
NO RPT							FR		NB EXTO I-205 EB	S		L-GRN-SIG	N	DRY	TURN		PRVTE	S -N									000	00
							4P			04	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	43	M	OR-Y		097	000	00
																								OR<25				
																02	NONE 0	TURN-L										
																	PRVTE	N -E									000	00
																	PSNGR CAR		01	DRVR	NONE	81	M	OTH-Y		097	000	00
																								N-RES				
03490	N	N	N	N	N		09/18/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE							WE		NB EXTO I-205 EB	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
							4P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	25	F	NONE		026	000	07
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	S -N									011	00
																	PSNGR CAR		01	DRVR	NONE	24	F	OR-Y		000	000	00
																								OR<25				
04363	N	N	N	N	N		11/11/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										07
STATE							MO		NB EXTO I-205 EB	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
							1P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	93	M	OR-Y		043,026	000	07
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	S -N									011	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 19

SER# / INVEST	S P E D	A L C	R S L	S W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	INJC	57	F	OR-Y OR>25		000	000	00
04886 NONE	N	N	N			12/17/2013 TU 3P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER S 06	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	35	M	OR-Y OR<25		026	000	07
															02	NONE UNKN UNKNOWN	STOP S -N	01	DRVR	NONE	00	Unk	UNK UNK		000	000	00
03249 STATE	N	N	N			09/03/2011 SA 8P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 04	3-LEG 1	N L-GRN-SIG	N N	FOG DRY DLIT	O-1 L-TURN TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	NONE	62	M	OTH-Y N-RES		000	000	00
															02	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	70	F	OR-Y OR>25		020	000	04
00563 CITY	N	N	N	N	N	02/12/2012 SU 10P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 02	3-LEG 1	N TRF SIGNAL	N N	RAIN WET DLIT	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	24	F	OR-Y OR<25		021	000	04
															02	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	01	DRVR	NONE	56	M	OR-Y OR<25		000	000	00
02698 NONE	N	N	N	N	N	07/24/2012 TU 4P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-R S -E	01	DRVR	NONE	50	F	SUSP OR<25		006,052	000	08,32
															02	NONE 0 PRVTE PSNGR CAR	TURN-R S -E	01	DRVR	NONE	47	F	OR-Y OR<25		000	000	00
03080 NONE	N	N	N			08/19/2012 SU 3P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 04	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DAY	O-1 L-TURN TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	00	F	OR-Y UNK		020	000	04
															02	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	NONE	29	M	OR-Y OR<25		000	000	00
04535 STATE	N	N	N	N	N	11/22/2012 TH 8P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 04	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	INJC	18	F	OR-Y OR<25		020	000	04
															01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	02	PSNG	NO<5	01	M			000	000	00
															02	NONE 0	TURN-L										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 19

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	N -E									00
																PSNGR CAR		01	DRVR	NONE	42	F	OR-Y OR<25		000	000	00
01632	N	N	N	N	N	05/11/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										04
CITY						SA		NB EXTO I-205 EB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -E									000	00
						10P			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	63	M	OR-Y OR<25		000	000	00
															01	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		02	PSNG	INJC	58	F			000	000	00
															02	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		01	DRVR	INJC	17	F	OR-Y OR<25		020	000	04
01891	N	N	N	N	N	05/18/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										04
STATE						MO		NB EXTO I-205 EB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
						8A			04	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	41	F	OR-Y OR<25		020	000	04
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	INJC	67	F	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	1	1	2	0	1	0	2	0	1	1	2	0	0
YEAR 2015 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**2**	**0**	**1**	**1**	**2**	**0**	**0**
YEAR: 2014														
REAR-END	0	6	0	6	0	7	0	6	0	6	0	6	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	2	0	2	0	0
YEAR 2014 TOTAL	**0**	**7**	**1**	**8**	**0**	**8**	**0**	**7**	**1**	**8**	**0**	**8**	**0**	**0**
YEAR: 2013														
REAR-END	0	2	0	2	0	2	0	1	0	1	1	2	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	0	1	1	2	0	2	0	0
YEAR 2013 TOTAL	**0**	**2**	**2**	**4**	**0**	**2**	**0**	**2**	**1**	**3**	**1**	**4**	**0**	**0**
YEAR: 2012														
REAR-END	0	1	0	1	0	5	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	2	0	2	0	0
YEAR 2012 TOTAL	**0**	**2**	**1**	**3**	**0**	**6**	**0**	**2**	**1**	**3**	**0**	**3**	**0**	**0**
YEAR: 2011														
REAR-END	0	2	1	3	0	2	0	3	0	2	1	3	0	0
YEAR 2011 TOTAL	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**3**	**0**	**2**	**1**	**3**	**0**	**0**
FINAL TOTAL	**0**	**14**	**6**	**20**	**0**	**19**	**0**	**16**	**3**	**17**	**3**	**20**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02478	N	N	N			07/10/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
NO RPT						TU		15TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE									000		00
						7A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	54	M	OR-Y OR<25		026	000		07
															01	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		02	PSNG	INJB	48	M			000	000		00
															01	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		03	PSNG	INJC	45	M			000	000		00
															01	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		04	PSNG	INJC	24	M			000	000		00
															02	NONE 0	STOP											
																PRVTE	SW-NE									011	013	00
																PSNGR CAR		01	DRVR	NONE	18	F	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	SW-NE									022	013	00
																PSNGR CAR		01	DRVR	INJC	34	F	OR-Y OR<25		000	000		00
															04	NONE 0	STOP											
																PRVTE	SW-NE									022		00
																PSNGR CAR		01	DRVR	NONE	32	M	OR-Y OR<25		000	000		00
02162	N	N	N			06/18/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						SA		15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW									000		00
						10P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	INJC	28	M	OR-Y OR<25		000	000		00
02450	N	N	N			07/11/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						MO		15TH ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						6P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	20	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	NONE	69	M	OR-Y OR<25		000	000		00
04973	N	N	N	N	N	12/09/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	BIKE	01	NONE 0	TURN-R										084	02
NONE						TU		15TH ST	SE		STOP SIGN	N	WET	TURN		PRVTE	SE-NE									015		00
						12P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		027	000	084	02
																- STRGHT		01	BIKE	INJA	54	F		I	XWLK	000	034		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO NE SW	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00492	N	N	N	N	N		02/10/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											27,07
STATE							TH	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW											00
							9A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	66	M	OR-Y OR<25		016,026	000		27,07
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	INJC	59	F	OR-Y OR<25		000	000		00
02221	N	N	N	N	N		06/22/2013	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
CITY							SA	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW									000		00
							10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	59	F	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	INJC	58	M	OR-Y OR<25		000	000		00
04877	N	N	N				12/17/2013	19	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											07
NONE							TU	0	15TH ST	SE		STOP SIGN	N	UNK	REAR		PRVTE	SE-NW									000		00
							5P			06	0		N	DUSK	INJ		UNKNOWN		01	DRVR	NONE	33	F	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	INJC	48	F	OTH-Y OR<25		000	000		00
01124	N	N	N				03/21/2014	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
NONE							FR	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW									000		00
							1P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	32	F	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011	013	00
																	PSNGR CAR		01	DRVR	INJC	32	F	OR-Y OR<25		000	000		00
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011	013	00
																	PSNGR CAR		02	PSNG	NO<5	04	M			000	000		00
																03	NONE 0	STOP											
																	UNKN	SE-NW									022		00
																	UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
01616	N	N	N				04/28/2014	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE							MO	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW									000		00
							7A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	53	M	OR-Y OR<25		026	000		29
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	INJC	50	M	OR-Y OR<25		000	000		00
01736	N	N	N	N	N		05/06/2014	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											29
CITY							TU	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		UNKN	SE-NW									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	R U G S	S W C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
						4P			06	0		N	DAY	INJ		MTRCYCLE		01	DRVR	INJC	00	M	UNK UNK		026	000	29
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	NONE	58	F	OR-Y OR<25		000	000	00
01975 NONE	N	N	N			05/23/2014 FR 6P	19 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 UNKN PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	M	UNK UNK		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	INJC	55	F	OR-Y OR<25		000	000	00
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		02	PSNG	INJC	20	F			000	000	00
03302 NONE	N	N	N			08/25/2014 MO 1P	19 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	53	M	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	INJC	45	F	OR-Y OR<25		000	000	00
03718 NO RPT	N	N	N			09/22/2014 MO 6A	19 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	57	M	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	INJC	38	F	OR-Y OR<25		000	000	00
02082 NONE	N	N	N			06/01/2015 MO 4P	17 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N N	CLD DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	56	M	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	INJC	55	F	OR-Y OR<25		000	000	00
00180 NONE	N	N	N			01/15/2015 TH 6P	17 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N N	CLR DRY DLIT	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	60	M	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	NONE	51	F	OR-Y OR>25		000	000	00
00381	N	N	N			01/28/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-R										02

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D / A L C	R S W U C O H R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
NONE			SA		15TH ST	CN		STOP SIGN	N	DRY	TURN		PRVTE	SE-NE									000	00
			2P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y UNK		028	000	02
												02	NONE 0	STRGHT										
													PRVTE	SW-NE									000	00
													PSNGR CAR		01	DRVR	NONE	27	F	OR-Y OR<25		000	000	00
03991	N N N		10/24/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-R										02
NO RPT			WE		15TH ST	CN		STOP SIGN	N	WET	TURN		PRVTE	SE-NE									015	00
			5P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	39	F	OR-Y OR<25		028	000	02
												02	NONE 0	STRGHT										
													PRVTE	SW-NE									000	00
													PSNGR CAR		01	DRVR	INJC	26	F	OR-Y OR<25		000	000	00
02305	N N N		06/11/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	ANGL-OTH	01	NONE 0	STRGHT										02
NONE			TU		15TH ST	CN		STOP SIGN	N	WET	TURN		PRVTE	SW-NE									000	00
			2P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	47	F	OR-Y OR<25		000	000	00
												02	NONE 0	TURN-R										
													PRVTE	SE-NE									015	00
													PSNGR CAR		01	DRVR	NONE	00	F	UNK OR<25		028	000	02
04064	N N N		10/23/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-OTHER	01	NONE 0	TURN-R										07
NONE			WE		15TH ST	CN		STOP SIGN	N	DRY	TURN		PRVTE	SE-NE									000	00
			11A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	72	M	OR-Y OR<25		042	000	07
												02	NONE 0	TURN-R										
													PRVTE	SE-NE									000	00
													PSNGR CAR		01	DRVR	NONE	62	F	OR-Y OR<25		000	000	00
01496	N N N		04/18/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-R										02
NO RPT			FR		15TH ST	CN		STOP SIGN	N	DRY	TURN		PRVTE	SE-NE									015	00
			4P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	M	OR-Y OR<25		028	000	02
												02	NONE 0	STRGHT										
													PRVTE	SW-NE									000	00
													PSNGR CAR		01	DRVR	NONE	29	F	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	1	2	0	2	0	2	0	0
YEAR 2015 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**1**	**3**	**0**	**3**	**0**	**3**	**0**	**0**
YEAR: 2014														
REAR-END	0	2	0	2	0	2	0	1	1	2	0	2	0	0
TURNING MOVEMENTS	0	3	2	5	0	3	0	4	1	5	0	5	0	0
YEAR 2014 TOTAL	**0**	**5**	**2**	**7**	**0**	**5**	**0**	**5**	**2**	**7**	**0**	**7**	**0**	**0**
YEAR: 2013														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	5	4	9	0	12	0	9	0	5	4	9	0	0
YEAR 2013 TOTAL	**0**	**5**	**5**	**10**	**0**	**12**	**0**	**10**	**0**	**6**	**4**	**10**	**0**	**0**
YEAR: 2012														
REAR-END	0	7	0	7	0	9	0	4	3	4	3	7	0	0
TURNING MOVEMENTS	0	3	1	4	0	3	0	2	2	1	3	4	0	0
YEAR 2012 TOTAL	**0**	**10**	**1**	**11**	**0**	**12**	**0**	**6**	**5**	**5**	**6**	**11**	**0**	**0**
YEAR: 2011														
REAR-END	0	8	4	12	0	12	0	7	3	8	3	12	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	5	1	6	0	10	0	4	2	3	3	6	0	0
YEAR 2011 TOTAL	**0**	**13**	**5**	**18**	**0**	**22**	**0**	**11**	**5**	**11**	**6**	**18**	**0**	**0**
FINAL TOTAL	**0**	**34**	**15**	**49**	**0**	**52**	**1**	**35**	**12**	**32**	**16**	**49**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
03520	N	N	N			09/24/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
STATE						SA		14TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
						12A			06	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	20	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP									011	013	
																PRVTE	NE-SW											00
																PSNGR CAR		01	DRVR	NONE	46	M	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	NE-SW									022		00
																PSNGR CAR		01	DRVR	NONE	19	M	OR-Y OR<25		000	000		00
04057	N	N	N			10/31/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT												07
NONE						MO		14TH ST	NE		TRF SIGNAL	N	WET	REAR		PRVTE	NE-SW									000		00
						6P			06	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	INJC	70	M	OR-Y OR<25		000	000		00
04688	N	N	N	N	N	12/05/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
STATE						MO		14TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
						11A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	24	F	OR-Y OR<25		026	000		07
															01	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		02	PSNG	INJC	23	F			000	000		00
															01	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		03	PSNG	NO<5	01	M			000	000		00
															02	NONE 0	STOP											
																PRVTE	NE-SW									011	013	00
																PSNGR CAR		01	DRVR	NONE	26	M	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	NE-SW									022		00
																PSNGR CAR		01	DRVR	NONE	35	M	OR-Y OR<25		000	000		00
01222	N	N	N	N	N	04/02/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
STATE						MO		14TH ST	NE		L-GRN-SIG	N	DRY	REAR		PRVTE	NE-SW									000		00
						10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	20	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		01	DRVR	INJC	38	M	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		02	PSNG	INJC	32	F			000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
04230	N	N	N	N	N	11/10/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											07
STATE						SA		14TH ST	NE		L-GRN-SIG	N	DRY	REAR		PRVTE	NE-SW									000		00
						5P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	81	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		01	DRVR	INJC	38	M	OR-Y OR<25		000	000		00
04249	Y	Y	N	N	N	11/11/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											01,07
CITY						SU		14TH ST	NE		L-GRN-SIG	N	WET	REAR		PRVTE	NE-SW									000		00
						5P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	46	M	OR-Y OR<25		043,047,026	000		01,07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		02	PSNG	INJC	32	M			000	000		00
01353	N	N	N	N	N	04/08/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	BIKE			-											110	18,14
CITY						TU		14TH ST	NE		TRF SIGNAL	N	DRY	TURN			STRGHT SE NW	01	BIKE	INJB	50	M		I XWLK	020	035		18,14
						1P			06	0		N	DAY	INJ	01	NONE 0	TURN-L											
																PRVTE	NE-SE									000		00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y OR>25		000	000		00
04183	N	N	N			10/21/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											26
NONE						TU		14TH ST	NE		L-GRN-SIG	N	WET	REAR		UNKN	NE-SW									000		00
						2P			06	0		N	DAY	INJ		UNKNOWN		01	DRVR	NONE	00	F	UNK UNK		026	000		29
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		01	DRVR	NONE	21	M	OTH-Y N-RES		000	000		00
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		02	PSNG	INJC	21	F			000	000		00
03503	N	N	N			08/28/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR		14TH ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						2P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	NONE	37	F	OR-Y OR<25		000	000		00
03968	N	N	N			10/23/2012	16	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						TU	0	14TH ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
						2P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	35	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	INJC	61	M	OR-Y OR<25		000	000		00
02271	N	N	N			06/13/2014	16	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR	0	14TH ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	46	M	OR-Y OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	INJC	23	M	OR-Y OR<25		000	000		00
00262	Y	N	N	N	N	01/21/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										013	01,07
STATE						FR		14TH ST	SW		TRF SIGNAL	N	WET	REAR		PRVTE	SW-NE								000		00
						5A			06	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	23	F	OR-Y OR<25		047,026	000		01,07
															02	NONE 0	STOP											
																PRVTE	SW-NE									011	013	00
																PSNGR CAR		01	DRVR	NONE	42	F	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	SW-NE									022		00
																PSNGR CAR		01	DRVR	NONE	51	M	OR-Y OR<25		000	000		00
00344	N	N	N			01/28/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											27,07
CITY						FR		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE								000		00
						12P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	53	M	OR-Y OR<25		016,026	000		27,07
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		01	DRVR	INJC	20	F	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		02	PSNG	NO<5	03	F			000	000		00
01845	Y	N	N	N	N	05/27/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										013	32,01,07
STATE						FR		14TH ST	SW		UNKNOWN	N	WET	REAR		PRVTE	SW-NE								000		00
						6P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	M	SUSP OR>25		052,047,043	000		32,01,07
															02	NONE 0	STOP											
																PRVTE	SW-NE									011	013	00
																PSNGR CAR		01	DRVR	NONE	39	M	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	SW-NE									022		00
																PSNGR CAR		01	DRVR	NONE	54	M	OR-Y OR<25		000	000		00
01784	N	N	N			05/12/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D / A L C	R S W U C O H R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
NONE			TH		14TH ST	SW		TRF SIGNAL	N	UNK	REAR		PRVTE	SW-NE									000		00
			6P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	38	F	OR-Y		026	000		07
																					OR<25				
												02	NONE 0	STOP											
													PRVTE	SW-NE									011		00
													PSNGR CAR		01	DRVR	NONE	29	M	OR-Y		000	000		00
																					OR<25				
01971	N N N N N		06/03/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											27
STATE			FR		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE									000		00
			2P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	51	M	OR-Y		016,026	000		27
																					OR>25				
												02	NONE 0	STOP											
													PRVTE	SW-NE									011		00
													PSNGR CAR		01	DRVR	INJC	31	M	OR-Y		000	000		00
																					OR<25				
02437	N N N		07/01/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE			FR		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE									000		00
			6P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	38	F	OR-Y		026	000		07
																					OR<25				
												01	NONE 0	STRGHT											
													PRVTE	SW-NE									000		00
													PSNGR CAR		02	PSNG	INJC	12	M			000	000		00
												02	NONE 0	STOP											
													PRVTE	SW-NE									011		00
													PSNGR CAR		01	DRVR	NONE	26	F	OR-Y		000	000		00
																					OR<25				
												02	NONE 0	STOP											
													PRVTE	SW-NE									011		00
													PSNGR CAR		02	PSNG	INJC	25	M			000	000		00
												02	NONE 0	STOP											
													PRVTE	SW-NE									011		00
													PSNGR CAR		03	PSNG	NO<5	01	M			000	000		00
03363	Y N N N N		09/12/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	32,01,07
STATE			MO		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE									000		00
			4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	49	F	SUSP		052,047,026	000		32,01,07
																					OR<25				
												02	NONE 0	STOP											
													PRVTE	SW-NE									011	013	00
													PSNGR CAR		01	DRVR	INJC	40	F	OR-Y		000	000		00
																					OR<25				
												03	NONE 0	STOP											
													PRVTE	SW-NE									022		00
													PSNGR CAR		01	DRVR	INJB	25	M	OR-Y		000	000		00
																					N-RES				
81684	N N N		02/16/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE			TH		14TH ST	SW		TRF SIGNAL	N	WET	REAR		PRVTE	SW-NE									000		00
			6P			06	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	34	F	OR-Y		026	000		07
																					OR<25				

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	D R S L	S W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															02	NONE 0	STOP									
																PRVTE	SW-NE								011	00
																PSNGR CAR		01	DRVR	INJC	51	F	OR-Y OR>25		000	000 00
02893	N	N	N	N	N	08/06/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
STATE						MO		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE								000	00
						5P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	48	F	OR-Y OR<25		026	000 07
															02	NONE 0	STOP									
																PRVTE	SW-NE								011	00
																PSNGR CAR		01	DRVR	INJC	37	F	OR-Y OR<25		000	000 00
04802	N	N	N			12/12/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT									07
NONE						WE		14TH ST	SW		TRF SIGNAL	N	WET	REAR		PRVTE	SW-NE								000	00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	31	M	OR-Y OR<25		026	000 07
															02	NONE 0	STOP									
																PRVTE	SW-NE								011	00
																PSNGR CAR		01	DRVR	INJC	55	F	OR-Y OR>25		000	000 00
04856	N	N	N			12/15/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 1	STRGHT									07
NONE						SU		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE								000	00
						2P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	26	F	OR-Y OR<25		026	000 07
															02	NONE 0	STOP									
																PRVTE	SW-NE								011	00
																PSNGR CAR		01	DRVR	NONE	00	F	UNK OR>25		000	000 00
00073	N	N	N			01/05/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT									02
CITY						WE		14TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE								000	00
						11A			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	32	F	OR-Y OR<25		000	000 00
															02	NONE 0	TURN-L									
																PRVTE	NE-SE								000	00
																PSNGR CAR		01	DRVR	INJC	85	F	OR-Y OR<25		028,004	000 02
															02	NONE 0	TURN-L									
																PRVTE	NE-SE								000	00
																PSNGR CAR		02	PSNG	INJC	17	M			000	000 00
00909	N	N	N	N	N	03/14/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT									02
STATE						MO		14TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE								000	00
						8A			04	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	INJC	21	F	OR-Y OR<25		000	000 00
															02	NONE 0	TURN-L									
																PRVTE	NE-SE								000	00
																PSNGR CAR		01	DRVR	INJB	27	F	OR-Y OR<25		028,004	000 02
02805	N	N	N			08/04/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-STRGHT	01	NONE 0	STRGHT									07
NONE						TH		14TH ST	CN		TRF SIGNAL	N	DRY	REAR		UNKN	NE-SW								000	00
						3P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	F	UNK		042	000 07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																02	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW						UNK OR-Y OR>25		000	000	00 00
03304 NO RPT	N	N	N				09/07/2011 WE 5P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DAY	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	38	F	OR-Y OR<25		004,028	000 000	02 00 02
																02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	INJB	25	F	OR-Y OR<25		000	000	00 00
04004 CITY	N	N	N				09/20/2011 TU UNK	14	PACIFIC HY 99E 14TH ST 02	INTER CN 02	3-LEG 0	N TRF SIGNAL N	N N N	UNK UNK UNK	S-1TURN REAR PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	20	F	OTH-Y N-RES		026	000 000	07 00 07
																02	NONE 0 PRVTE PSNGR CAR	STOP NE-SE	01	DRVR	NONE	89	F	OTH-Y OR<25		000	013 000	00 00
04527 CITY	N	N	N	N	N	N	11/26/2011 SA 6P	14	PACIFIC HY 99E 14TH ST 04	INTER CN 04	3-LEG 0	N TRF SIGNAL N	N N N	CLD DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	INJC	59	M	OR-Y OR<25		004,028	000 000	02 00 02
																01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	02	PSNG	INJC	29	F			000	000 000	00 00
																02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	INJC	49	M	OR-Y OR<25		000	000 000	00 00
04723 NO RPT	N	N	N				12/07/2011 WE 5P	14	PACIFIC HY 99E 14TH ST 04	INTER CN 04	3-LEG 0	N TRF SIGNAL N	N N N	CLR DRY DLIT	O-1 L-TURN TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	48	F	OR-Y OR<25		000	000 000	02,07 00 00
																02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	33	M	OR-Y OR<25		028,004	001 013 000	00 02
																03	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	48	M	OR-Y OR<25		000	000 000	00 00
04879 CITY	N	N	N				12/19/2011 MO 10A	14	PACIFIC HY 99E 14TH ST 04	INTER CN 04	3-LEG 0	N TRF SIGNAL N	N N N	CLR DRY DAY	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	INJB	22	M	OR-Y OR<25		097	000 000	04 00 00
																02	NONE 0 PRVTE	STRGHT SW-NE									000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	29	F	OR-Y OR<25		097	000	00
01218	N	N	N	N	N	03/31/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										04
STATE						SA		14TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE									000	00
						9P			04	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	45	M	OR-Y OR<25		020	000	04
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	INJC	70	M	OR-Y OR<25		000	000	00
02254	N	N	N			06/23/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										02
CITY						SA		14TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE									000	00
						6A			04	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	40	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	INJC	43	F	OTH-Y OR<25		028,004	000	02
02653	N	N	N			07/21/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE						SA		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
						1P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	50	F	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	NONE	00	F	UNK UNK		028	000	02
03404	N	N	N	N	N	09/13/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
STATE						TH		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
						7P			04	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	INJC	37	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	NONE	53	F	OR-Y OR<25		028,004	000	02
00388	N	N	N	N	N	02/01/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										02
STATE						FR		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NE-SE									000	00
						9P			03	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y OR<25		028,004	000	02
															02	NONE 0	STRGHT										
																PRVTE	SW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	23	M	OR-Y OR<25		000	000	00
															02	NONE 0	STRGHT										
																PRVTE	SW-NE									000	00
																PSNGR CAR		02	PSNG	NO<5	01	M			000	000	00
00556	N	N	N			02/18/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT										02
CITY						MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
						2P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	46	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-R										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	SE-NE									016	00
																PSNGR CAR		01	DRVR	NONE	32	M	OR-Y OR<25		028	000	02
															02	NONE 0	TURN-R										
																PRVTE	SE-NE									016	00
																PSNGR CAR		02	PSNG	INJC	36	F			000	000	00
00564	N	N	N	N	N	02/18/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT											02
CITY						MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
						10A			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	91	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	INJC	69	M	OR-Y OR<25		028,004	000	02
00701	N	N	N			02/28/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NONE						TH		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
						12P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	58	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		028,004	000	02
01290	N	N	N	N	N	04/16/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT											04
NONE						TU		14TH ST	CN		L-GRN-SIG	N	DRY	TURN		PRVTE	SW-NE									000	00
						12P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	37	F	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	INJC	63	F	OR-Y OR<25		003,004	000	04
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		02	PSNG	INJB	20	F			000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		03	PSNG	NO<5	01	F			000	000	00
02592	N	N	N			07/19/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L											02
NONE						FR		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NE-SE									000	00
						6P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	23	F	OR-Y OR<25		028	000	02
															02	NONE 0	STRGHT										
																PRVTE	SW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	00	M	OR-Y OR<25		000	000	00
03806	N	N	N			10/07/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											04,02
CITY						MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
						9P			04	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		000	000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R U S	S C L	W O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	TYPE	SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE									000		00
																		01	DRVR	NONE	48	M	OR-Y OR<25		003,028,004	000		04,02
04575 CITY	N	Y	N			11/25/2013 MO 7P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	UNK DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURGHT SW-NE									000 000		02 00 00
																		01	DRVR	NONE	34	M	OR-Y OR<25		000	000		00
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE									000		00
																		01	DRVR	INJC	26	M	OR-Y OR<25		028,004	000		02
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE									000		00
																		02	PSNG	INJC	42	F			000	000		00
04860 CITY	N	N	N			12/16/2013 MO 6P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	UNK DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE									000	013	02 00
																		01	DRVR	INJC	48	F	SUSP OR<25		028,004	000		02
															02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE									000	013	00
																		01	DRVR	INJC	33	M	OR-Y OR<25		000	000		00
															03	NONE 0 PRVTE PSNGR CAR	STOP NE-SW									022		00
																		01	DRVR	INJC	36	F	OR-Y OR<25		000	000		00
															03	NONE 0 PRVTE PSNGR CAR	STOP NE-SW									022		00
																		02	PSNG	INJC	36	M			000	000		00
															03	NONE 0 PRVTE PSNGR CAR	STOP NE-SW									022		00
																		03	PSNG	NO<5	02	M			000	000		00
															03	NONE 0 PRVTE PSNGR CAR	STOP NE-SW									022		00
																		04	PSNG	INJC	01	M			000	000		00
00805 NONE	N	N	N			02/24/2014 MO 11A	14	PACIFIC HY 99E 14TH ST	INTER CN 02	3-LEG 0	N TRF SIGNAL	N N	RAIN WET DAY	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-L SE-SW									000		04 00
																		01	DRVR	NONE	83	F	OR-Y OR<25		020	000		04
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE									000		00
																		01	DRVR	NONE	46	M	OR-Y OR<25		000	000		00
01313 CITY	N	N	N			04/05/2014 SA 4P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLD DRY DAY	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE									000		04 00
																		01	DRVR	NONE	35	F	N-VAL		040	000		04

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																								OR<25			
																02	NONE 0	TURN-L									
																	PRVTE	NE-SE								000	00
																	PSNGR CAR		01	DRVR	INJC	32	F	OR-Y		040	000	04
																								OR<25			
02244	N	N	N				06/11/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	BIKE	01	NONE 0	TURN-R									02
NONE							WE		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-SE								000	00
							6P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	59	M	OR-Y		027	000	02
																								OR<25			
																		-									
																		STRGHT	01	BIKE	INJB	48	M		I	INRD	000	000	00
																		SW NE									
03729	N	N	N				09/22/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT									02
NONE							MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE								000	00
							9A			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	42	F	OR-Y		000	000	00
																								OR<25			
																02	NONE 0	TURN-L									
																	PRVTE	NE-SE								000	00
																	PSNGR CAR		01	DRVR	NONE	00	M	UNK		028,004	000	02
																								UNK			
00042	N	N	N				01/05/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT									02
NO RPT							MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE								000	00
							11A			04	0		N	DAY	INJ		TRUCK		01	DRVR	NONE	21	M	OR-Y		000	000	00
																								OR>25			
																02	NONE 0	TURN-L									
																	PRVTE	NE-SE								000	00
																	PSNGR CAR		01	DRVR	INJB	65	F	OR-Y		028,004	000	02
																								OR<25			
02305	N	N	N				06/13/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L									02
NO RPT							SA		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NE-SE								000	00
							9A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	17	F	OR-Y		028	000	02
																								OR<25			
																02	NONE 0	STRGHT									
																	PRVTE	SW-NE								000	00
																	PSNGR CAR		01	DRVR	NONE	32	M	OR-Y		000	000	00
																								OR<25			

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
ANGLE	0	2	4	6	0	2	1	3	2	6	0	6	0	0
TURNING MOVEMENTS	0	2	1	3	0	2	0	3	0	3	0	3	0	0
YEAR 2015 TOTAL	**0**	**4**	**5**	**9**	**0**	**4**	**1**	**6**	**2**	**9**	**0**	**9**	**0**	**0**
YEAR: 2014														
ANGLE	0	2	4	6	0	3	0	6	0	4	2	6	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**2**	**5**	**7**	**0**	**3**	**0**	**6**	**1**	**5**	**2**	**7**	**0**	**0**
YEAR: 2013														
ANGLE	0	1	4	5	0	1	0	5	0	5	0	5	0	0
YEAR 2013 TOTAL	**0**	**1**	**4**	**5**	**0**	**1**	**0**	**5**	**0**	**5**	**0**	**5**	**0**	**0**
YEAR: 2012														
ANGLE	0	4	0	4	0	4	0	3	1	4	0	4	0	0
YEAR 2012 TOTAL	**0**	**4**	**0**	**4**	**0**	**4**	**0**	**3**	**1**	**4**	**0**	**4**	**0**	**0**
YEAR: 2011														
ANGLE	0	2	0	2	0	4	0	2	0	2	0	2	0	0
PEDESTRIAN	0	1	0	1	0	1	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	0	2	0	2	0	0
YEAR 2011 TOTAL	**0**	**4**	**1**	**5**	**0**	**6**	**0**	**3**	**1**	**4**	**1**	**5**	**0**	**0**

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

FINAL TOTAL	**0**	**15**	**15**	**30**	**0**	**18**	**1**	**23**	**5**	**27**	**3**	**30**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D / A L C	R S W U C O H R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
03788	N N N		10/10/2011	16	MAIN ST	INTER	CROSS	N	N	CLD	PED	01	NONE 0	STRGHT										02
CITY			MO	0	14TH ST	SW		FLASHBCN-A	N	WET	PED		PRVTE	SW-NE									000	00
			7P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	71	M	OR-Y OR<25		029	000	02
														- STRGHT SE NW	01	PED	INJC	53	M		I XWLK	000	035	00
02759	N N N N N		08/01/2011	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
CITY			MO	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		RENTL	NE-SW									000	00
			8A			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	61	M	OR-Y OR<25		021	026	03
												02	NONE 0	STRGHT										
													PRVTE	SE-NW									015	00
													MTRCYCLE		01	DRVR	INJB	25	F	OR-Y OR<25		000	000	00
03123	N N N N N		08/25/2011	17	MAIN ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
CITY			TH	0	14TH ST	CN		UNKNOWN	N	DRY	TURN		PRVTE	NE-SW									000	00
			10A			01	0		N	DAY	INJ		MTRCYCLE		01	DRVR	INJB	63	M	OR-Y OR<25		000	000	00
												02	NONE 0	TURN-L										
													PRVTE	SW-NW									000	00
													PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		028,004	000	02
03461	N N N		09/20/2011	16	MAIN ST	INTER	CROSS	N	N	UNK	S-OTHER	01	NONE 0	TURN-R										08
NONE			TU	0	14TH ST	CN		FLASHBCN-R	N	UNK	TURN		PRVTE	SW-SE									000	00
			6P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OTH-Y N-RES		006	000	08
												02	NONE 0	TURN-R										
													PRVTE	SW-SE									000	00
													PSNGR CAR		01	DRVR	NONE	47	M	OR-Y OR<25		000	000	00
04663	N N N		12/04/2011	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
NONE			SU	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NW-SE									000	00
			3P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	54	F	OR-Y OR>25		021	000	03
												01	NONE 0	STRGHT										
													PRVTE	NW-SE									000	00
													PSNGR CAR		02	PSNG	INJC	16	F			000	000	00
												01	NONE 0	STRGHT										
													PRVTE	NW-SE									000	00
													PSNGR CAR		03	PSNG	INJC	01	M			000	000	00
												02	NONE 0	STRGHT										
													PRVTE	NE-SW									000	00
													PSNGR CAR		01	DRVR	NONE	26	M	OR-Y OR<25		000	000	00
00830	N N N		03/05/2012	16	MAIN ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT			MO	0	14TH ST	CN		STOP SIGN	N	WET	ANGL		PRVTE	SW-NE									015	00
			9A			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	49	F	OR-Y		028	000	02

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	R U S	S C L	W O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SE-NW									000		00
																PSNGR CAR		01	DRVR	NONE	88	F	OR-Y		000	000		00
																							OR<25					
02622	N	N	N			07/19/2012	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						TH	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	SE-NW									000		00
						4P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	30	F	OR-Y		000	000		00
																							OR<25					
															01	NONE 0	STRGHT											
																PRVTE	SE-NW									000		00
																PSNGR CAR		02	PSNG	NO<5	04	F			000	000		00
															02	NONE 0	STRGHT											
																PRVTE	SW-NE									015		00
																PSNGR CAR		01	DRVR	INJC	67	F	OR-Y		028	000		02
																							OR<25					
02833	N	N	N	N	N	08/02/2012	16	MAIN ST	INTER	CROSS	N	N	CLR	BIKE													110	05,03
CITY						TH	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL			-											
						6P			01	0		N	DAY	INJ			STRGHT NE SW	01	BIKE	INJB	29	M		I	XWLK	039,021	000		05,03
															01	NONE 0	STRGHT											
																PRVTE	SE-NW									000	110	00
																PSNGR CAR		01	DRVR	NONE	58	M	OR-Y		000	000		00
																							OR<25					
03088	N	N	N			08/20/2012	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											03
CITY						MO	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NE-SW									000		00
						5P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	17	M	OR-Y		021	000		03
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SE-NW									000		00
																PSNGR CAR		01	DRVR	INJC	63	F	OR-Y		000	000		00
																							OR<25					
00573	N	N	N			02/19/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						TU	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NE-SW									000		00
						5P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	60	F	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	NW-SE									015		00
																PSNGR CAR		01	DRVR	NONE	41	M	OR-Y		028	000		02
																							OR<25					
00675	N	N	N			02/26/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											03
NONE						TU	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NW-SE									000		00
						8A			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	20	M	OR-Y		021	000		03
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									015		00
																PSNGR CAR		01	DRVR	NONE	56	F	OR-Y		000	000		00
																							OR<25					
01511	N	N	N	N	N	05/02/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
CITY						TH	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NE-SW									015		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D / A L C	R S W U C O H R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
			10A			03	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	58	F	OR-Y OR<25		028	000	02
												02	NONE 0	STRGHT										
													PRVTE	NW-SE									000	00
													PSNGR CAR		01	DRVR	INJC	40	M	OR-Y OR<25		000	000	00
02357	N N N N N		07/02/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
CITY			TU	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NE-SW									000	00
			8A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	24	F	OR-Y OR<25		021	000	03
												02	NONE 0	STRGHT										
													PRVTE	NW-SE									000	00
													PSNGR CAR		01	DRVR	NONE	67	F	OR-Y OR<25		000	000	00
03983	N N N		10/18/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
NONE			FR	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	SE-NW									000	00
			2P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	F	UNK OR<25		021	000	03
												02	NONE 0	STRGHT										
													PRVTE	NE-SW									015	00
													PSNGR CAR		01	DRVR	NONE	71	F	OR-Y OR<25		000	000	00
00647	N N N		02/13/2014	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NONE			TH	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	SW-NE									015	00
			1P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	41	F	OR-Y OR<25		028	000	02
												02	NONE 0	STRGHT										
													PRVTE	NW-SE									000	00
													PSNGR CAR		01	DRVR	NONE	00	F	UNK OR<25		000	000	00
00942	N N N		03/06/2014	16	MAIN ST	INTER	CROSS	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE			TH	0	14TH ST	CN		FLASHBCN-R	N	WET	TURN		PRVTE	SE-NW									000	00
			11A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	45	M	OR-Y OR<25		000	000	00
												02	NONE 0	TURN-L										
													PRVTE	NW-NE									000	00
													PSNGR CAR		01	DRVR	NONE	65	M	OR-Y OR<25		028,004	000	02
02048	N N N N N		05/29/2014	16	MAIN ST	INTER	CROSS	N	N	CLR	BIKE			-										110	03
CITY			TH	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL			STRGHT NE SW	01	BIKE	INJC	51	M		I INRD	021	034	03
			6A			03	0		N	DAWN	INJ													
												01	NONE 0	STRGHT										
													PRVTE	NE-SW									000	00
													PSNGR CAR		01	DRVR	NONE	65	F	OR-Y OR<25		000	000	00
02751	N N N		07/17/2014	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT			TH	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NW-SE									000	00
			4P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	30	M	OR-Y OR<25		000	000	00
												02	NONE 0	STRGHT										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	NE-SW									015	00
																PSNGR CAR		01	DRVR	NONE	40	M	OTH-Y N-RES		028	000	02
03506	N	N	N			09/08/2014		16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
NONE						MO	0		14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	SE-NW									000	00
						5P				02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	24	M	OR-Y OR<25		000	000	00
																02	NONE 0	STRGHT										
																	UNKN	SW-NE									000	00
																	PSNGR CAR		01	DRVR	NONE	00	F	UNK UNK		021	000	03
04665	N	N	N			11/17/2014		16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NONE						MO	0		14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NE-SW									015	00
						10A				01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	66	M	OR-Y OR<25		028	000	02
																02	NONE 0	STRGHT										
																	PRVTE	SE-NW									000	00
																	PSNGR CAR		01	DRVR	NONE	16	F	OR-Y OR<25		000	000	00
04069	N	N	N			10/13/2014		16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT						MO	0		14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NW-SE									000	00
						6P				04	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	INJB	20	M	OTH-Y OR<25		028	000	02
																01	NONE 0	STRGHT										
																	PRVTE	NW-SE									000	00
																	PSNGR CAR		02	PSNG	INJB	40	F			000	000	00
																02	NONE 0	STRGHT										
																	PRVTE	SW-NE									015	00
																	PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		000	000	00
00432	N	N	N			02/03/2015		16	MAIN ST	INTER	CROSS	N	N	UNK	ANGL-OTH	01	NONE 0	STRGHT										02
NONE						TU	0		14TH ST	CN		FLASHBCN-R	N	WET	ANGL		PRVTE	NW-SE									000	00
						11A				03	0		N	DAY	INJ		TRUCK		01	DRVR	NONE	38	M	OTH-Y N-RES		000	000	00
																02	NONE 0	STRGHT										
																	PRVTE	NE-SW									015	00
																	PSNGR CAR		01	DRVR	INJC	79	F	OR-Y OR<25		028	000	02
01732	N	N	N			05/08/2015		17	MAIN ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE						FR	0		14TH ST	CN		FLASHBCN-R	N	DRY	TURN		PRVTE	NW-SE									015	00
						6P				03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	40	M	OR-Y OR<25		000	000	00
																02	NONE 0	TURN-L										
																	PRVTE	SE-SW									015	00
																	PSNGR CAR		01	DRVR	NONE	65	M	OR-Y OR<25		028,004	000	02
03374	N	N	N			08/18/2015		17	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L										03
NONE						TU	0		14TH ST	CN		FLASHBCN-R	N	DRY	TURN		PRVTE	SW-NW									000	00
						5P				01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	55	M	OTH-Y N-RES		021	000	03

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CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															02	NONE 0	STRGHT									
																PRVTE	SE-NW								000	00
																PSNGR CAR		01	DRVR	NONE	23	M	OR-Y OR<25		000	000	00
05284	N	N	N			12/10/2015	17	MAIN ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT						TH	0	14TH ST	CN		FLASHBCN-R	N	WET	ANGL		PRVTE	NE-SW								015	00
						12P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	70	M	OR-Y OR<25		028	000	02
															02	NONE 0	STRGHT									
																PRVTE	NW-SE								000	00
																PSNGR CAR		01	DRVR	INJC	26	F	OR-Y OR<25		000	000	00
															02	NONE 0	STRGHT									
																PRVTE	NW-SE								000	00
																PSNGR CAR		02	PSNG	NO<5	01	F			000	000	00
01269	N	N	N			04/09/2015	17	MAIN ST	INTER	CROSS	N	N	FOG	ANGL-OTH	01	NONE 0	STRGHT										03
NONE						TH	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	SW-NE								000	00
						6A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	75	M	OR-Y OR<25		021	000	03
															02	NONE 0	STRGHT									
																PRVTE	NW-SE								000	00
																PSNGR CAR		01	DRVR	NONE	75	M	OR-Y OR<25		000	000	00
01276	N	N	N			04/09/2015	17	MAIN ST	INTER	CROSS	N	N	UNK	ANGL-OTH	01	NONE 0	STRGHT										03
NONE						TH	0	14TH ST	CN		FLASHBCN-R	N	UNK	ANGL		PRVTE	NW-SE								000	00
						1P			03	0		N	DAY	PDO		MTRCYCLE		01	DRVR	NONE	00	Unk	OR-Y OR<25		021	000	03
															02	NONE 0	STRGHT									
																PRVTE	NE-SW								000	00
																PSNGR CAR		01	DRVR	NONE	25	F	OR-Y OR<25		000	000	00
01437	N	N	N			04/22/2015	17	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NONE						WE	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NE-SW								000	00
						5P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	46	M	OR-Y OR<25		000	000	00
															02	NONE 0	STRGHT									
																PRVTE	NW-SE								015	00
																PSNGR CAR		01	DRVR	NONE	17	F	OR-Y OR<25		028	000	02
01862	N	N	N			05/16/2015	17	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT						SA	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NW-SE								000	00
						8A			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	68	M	OR-Y OR<25		000	000	00
															02	NONE 0	STRGHT									
																PRVTE	NE-SW								015	00
																PSNGR CAR		01	DRVR	NONE	36	F	OR-Y OR<25		028	000	02
04205	N	N	N			10/12/2015	17	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-R										02
NONE						MO	0	14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-SE								016	00
						1P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	27	M	OTH-Y		028	000	02

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A	U	R S L	W C H	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
																02	NONE 0	STRGHT						OR<25				
																	PRVTE	NW-SE									000	00
																	PSNGR CAR		01	DRVR	NONE	48	F	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 7TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2015 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2014														
ANGLE	0	1	2	3	0	1	0	2	1	3	0	3	0	0
REAR-END	0	1	0	1	0	1	0	1	0	0	1	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2014 TOTAL	**0**	**2**	**3**	**5**	**0**	**2**	**0**	**3**	**2**	**3**	**2**	**5**	**0**	**0**
YEAR: 2013														
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**
YEAR: 2012														
ANGLE	0	0	1	1	0	0	0	0	0	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2011														
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR 2011 TOTAL	**0**	**1**	**0**	**1**	**0**	**2**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**4**	**5**	**9**	**0**	**5**	**0**	**6**	**2**	**6**	**3**	**9**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 7TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 9

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01983	N	N	N			05/23/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
CITY						FR	0	7TH ST	SE		TRF SIGNAL	N	DRY	REAR		UNKN	SE-NW									000		00
						9P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		026	000		29
															02	NONE 0	STOP											
																PRVTE	SE-NW									011	013	00
																PSNGR CAR		01	DRVR	NONE	19	F	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	SE-NW									022		00
																PSNGR CAR		01	DRVR	INJC	38	F	OR-Y OR<25		000	000		00
01016	N	N	N			03/24/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						TH	0	7TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NW-SE									000		00
						3P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	33	M	OR-Y OR<25		000	000		00
															02	NONE 0	TURN-R											
																PRVTE	SW-SE									016		00
																PSNGR CAR		01	DRVR	INJC	51	F	OR-Y OR<25		028	000		02
															02	NONE 0	TURN-R											
																PRVTE	SW-SE									016		00
																PSNGR CAR		02	PSNG	INJC	16	F			000	000		00
01660	N	N	N			05/06/2012	16	WASHINGTON ST	INTER	CROSS	N	N	UNK	ANGL-OTH	01	NONE 0	STRGHT											04
NONE						SU	0	7TH ST	CN		TRF SIGNAL	N	UNK	ANGL		PRVTE	NE-SW									000		00
						11A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	69	F	OR-Y OR<25		097	000		00
															02	NONE 0	STRGHT											
																UNKN	NW-SE									000		00
																PSNGR CAR		01	DRVR	NONE	18	F	OR-Y UNK		097	000		00
03888	N	N	N			10/03/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NO RPT						TH	0	7TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NE-SW									000		00
						6A			01	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	INJC	42	M	OR-Y OR<25		000	000		00
															02	NONE 0	TURN-L											
																PRVTE	SW-NW									000		00
																PSNGR CAR		01	DRVR	NONE	65	F	OR-Y OR<25		028,004	000		02
00676	N	N	N			01/29/2014	16	WASHINGTON ST	INTER	CROSS	N	N	SNOW	ANGL-OTH	01	NONE 0	STRGHT											04
NONE						WE	0	7TH ST	CN		TRF SIGNAL	N	SNO	ANGL		PRVTE	NW-SE									000		00
						11A			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	50	M	OR-Y OR<25		000	000		00
															02	NONE 0	STRGHT											
																UNKN	SW-NE									000		00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		020	000		04
00681	N	N	N	N	N	02/15/2014	16	WASHINGTON ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											04
CITY						SA	0	7TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	NW-SE									000		00
						11P			04	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	27	F	OR-Y		020	000		04

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 7TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 9

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W S R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																								OR<25			
																02	NONE 0 / PRVTE / PSNGR CAR	TURN-L / NE-SE	01	DRVR	NONE	50	M	OR-Y		000	000	04 / 00 / 00
																								OR<25			
03089 / NONE	N	N	N				08/09/2014 / SA / 12P	16 / 0	WASHINGTON ST / 7TH ST	INTER / CN / 02	CROSS / 0	N / TRF SIGNAL	N / N	CLR / DRY / DAY	ANGL-OTH / ANGL / PDO	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT / SE-NW	01	DRVR	NONE	52	F	OR-Y		000	000	04 / 00 / 00
																								OR<25			
																02	NONE 0 / PRVTE / PSNGR CAR	STRGHT / SW-NE	01	DRVR	NONE	39	F	OTH-Y / N-RES		020	000	00 / 04
05148 / NONE	N	N	N				12/19/2014 / FR / 3P	16 / 0	WASHINGTON ST / 7TH ST	INTER / CN / 02	CROSS / 0	N / TRF SIGNAL	N / N	CLR / DRY / DAY	ANGL-OTH / ANGL / INJ	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT / SW-NE	01	DRVR	INJC	35	M	OR-Y		020	000	04 / 00 / 04
																								OR<25			
																02	NONE 0 / PRVTE / PSNGR CAR	STRGHT / SE-NW	01	DRVR	NONE	81	F	OR-Y		000	000	00 / 00
																								OR<25			
02086 / NO RPT	N	N	N				06/01/2015 / MO / 8A	16 / 0	WASHINGTON ST / 7TH ST	INTER / CN / 03	CROSS / 0	N / TRF SIGNAL	N / N	CLR / DRY / DAY	ANGL-OTH / TURN / PDO	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT / NE-SW	01	DRVR	NONE	76	F	OR-Y		020	000	04 / 00 / 04
																								OR<25			
																02	NONE 0 / PRVTE / PSNGR CAR	TURN-L / NW-NE	01	DRVR	NONE	25	F	OR-Y		000	000	00 / 00
																								OR<25			

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	2	0	2	0	2	0	2	0	2	0	2	0	0
YEAR 2015 TOTAL	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**
YEAR: 2014														
FIXED / OTHER OBJECT	0	0	1	1	0	0	1	1	0	0	1	1	0	1
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**1**	**2**	**0**	**1**	**1**	**2**	**0**	**1**
YEAR: 2013														
TURNING MOVEMENTS	0	1	1	2	0	5	0	1	1	0	2	2	0	0
YEAR 2013 TOTAL	**0**	**1**	**1**	**2**	**0**	**5**	**0**	**1**	**1**	**0**	**2**	**2**	**0**	**0**
YEAR: 2012														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	0	1	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**1**	**1**	**2**	**0**	**2**	**0**	**0**
YEAR: 2011														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2011 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**5**	**4**	**9**	**0**	**9**	**1**	**7**	**2**	**6**	**3**	**9**	**0**	**1**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 9

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02018	N	N	N			05/28/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLD	S-STRGHT	01	NONE 0	STRGHT											07
CITY						WE	0	14TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
						8A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	40	F	OR-Y		043,026	000		07
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									006		00
																PSNGR CAR		01	DRVR	INJC	47	M	OR-Y		000	000		00
																							OR<25					
00650	N	N	N	N	N	02/13/2014	16	WASHINGTON ST	INTER	CROSS	N	Y	CLD	FIX OBJ	01	NONE 1	TURN-R										055	08
CITY						TH	0	14TH ST	W		TRF SIGNAL	N	DRY	FIX		PRVTE	NW-SW									000	055	00
						6P			06	0		N	DARK	PDO		SEMI TOW		01	DRVR	NONE	22	M	OR-Y		002	000		08
																							OR<25					
02972	N	N	N			07/23/2015	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						TH	0	14TH ST	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	39	F	OR-Y		026	000		29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	INJC	57	F	OR-Y		000	000		00
																							OR<25					
04634	N	N	N			11/06/2015	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR	0	14TH ST	NW		TRF SIGNAL	N	DRY	REAR		UNKN	NW-SE									000		00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK		026	000		29
																							UNK					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	INJC	58	F	OR-Y		000	000		00
																							OR<25					
03563	N	N	N			09/22/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NONE						TH	0	14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NE-SW									000		00
						5P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	53	F	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	SW-NW									000		00
																PSNGR CAR		01	DRVR	NONE	26	F	OR-Y		004,028	000		02
																							OR<25					
00866	N	N	N			03/06/2012	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
NONE						TU	0	14TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	SE-NW									000		00
						9A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	84	M	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		01	DRVR	NONE	44	F	OR-Y		020	000		04
																							OR<25					
00960	N	N	N	N	N	03/14/2012	17	WASHINGTON ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											02
CITY						WE	0	14TH ST	CN		STOP SIGN	N	WET	TURN		PRVTE	NW-SE									015		00
						4P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	39	F	OR-Y		028	000		02
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 9

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	38	M	OR-Y OR<25		000	000	00
00349	N	N	N	N	N	01/29/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT										02,14
CITY						TU	0	14TH ST	CN		L-GRN-SIG	N	WET	TURN		PRVTE	NE-SW									000	00
						6P			01	0		N	DARK	INJ		OTH BUS		01	DRVR	NONE	52	M	OR-Y OR<25		000	000	00
															01	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																OTH BUS		02	PSNG	INJC	59	F			000	000	00
															01	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																OTH BUS		03	PSNG	INJC	44	F			000	000	00
															01	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																OTH BUS		04	PSNG	INJC	19	F			000	000	00
															01	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																OTH BUS		05	PSNG	INJC	33	M			000	000	00
															02	NONE 0	TURN-L										
																PRVTE	SW-NW									000	00
																PSNGR CAR		01	DRVR	INJB	24	F	OR-Y OR<25		028,004	000	02,14
04816	N	N	N	N	N	12/13/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										02
CITY						FR	0	14TH ST	CN		TRF SIGNAL	N	DRY	TURN		UNKN	SE-SW									000	00
						5P			03	0		N	DLIT	PDO		MTRCYCLE		01	DRVR	NONE	00	Unk	UNK UNK		028	000	02
															02	NONE 0	STRGHT										
																PRVTE	NW-SE									000	00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	1	1	2	0	0
YEAR 2015 TOTAL	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**0**
YEAR: 2014														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	2	3	0	1	0	2	1	2	1	3	0	0
YEAR 2014 TOTAL	**0**	**1**	**3**	**4**	**0**	**1**	**0**	**3**	**1**	**3**	**1**	**4**	**0**	**0**
YEAR: 2013														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**
YEAR: 2012														
ANGLE	0	1	1	2	0	2	0	1	1	1	1	2	0	0
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	2	3	0	1	0	3	0	3	0	3	0	0
YEAR 2012 TOTAL	**0**	**3**	**3**	**6**	**0**	**4**	**0**	**5**	**1**	**5**	**1**	**6**	**0**	**0**
YEAR: 2011														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	2	0	2	0	2	0	2	0	2	0	2	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	1	1	2	0	2	0	2	0	1	1	2	0	0
YEAR 2011 TOTAL	**0**	**3**	**2**	**5**	**0**	**4**	**0**	**5**	**0**	**4**	**1**	**5**	**0**	**0**
FINAL TOTAL	**0**	**11**	**9**	**20**	**0**	**13**	**0**	**17**	**3**	**16**	**4**	**20**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	R U S	S W C L	O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01896	N	N	N			05/23/2012	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						WE	0	15TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
						5P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	35	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	INJC	48	M	OR-Y OR<25		000	000		00
00020	N	N	N			01/03/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NO RPT						MO	0	15TH ST	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		026	000		07
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	INJC	53	M	OR-Y OR<25		000	000		00
02978	N	N	N			08/12/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
NONE						FR	0	15TH ST	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		026	000		07
															02	NONE 0	STOP											
																PRVTE	NW-SE									011	013	00
																PSNGR CAR		01	DRVR	INJC	34	F	OR-Y OR<25		000	000		00
															03	UNKN 0	STOP											
																UNKN	NW-SE									022		00
																UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
00548	Y	N	N			02/07/2014	16	WASHINGTON ST	INTER	CROSS	N	N	SNOW	ANGL-STP	01	NONE 0	TURN-R										124	01,08
NONE						FR	0	15TH ST	NW		TRF SIGNAL	N	SNO	TURN		PRVTE	NE-NW									000	124	00
						3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		047,001	000		01,08
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		000	000		00
01851	N	N	N	N	N	05/27/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT											02
CITY						FR	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW									000		00
						10P			02	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	30	F	OTH-Y N-RES		000	000		00
															02	NONE 0	TURN-L											
																PRVTE	NW-NE									000		00
																PSNGR CAR		01	DRVR	NONE	16	M	OR-Y OR<25		004,028	000		02
02174	Y	N	N	N	N	06/19/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-STP	01	NONE 0	TURN-R											32,01
CITY						SU	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NE									001		00
						12P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		052,043	017		32,01
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		01	DRVR	INJC	46	F	OR-Y		000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		02	PSNG	INJC	18	F			000	000		00
02178	N	N	N			06/19/2011		16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
NO RPT						SU	0		15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	SE-NW								000		00
						3P				02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	70	F	OR-Y		097	000		00
																							OR>25					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		01	DRVR	NONE	48	M	OR-Y		097	000		00
																							OR<25					
01121	N	N	N			03/24/2012		17	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						SA	0		15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE								000		00
						2P				02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	64	F	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	TURN-R											
																PRVTE	SE-NE									016		00
																PSNGR CAR		01	DRVR	NONE	49	M	OR-Y		028	000		02
																							OR<25					
01703	N	N	N	N	N	05/12/2012		16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
CITY						SA	0		15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	SE-NW								000		00
						9A				02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	52	M	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		01	DRVR	NONE	62	M	OR-Y		020	000		04
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		02	PSNG	INJC	60	F			000	000		00
01797	N	N	N			05/16/2012		17	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										013	02
NONE						WE	0		15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NW-NE								000		00
						4P				02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	46	F	OR-Y		028	000		02
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SE-NW									000	013	00
																PSNGR CAR		01	DRVR	NONE	30	F	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	TURN-R											
																PRVTE	NE-NW									022		00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																							UNK					
02541	N	N	N			07/13/2012		16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NO RPT						FR	0		15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW								000		00
						2P				02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	18	M	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	NW-NE									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	D R S L	S W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	16	F	OR-Y OR<25		028,004	000		02
04903	N	N	N			12/16/2012	16	WASHINGTON ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											04
NO RPT						SU	0	15TH ST	CN		TRF SIGNAL	N	WET	ANGL		PRVTE	SE-NW									000		00
						9P			01	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	32	M	OR-Y OR<25		020	000		04
															01	NONE 0	STRGHT											
																PRVTE	SE-NW									000		00
																PSNGR CAR		02	PSNG	NO<5	02	F			000	000		00
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		000	000		00
03443	N	N	N	N	N	09/16/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLD	BIKE	01	NONE 0	TURN-L										084	02
CITY						MO	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NW-NE									000		00
						6P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	39	M	OR-Y OR<25		027	000	084	02
																-												
																STRGHT		01	BIKE	INJC	45	M		I	INRD	000	035		00
																SE NW												
03476	N	N	N	N	N	09/18/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
CITY						WE	0	15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	NE-SW									000		00
						12P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	23	F	OR-Y OR<25		020	000		04
															02	NONE 0	STRGHT											
																PRVTE	NW-SE									000		00
																PSNGR CAR		01	DRVR	NONE	66	F	OR-Y OR<25		000	000		00
01340	N	N	N	N	N	04/07/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NONE						MO	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW									000		00
						9P			02	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	39	M	OR-Y OR<25		000	000		00
															02	NONE 0	TURN-L											
																PRVTE	NW-NE									000		00
																PSNGR CAR		01	DRVR	INJC	22	F	OR-Y OR>25		028,004	000		02
02043	N	N	N			05/28/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
NONE						WE	0	15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	NE-SW									000		00
						2P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y OR<25		020	000		04
															02	NONE 0	STRGHT											
																PRVTE	SE-NW									000		00
																PSNGR CAR		01	DRVR	NONE	62	M	OR-Y OR<25		000	000		00
02753	N	N	N			07/17/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NO RPT						TH	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW									000		00
						4P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	59	F	OR-Y OR<25		000	000		00
															02	NONE 1	TURN-L											

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	NW-NE									00
																PSNGR CAR		01	DRVR	NONE	40	M	OR-Y OR<25		028,004	000	02
00711	N	N	N			02/23/2015	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NO RPT						MO	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW									000	00
						8P			02	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	39	F	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	16	M	OR-Y OR<25		028,004	000	02
04626	N	N	N			11/06/2015	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
NONE						FR	0	15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	NE-SW									000	00
						9A			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	38	M	OTH-Y N-RES		000	000	00
															02	NONE 0	STRGHT										
																PRVTE	SE-NW									000	00
																PSNGR CAR		01	DRVR	NONE	20	F	OR-Y OR<25		020	000	04
03528	N	N	N			08/29/2015	16	WASHINGTON ST	INTER	CROSS	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE						SA	0	15TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SE-NW									000	00
						9A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	54	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	37	M	OR-Y OR<25		028,004	000	02

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at ABERNATHY RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
FINAL TOTAL														

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 17TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
FINAL TOTAL														

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at PRAIRIE SCHOONER WY, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
YEAR 2015 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**
YEAR: 2014														
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**
YEAR: 2013														
TURNING MOVEMENTS	0	1	0	1	0	1	0	0	1	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**
FINAL TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**1**	**2**	**1**	**2**	**3**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at PRAIRIE SCHOONER WY, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 3

SER# / INVEST	SPEED	ALCHL	DRUGS	WORK ZONE	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES / EX	PED LOC	ERROR	ACT EVENT	CAUSE
04785	N	N	N		12/12/2013	16	PRAIRIE SCHOONER WY	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE					TH	0	WASHINGTON ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE								000	00
					5P			02	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	INJB	20	F	OR-Y		000	000	00
																							OR<25				
														02	NONE 0	TURN-L										
															PRVTE	NE-SE									000	00
															PSNGR CAR		01	DRVR	NONE	61	M	OR-Y		028,004	000	02
																							OR<25				
03741	N	N	N		09/23/2014	16	PRAIRIE SCHOONER WY	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										08,02
NONE					TU	0	WASHINGTON ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE								000	00
					6P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK		000	000	00
																							UNK				
														02	NONE 0	TURN-L										
															PRVTE	NE-SE									000	00
															PSNGR CAR		01	DRVR	NONE	36	M	OR-Y		028,004	000	02
																							OR<25				
05332	N	N	N		12/12/2015	16	PRAIRIE SCHOONER WY	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE					SA	0	WASHINGTON ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE								000	00
					10P			04	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	25	M	OTH-Y		000	000	00
																							OR<25				
														02	NONE 0	TURN-L										
															PRVTE	NE-SE									000	00
															PSNGR CAR		01	DRVR	NONE	63	M	OR-Y		028,004	000	02
																							N-RES				

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at CLACKAMAS RIVER DR, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2015 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**
YEAR: 2014														
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2014 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**
FINAL TOTAL	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**2**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CLACKAMAS RIVER DR, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 2

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
05157	N	N	N			12/04/2015	16	CLACKAMAS RIVER DR	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										004	29
NONE						FR	0	WASHINGTON ST	NE		YIELD	Y	WET	REAR		PRVTE	NE-SW									000		00
						7A			06	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	34	M	OR-Y OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	NE-SW									011	004	00
																PSNGR CAR		01	DRVR	NONE	32	F	OR-Y OR<25		000	000		00
00131	N	N	N			01/10/2014	16	CLACKAMAS RIVER DR	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-R											02
NONE						FR	0	WASHINGTON ST	CN		YIELD	Y	WET	TURN		PRVTE	SE-NE									000		00
						6A			04	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	70	M	OR-Y OR<25		028	000		02
															02	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		01	DRVR	NONE	24	M	OR-Y OR<25		000	000		00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2012														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	2	4	6	0	3	0	4	1	5	1	6	0	0
SIDESWIPE - OVERTAKING	0	1	0	1	0	1	0	0	1	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**3**	**5**	**8**	**0**	**4**	**0**	**5**	**2**	**7**	**1**	**8**	**0**	**0**
YEAR: 2011														
ANGLE	0	0	1	1	0	0	0	0	1	1	0	1	0	0
REAR-END	0	3	3	6	0	6	0	4	1	4	2	6	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2011 TOTAL	**0**	**3**	**5**	**8**	**0**	**6**	**0**	**5**	**2**	**6**	**2**	**8**	**0**	**0**
FINAL TOTAL	**0**	**6**	**10**	**16**	**0**	**10**	**0**	**10**	**4**	**13**	**3**	**16**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 16

SER# / INVEST	SPEC	ALC	DRUG	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
04848	N	N	N			12/16/2011	14	CASCADE HY SOUTH	INTER	CROSS	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											07
NONE						FR		WASHINGTON ST	UN		TRF SIGNAL	N	UNK	REAR		PRVTE	UN-UN									000		00
						5P			06	1		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	UN-UN									011		00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		000	000		00
81700	N	N	N			02/16/2012	14	CASCADE HY SOUTH	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											013	07
NONE						TH		WASHINGTON ST	N		TRF SIGNAL	N	WET	REAR		UNKN	N -S									000		00
						10A			06	1		N	DAY	PDO		UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		026	000		07
															02	NONE 0	STOP											
																PRVTE	N -S									011	013	00
																PSNGR CAR		01	DRVR	NONE	74	M	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																UNKN	N -S									022		00
																UNKNOWN		01	DRVR	NONE	00	F	UNK UNK		000	000		00
01339	N	N	N			04/20/2011	14	CASCADE HY SOUTH	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE						WE		WASHINGTON ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						11A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	INJC	24	F	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		02	PSNG	INJC	25	F			000	000		00
01822	N	N	N			05/13/2011	14	CASCADE HY SOUTH	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE						FR		WASHINGTON ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OTH-Y N-RES		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	NONE	26	F	OR-Y OR>25		000	000		00
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		02	PSNG	NO<5	01	M			000	000		00
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		03	PSNG	NO<5	04	F			000	000		00
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		04	PSNG	NO<5	02	F			000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 16

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
															02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	05	PSNG	NO<5	03	F			000	011 000		00 00
01563 NONE	N	N	N			05/06/2011 FR 6P	14	CASCADE HY SOUTH WASHINGTON ST	INTER SW 06	CROSS 1	N TRF SIGNAL	N N	RAIN WET DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	43	M	OR-Y OR<25		026	000 000		07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP SW-NE	01	DRVR	NONE	63	M	OR-Y OR<25		000	011 000		00 00
00651 NO RPT	N	N	N			02/19/2012 SU 4P	14	CASCADE HY SOUTH WASHINGTON ST	INTER SW 06	CROSS 1	N TRF SIGNAL	N N	CLR UNK DUSK	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	49	F	OR-Y OR<25		026	000 000		07 00 07
															02	NONE 0 UNKN PSNGR CAR	STOP SW-NE	01	DRVR	NONE	00	F	UNK UNK		000	011 000		00 00
03589 NONE	N	N	N			09/29/2011 TH 12P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	19	M	OR-Y OR>25		026	000 000		07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	44	F	OR-Y OR<25		000	011 000		00 00
04398 CITY	N	Y	N	Y		11/19/2011 SA 10P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	CLD DRY DLIT	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	45	F	SUSP OR<25		026	000 000	013	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	30	M	OR-Y OR<25		000	011 000	013	00 00
															03	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	64	F	OR-Y OR<25		000	022 000		00 00
															03	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	02	PSNG	INJC	33	M			000	022 000		00 00
00612 NONE	N	N	N	Y		02/17/2012 FR 12P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	RAIN WET DAY	S-STRGHT SS-O INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	INJC	59	F	OR-Y OR<25		045	000 000		13 00 13
															02	NONE 0 PRVTE	STRGHT NW-SE									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 16

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC	INJ	AGE	SEX	LICNS / RES / EXT	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	00	M	UNK OR<25		000	000	00
01212 NONE	N	N	N			03/31/2012 SA 2P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	00	M	UNK OR>25		026	000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	NONE	73	F	OR-Y OR<25		000	011 000	00 00
01295 NONE	N	N	N			04/07/2012 SA 4P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 UNKN PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	00	M	OR-Y UNK		026	000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	NONE	50	M	OR-Y OR<25		000	011 000	00 00
02387 NONE	N	N	N			07/03/2012 TU 11A	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	CLD DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	75	F	OR-Y OR<25		026	000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	23	F	OR-Y OR<25		000	012 000	00 00
03599 NO RPT	N	N	N			09/28/2012 FR 1P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	57	M	OR-Y OR<25		026	000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	21	M	OR-Y OR<25		000	011 000	00 00
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	02	PSNG	INJC	60	F			000	011 000	00 00
01864 NONE	N	N	N			05/28/2011 SA 6P	14	CASCADE HY SOUTH WASHINGTON ST	INTER CN 04	CROSS 0	N TRF SIGNAL	N N	RAIN WET DAY	ANGL-OTH ANGL PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	35	M	OR-Y OR>25		020	000 000	04 00 04
															02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	34	F	OTH-Y N-RES		000	000 000	00 00
03019 CITY	N	N	N	N	Y	08/19/2011 FR 12P	14	CASCADE HY SOUTH WASHINGTON ST	INTER CN 01	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	S-OTHER TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-R NW-SW	01	DRVR	NONE	61	M	OTH-Y N-RES		034	031 000	06 00 06
															02	NONE 0	TURN-R										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 16

SER# / INVEST	S P E D / A L C	R U G	S C H	W O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															PRVTE	NW-SW									000	00
															PSNGR CAR		01	DRVR	NONE	44	M	OR-Y		001	000	00
																						OR>25				
03865	N	N	N		10/16/2012	14	CASCADE HY SOUTH	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NONE					TU		WASHINGTON ST	CN		TRF SIGNAL	N	DRY	ANGL		UNKN	W -E									000	00
					4P			03	1		N	DAY	PDO		UNKNOWN		01	DRVR	NONE	00	Unk	UNK		028	000	02
																						UNK				
														02	NONE 0	STRGHT										
															PRVTE	N -S									000	00
															PSNGR CAR		01	DRVR	NONE	73	F	OR-Y		000	000	00
																						OR<25				

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	0	1	1	0	1
REAR-END	0	4	0	4	0	7	0	4	0	4	0	4	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	1	1	0	1	0	1	0	0
YEAR 2015 TOTAL	**0**	**4**	**2**	**6**	**0**	**7**	**1**	**6**	**0**	**5**	**1**	**6**	**0**	**1**
YEAR: 2014														
ANGLE	0	0	1	1	0	0	0	0	0	1	0	1	0	0
MISCELLANEOUS	0	1	0	1	0	1	0	1	0	0	0	1	0	0
REAR-END	0	2	0	2	0	3	0	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**4**	**1**	**5**	**0**	**6**	**0**	**4**	**0**	**4**	**0**	**5**	**0**	**0**
YEAR: 2013														
MISCELLANEOUS	0	1	0	1	0	2	0	1	0	0	1	1	0	0
REAR-END	0	1	1	2	0	1	0	1	1	2	0	2	0	0
SIDESWIPE - OVERTAKING	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**3**	**1**	**4**	**0**	**4**	**0**	**3**	**1**	**3**	**1**	**4**	**0**	**0**
YEAR: 2012														
BACKING	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	2	0	2	0	2	0	2	0	2	0	2	0	0
YEAR 2012 TOTAL	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**3**	**0**	**3**	**0**	**3**	**0**	**0**
FINAL TOTAL	**0**	**13**	**5**	**18**	**0**	**19**	**1**	**16**	**1**	**15**	**2**	**18**	**0**	**1**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 18

SER# / INVEST	SPEC	ALC	DRUG	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
00824	Y	N	N	N	N	03/10/2013	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLD	OVERTURN	01	NONE 0	TURN-R						OR-Y		047,051		33,01
CITY						SU		CASCADE HY SOUTH	NE		TRF SIGNAL	N	DRY	OTH		PRVTE	SE-NE									000	00
						3A			05	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	21	F	OR<25			000	33,01
															01	NONE 0	TURN-R										
																PRVTE	SE-NE									000	00
																PSNGR CAR		02	PSNG	INJC	24	F			000	000	00
02192	N	N	N			06/18/2012	16	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	O-1STOP	01	NONE 0	BACK										10
NO RPT						MO	0	CASCADE HY SOUTH	NE		L-GRN-SIG	N	DRY	BACK		PRVTE	SW-NE									000	00
						9A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	58	M	OR-Y		011	000	10
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	NE-SW									011	00
																PSNGR CAR		01	DRVR	NONE	60	F	OR-Y		000	000	00
																							OR<25				
00300	N	N	N			01/25/2013	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE						FR		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000	00
						3P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	23	M	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																MOTRHOME		01	DRVR	INJC	55	F	OR-Y		000	000	00
																							OR<25				
02119	N	N	N			06/02/2014	14	CLACKAMAS RIVER DR	INTER		N	N	CLR	OVERTURN	01	NONE 0	STRGHT										10
NONE						MO		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	OTH		PRVTE	S -N									007	00
						6A			06	0		N	UNK	INJ		PSNGR CAR		01	DRVR	INJB	48	M	OR-Y		083	000	10
																							OR<25				
00563	N	N	N			02/13/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						FR		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000	00
						8A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	18	F	OTH-Y		026	000	29
																							N-RES				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	33	F	OR-Y		000	000	00
																							OR<25				
00636	N	N	N			02/18/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						WE		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	REAR		UNKN	SE-NW									000	00
						8A			06	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK		026	000	29
																							UNK				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	16	M	OR-Y		000	000	00
																							OR<25				
05141	N	N	N			12/04/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						FR		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000	00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	28	F	OR-Y		026	000	29
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 18

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																PSNGR CAR		01	DRVR	INJC	41	F	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		02	PSNG	INJC	33	F			000	000		00
01484	N	N	N			04/22/2012	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						SU		CASCADE HY SOUTH	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
						4P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	NONE	63	F	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	S -N									011		00
																PSNGR CAR		02	PSNG	INJC	72	F			000	000		00
01672	N	N	N	N	N	05/15/2013	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										013	07
CITY						WE		CASCADE HY SOUTH	NW		TRF SIGNAL	N	WET	REAR		PRVTE	NW-SE								000		00
						3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	18	F	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011	013	00
																PSNGR CAR		01	DRVR	NONE	24	F	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	STOP											
																PRVTE	NW-SE									022		00
																PSNGR CAR		01	DRVR	NONE	30	M	OR-Y		000	000		00
																							OR<25					
02081	N	N	N	N	N	06/12/2013	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											13
COUNTY						WE		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	SS-O		PRVTE	NW-SE								000		00
						10A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	50	M	OR-Y		045	000		13
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	INJC	42	F	OR-Y		000	000		00
																							OR<25					
02995	N	N	N			08/05/2014	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
NONE						TU		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	REAR		UNKN	NW-SE								000		00
						7P			06	0		N	DAY	INJ		UNKNOWN		01	DRVR	NONE	00	F	OTH-Y		026	000		29
																							UNK					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011	013	00
																PSNGR CAR		01	DRVR	INJC	31	F	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011	013	00
																PSNGR CAR		02	PSNG	INJC	42	M			000	000		00
															03	NONE 0	STOP											

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 18

SER# / INVEST	S P E D	A L C	R U S	S C L	W O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																PRVTE	NW-SE									022		00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y		000	000		00
																							UNK					
03780	N	N	N			09/25/2014	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						TH		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						2P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	71	M	OR-Y		026	000		29
																							OR>25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	INJC	19	F	OR-Y		000	000		00
																							OR<25					
00541	N	N	N			02/11/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
NO RPT						WE		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	52	M	OR-Y		026	000		29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011	013	00
																PSNGR CAR		01	DRVR	INJB	20	M	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	STOP											
																PRVTE	NW-SE									022	013	00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y		000	000		00
																							OR<25					
															04	NONE 1	STOP											
																PRVTE	NW-SE									022		00
																PSNGR CAR		01	DRVR	INJC	29	M	OTH-Y		000	000		00
																							OR<25					
															04	NONE 1	STOP											
																PRVTE	NW-SE									022		00
																PSNGR CAR		02	PSNG	INJC	56	M			000	000		00
03836	N	N	N			09/19/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	Y	CLR	FIX OBJ	01	NONE 0	TURN-L										043	02,05,08
COUNTY						SA		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	FIX		PRVTE	NW-NE									000	043	00
						2A			05	2		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	48	M	UNK		073,039,002	000		02,05,08
																							N-RES					
04280	N	N	N			11/13/2012	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											26,07
NONE						TU		CASCADE HY SOUTH	CN		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
						7A			04	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	19	M	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	INJC	21	M	OR-Y		000	000		26
																							OR<25					
02997	N	N	N			08/05/2014	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L											04
NONE						TU		CASCADE HY SOUTH	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NW-NE									000		00
						11A			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	68	F	OTH-Y		003	000		04
																							N-RES					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		01	DRVR	INJB	29	F	OR-Y		000	000		00
																							OR<25					

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 18

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															02	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	02	PSNG	INJB	05	M			000	000 000	00 00
03266 NO RPT	N	N	N			08/22/2014 FR 7A	14	CLACKAMAS RIVER DR CASCADE HY SOUTH	INTER CN 01	CROSS 0	N TRF SIGNAL	N N N	UNK UNK DAY	ANGL-OTH ANGL PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT UN-UN	01	DRVR	NONE	44	F	OR-Y OR<25		000	000 000	16,04 00 00
															02	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	23	M	UNK OR>25		020	000 025	00 16,04
02654 NONE	N	N	N			07/01/2015 WE 10A	14	CLACKAMAS RIVER DR CASCADE HY SOUTH	INTER CN 01	CROSS 0	N TRF SIGNAL	N N N	CLR DRY DAY	S-1TURN TURN PDO	01	NONE 0 PRVTE TRUCK	TURN-R N -W	01	DRVR	NONE	00	M	OR-Y OR<25		006	000 000	08 00 08
															02	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	NONE	71	F	OR-Y OR<25		000	000 000	00 00

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Left-Turn Lane Warrant Analysis

Project: 17014 - Abernethy Place
Intersection: 14th Street at Main Street
Date: 4/11/2017
Scenario: Existing Conditions - AM Peak Hour (NEB)

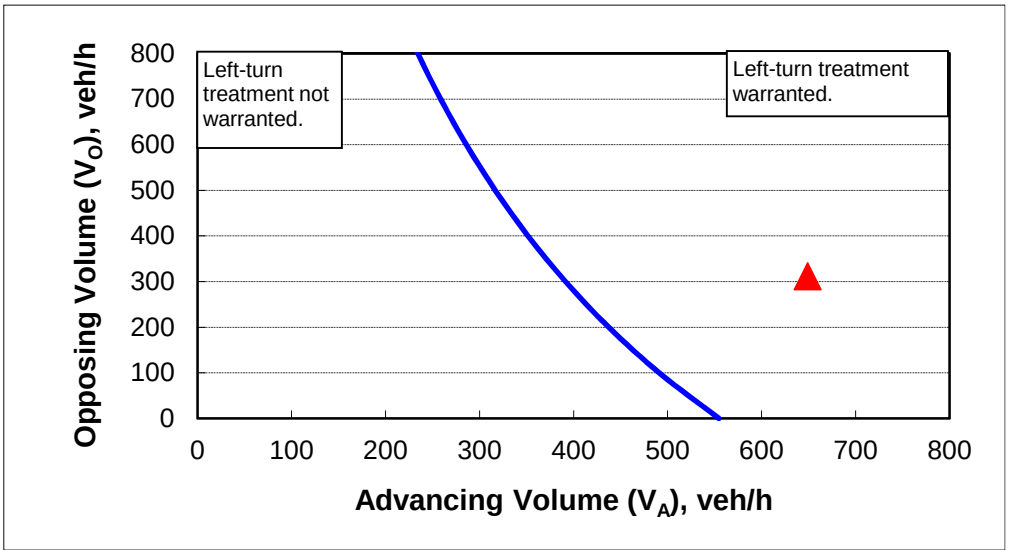
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	20
Percent of left-turns in advancing volume (V_A), %:	18%
Advancing volume (V_A), veh/h:	649
Opposing volume (V_O), veh/h:	311

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	387
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 17014 - Abernethy Place
Intersection: 14th Street at Main Street
Date: 4/11/2017
Scenario: Existing Conditions - PM Peak Hour (NEB)

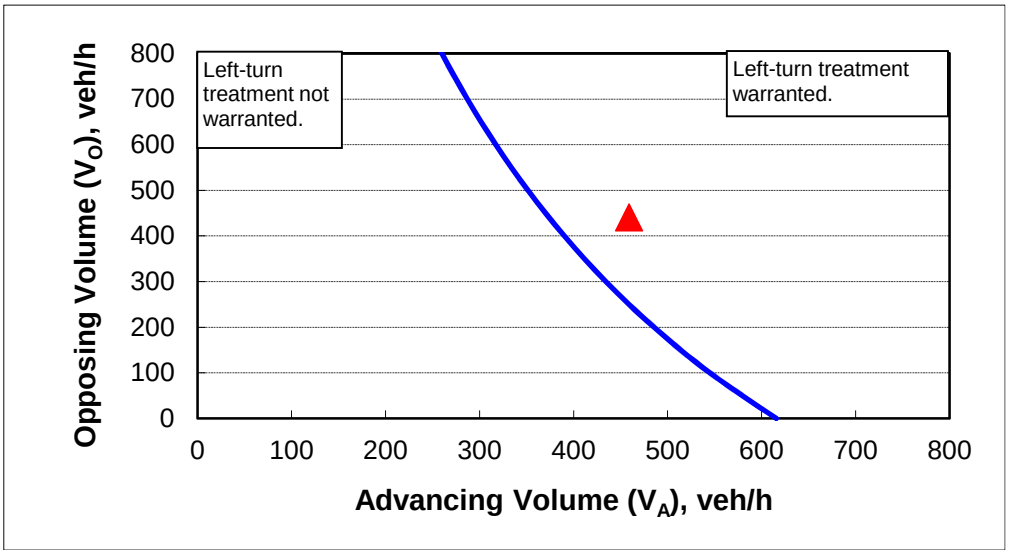
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	20
Percent of left-turns in advancing volume (V_A), %:	14%
Advancing volume (V_A), veh/h:	459
Opposing volume (V_O), veh/h:	440

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	374
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 17014 - Abernethy Place
Intersection: Site Access at Washington Street
Date: 4/11/2017
Scenario: 2022 Background plus Site Conditions - AM Peak Hour

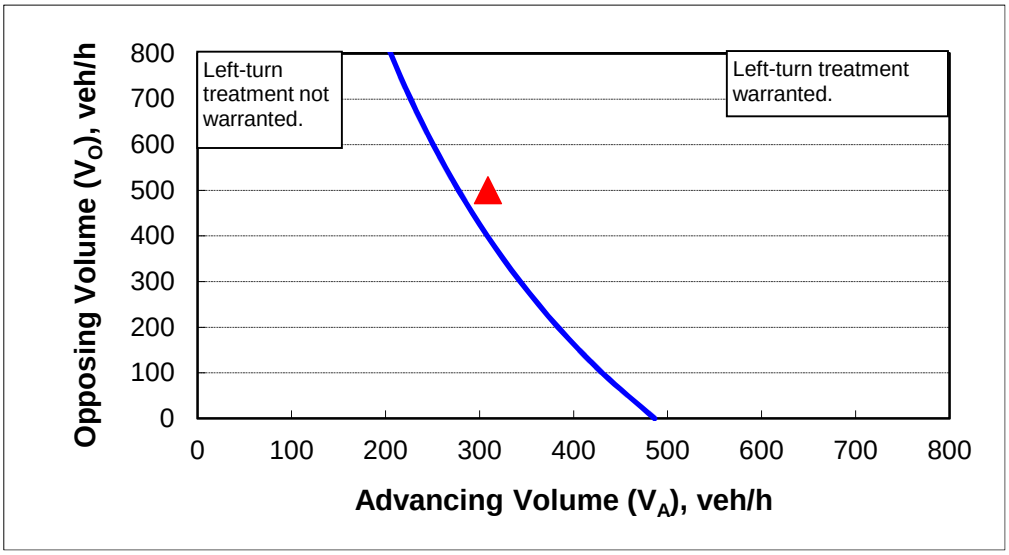
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	35
Percent of left-turns in advancing volume (V_A), %:	17%
Advancing volume (V_A), veh/h:	309
Opposing volume (V_O), veh/h:	500

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	278
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 17014 - Abernethy Place
Intersection: Site Access at Washington Street
Date: 4/11/2017
Scenario: 2022 Background plus Site Conditions - PM Peak Hour

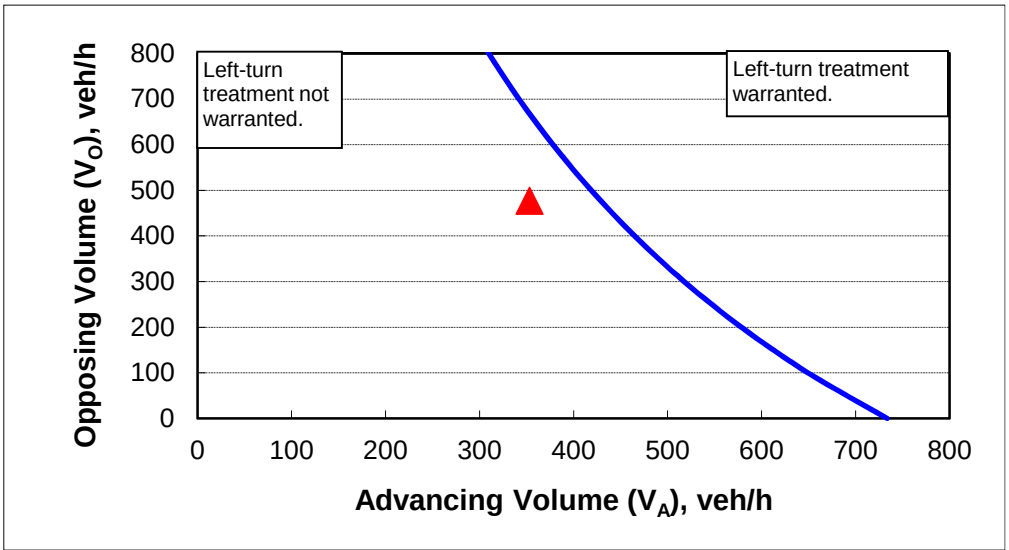
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	35
Percent of left-turns in advancing volume (V_A), %:	7%
Advancing volume (V_A), veh/h:	353
Opposing volume (V_O), veh/h:	477

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	429
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Traffic Signal Warrant Analysis

Project: 17014 - Abernethy Place
Date: 4/11/2017
Scenario: Year 2022 Background plus Site Conditions

Major Street:	OR-99E	Minor Street:	15th Street
Number of Lanes:	2	Number of Lanes:	1
PM Peak Hour Volumes:	3998	PM Peak Hour Volumes:	0

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	39,980	10,600	
Minor Street*	0	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	39,980	15,900	
Minor Street*	0	1,350	**No**
Combination Warrant			
Major Street	39,980	12,720	
Minor Street*	0	2,120	**No**

* Minor street right-turning traffic volumes reduced by 85% of the right-turn capacity.

Traffic Signal Warrant Analysis

Project: 17014 - Abernethy Place
Date: 4/11/2017
Scenario: Year 2022 Background plus Site Conditions

Major Street:	Main Street	Minor Street:	14th Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	1015	PM Peak Hour Volumes:	165

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	10,150	8,850	
Minor Street*	1,650	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	10,150	13,300	
Minor Street*	1,650	1,350	**No**
Combination Warrant			
Major Street	10,150	10,640	
Minor Street*	1,650	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Traffic Signal Warrant Analysis

Project: 17014 - Abernethy Place
Date: 4/11/2017
Scenario: Year 2022 Background plus Site Conditions

Major Street:	Washington Street	Minor Street:	Site Access
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	830	PM Peak Hour Volumes:	32

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	8,300	8,850	
Minor Street*	320	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	8,300	13,300	
Minor Street*	320	1,350	**No**
Combination Warrant			
Major Street	8,300	10,640	
Minor Street*	320	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Traffic Signal Warrant Analysis

Project: 17014 - Abernethy Place
Date: 4/11/2017
Scenario: Year 2022 Background plus Site Conditions

Major Street:	Washington Street	Minor Street:	Amtrak Station Access
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	809	PM Peak Hour Volumes:	74

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	8,090	8,850	
Minor Street*	740	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	8,090	13,300	
Minor Street*	740	1,350	**No**
Combination Warrant			
Major Street	8,090	10,640	
Minor Street*	740	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Abernethy Place

Oregon City, OR

Hackett Hospitality Group, LLC

J.O. SGL 17-021

April 13, 2017

DOWNSTREAM CONVEYANCE CALCULATIONS

SISUL ENGINEERING
A Division of Sisul Enterprises, Inc.
375 Portland Avenue
Gladstone, OR 97027
phone: (503) 657-0188
fax: (503) 657-5779

Conveyance Standards:
Downstream analysis for the development needs to demonstrate adequate conveyance capacity to the distance where the project site contributes less than 15% of the cumulative tributary drainage area or 1500 feet downstream of the project. 1500 feet downstream of the project will be used to demonstrate adequate conveyance capacity. Per the Oregon City Stormwater and Grading Design Standards, creek or stream channels draining less than 40 acres shall be sized for post-developed conditions of the10-year, 24-hour design storm. The Santa Barbara Urban Hydrograph Method will be used to calculate the runoff.

Runoff Draining from Abernety Place then into roadside ditch:
The runoff draining from Abernethy Place will outfall into an roadside ditch located approximately 120 ft off the site. The roadside ditch then flows to the west where it eventually drains into the Clackamas Cove. The area calculations for the roadside ditch were taken from an analysis of each tax lot in the drainage basin. The 10 year storm event will be used to calculate the runoff and conveyance capacity of the roadside ditch.

Area:

Drainage Basin 1 Area = 27.49 acres (see attached drainage area plan)

Pervious Area = 6.65 acres
Impervious Area = 20.84 acres

Time of Concentration Basin #1:
Since a majority of the sites within the drainage basin is impervious area, the minimum time of concentration of 5 minutes will be used.

Tc = 5 min.

Runoff Curve Numbers: (per Table 3.5.2B, King County Washington Surface Design Manual)

Open Spaces, good condition Hydrologic Group 'C' => 86
Impervious Surfaces Hydrologic Group 'C' => 98

Rainfall Distribution:

10yr, 24-hour duration STD SCS Type 1A Storm => 3.5 inches

Basin 1 Hydrographs:

The hydrographs will be generated using the Santa Barbara Urban Hydrograph (SBUH) Method. (KING COUNTY DEPARTMENT OF PUBLIC WORKS Surface Water Management Division, HYDROGRAPH PROGRAMS Version 4.20)

Area 1 - 10 yr Runoff Rate

```
---------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.50" TOTAL PRECIP. *********

---------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
.04,86,.21,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       .3          .0  86.0      .2  98.0         5.0

  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .21           7.67            2794
```

Area 2 - 10 yr Runoff Rate

```
---------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.50" TOTAL PRECIP. *********

---------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
0,0,.24,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       .2          .0    .0      .2  98.0         5.0

  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .22           7.67            2845
```

Area 3 - 10 yr Runoff Rate

```
---------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.50" TOTAL PRECIP. *********

---------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
0,0,3.5,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.5         .0    .0      3.5 98.0         5.0
```

```
  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      3.20           7.67           41500
```

Area 4 - 10 yr Runoff Rate

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.50" TOTAL PRECIP. *********

------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
.82,86,3.28,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       4.1         .8  86.0    3.3  98.0         5.0

  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      3.46           7.67           45137
```

Area 5 - 10 yr Runoff Rate

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.50" TOTAL PRECIP. *********

------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
.69,86,1.61,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       2.3         .7  86.0    1.6  98.0         5.0

  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      1.86           7.67           24345
```

Area 6 - 10 yr Runoff Rate

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.50" TOTAL PRECIP. *********

------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
1.36,86,4.09,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       5.5        1.4  86.0    4.1  98.0         5.0

  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
```

4.51	7.67	58855

Area 7 - 10 yr Runoff Rate

```
---------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.50" TOTAL PRECIP. *********

---------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
.52,86,2.93,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       3.5         .5  86.0     2.9  98.0         5.0

  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      2.97           7.67           38702
```

Area 8 - 10 yr Runoff Rate

```
---------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.50" TOTAL PRECIP. *********

---------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
.17,86,.39,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
        .6         .2  86.0      .4  98.0         5.0

  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
       .45           7.67            5919
```

Area 9- 10 yr Runoff Rate

```
---------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********  10-YEAR  24-HOUR STORM  ****  3.50" TOTAL PRECIP. *********

---------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
3.06,86,4.59,98,5

DATA PRINT-OUT:

  AREA(ACRES)     PERVIOUS     IMPERVIOUS    TC(MINUTES)
                  A     CN     A     CN
       7.7        3.1  86.0     4.6  98.0         5.0

  PEAK-Q(CFS)    T-PEAK(HRS)     VOL(CU-FT)
      5.93           7.67           77732
```

Total Runoff in roadside ditch:

Based on the calculations above, the total runoff during a 10 year event in the intermittent stream is 22.81 cfs.

Total 10 year flow in roadside ditch = 22.81 cfs

Depth of Water in roadside ditch – 10 Year Storm Event:

Ditch Cross Section 1

The stream channel at the proposed outfall location has the following approximate dimensions:

Bottom Width	3.0'	
Side slope	2:1	
Side slope	2:1	
Channel Slope	0.0045	
Mannings n	0.035	(table 5-4,high grass)

The Flowmaster program will be used to model the creek channel.

Trapezoidal - Abernethy Place

Comment: Ditch Cross Section 1

Solve For.....Depth

Bottom Width...	3.00 ft	Velocity.....	1.82 fps
Lt Side Slope..	2.00:1 (H:V)	Flow Area.....	3.15 sf
Rt Side Slope..	2.00:1 (H:V)	Flow Top Width..	5.85 ft
Manning's n....	0.035	Wetted Perimeter	6.18 ft
Channel Slope..	0.0045 ft/ft	Critical Depth..	0.44 ft
Depth.....	**0.71 ft**	Critical Slope..	0.0267 ft/ft
Discharge.....	5.72 cfs	Froude Number...	0.44

Depth of Water in roadside ditch = 0.71 feet (based on 10-year storm event)

The depth of water in the roadside ditch was calculated to be 0.71 feet. Therefore based on the calculations, there is adequate capacity in the ditch for the 10 year storm event.

Ditch Cross Section 2

The stream channel at the proposed outfall location has the following approximate dimensions:

Bottom Width	4.0'	
Side slope	2:1	
Side slope	2:1	
Channel Slope	0.0033	
Mannings n	0.035	(table 5-4,high grass)

The Flowmaster program will be used to model the creek channel.

Trapezoidal - Abernethy Place

Comment: Ditch Cross Section 2

Solve For.....Depth

Bottom Width...	4.00 ft	Velocity.....	1.57 fps
Lt Side Slope..	2.00:1 (H:V)	Flow Area.....	3.64 sf
Rt Side Slope..	2.00:1 (H:V)	Flow Top Width..	6.72 ft
Manning's n....	0.035	Wetted Perimeter	7.04 ft
Channel Slope..	0.0033 ft/ft	Critical Depth..	0.37 ft
Depth.....	**0.68 ft**	Critical Slope..	0.0272 ft/ft
Discharge.....	5.72 cfs	Froude Number...	0.38

Depth of Water in roadside ditch = 0.68 feet (based on 10-year storm event)

The depth of water in the roadside ditch was calculated to be 0.68 feet. Therefore based on the calculations, there is adequate capacity in the ditch for the 10 year storm event.

Ditch Cross Section 3

The stream channel at the proposed outfall location has the following approximate dimensions:

Bottom Width	0.0'	
Side slope	6:1	
Side slope	6:1	
Channel Slope	0.010	
Mannings n	0.035	(table 5-4,high grass)

The Flowmaster program will be used to model the creek channel.

Trapezoidal - Abernethy Place

Comment: Ditch Cross Section 3

Solve For.....Depth

Bottom Width...	0.00 ft	Velocity.....	2.62 fps
Lt Side Slope..	6.00:1 (H:V)	Flow Area.....	5.82 sf
Rt Side Slope..	6.00:1 (H:V)	Flow Top Width..	11.82 ft
Manning's n....	0.035	Wetted Perimeter	11.98 ft
Channel Slope..	0.0100 ft/ft	Critical Depth..	0.83 ft
Depth.....	**0.99 ft**	Critical Slope..	0.0244 ft/ft
Discharge.....	15.28 cfs	Froude Number...	0.66

Depth of Water in roadside ditch = 0.99 feet (based on 10-year storm event)

The depth of water in the roadside ditch was calculated to be 0.99 feet. Therefore based on the calculations, there is adequate capacity in the ditch for the 10 year storm event.

Ditch Cross Section 4

The stream channel at the proposed outfall location has the following approximate dimensions:

Bottom Width	7.0'	
Side slope	2:1	
Side slope	2:1	
Channel Slope	0.0067	
Mannings n	0.035	(table 5-4,high grass)

The Flowmaster program will be used to model the creek channel.

Trapezoidal - Abernethy Place

Comment: Ditch Cross Section 4

Solve For.....Depth

Bottom Width...	7.00 ft	Velocity.....	2.55 fps
Lt Side Slope..	2.00:1 (H:V)	Flow Area.....	6.54 sf
Rt Side Slope..	2.00:1 (H:V)	Flow Top Width..	10.07 ft
Manning's n....	0.035	Wetted Perimeter	10.43 ft
Channel Slope..	0.0067 ft/ft	Critical Depth..	0.53 ft
Depth.....	0.77 ft	Critical Slope..	0.0238 ft/ft
Discharge.....	16.67 cfs	Froude Number...	0.56

Depth of Water in roadside ditch = 0.77 feet (based on 10-year storm event)

The depth of water in the roadside ditch was calculated to be 0.77 feet. Therefore based on the calculations, there is adequate capacity in the ditch for the 10 year storm event.

Ditch Cross Section 5

The stream channel at the proposed outfall location has the following approximate dimensions:

Bottom Width	18.0'	
Side slope	1.5:1	
Side slope	1.5:1	
Channel Slope	0.0067	
Mannings n	0.035	(table 5-4,high grass)

The Flowmaster program will be used to model the creek channel.

Trapezoidal - Abernethy Place

Comment: Ditch Cross Section 5

Solve For.....Depth

Bottom Width...	18.00 ft	Velocity.....	2.06 fps
Lt Side Slope..	1.50:1 (H:V)	Flow Area.....	8.99 sf
Rt Side Slope..	1.50:1 (H:V)	Flow Top Width..	19.44 ft
Manning's n....	0.035	Wetted Perimeter	19.73 ft
Channel Slope..	0.0067 ft/ft	Critical Depth..	0.32 ft
Depth.....	0.48 ft	Critical Slope..	0.0268 ft/ft
Discharge.....	18.50 cfs	Froude Number...	0.53

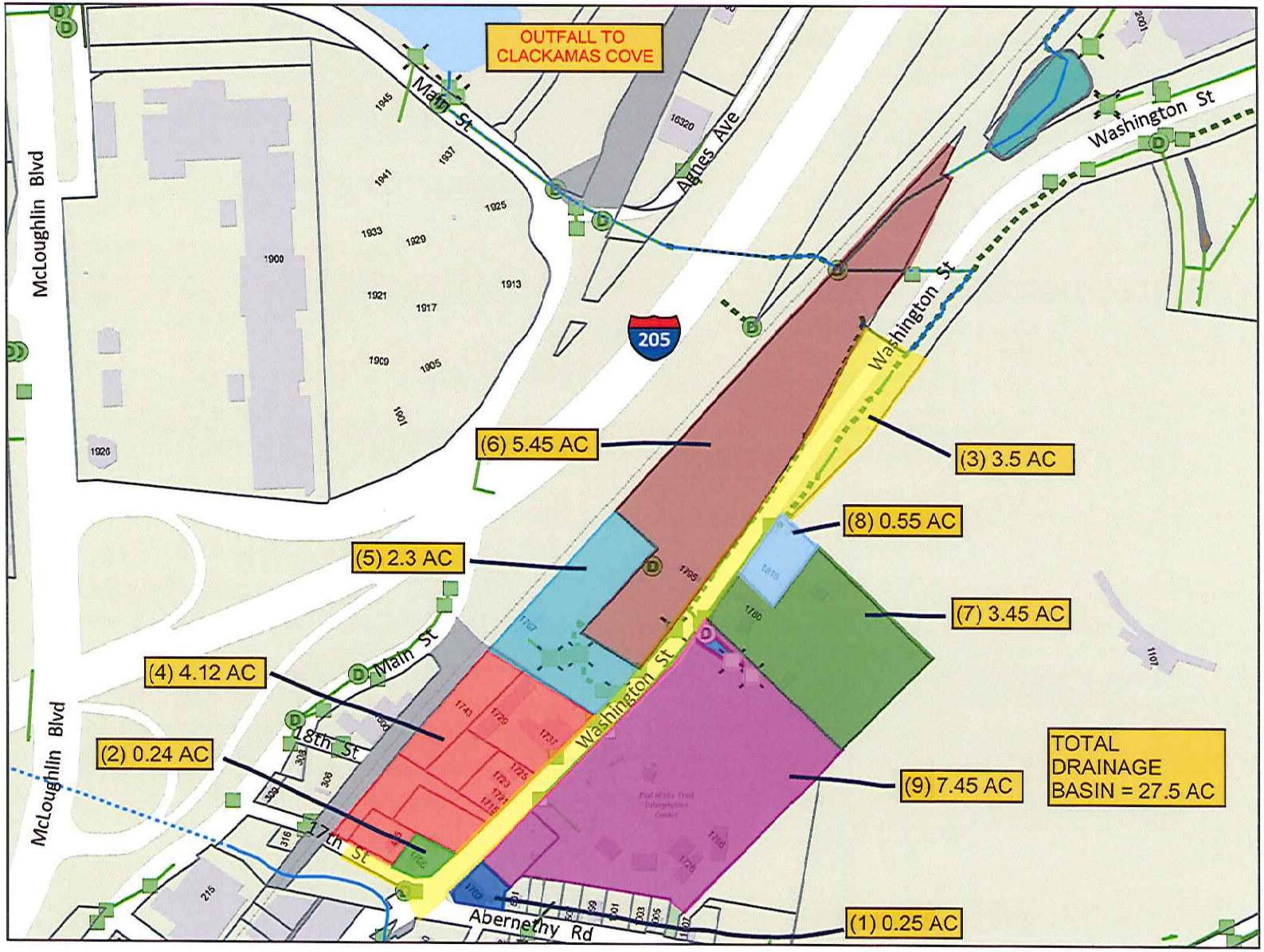
Depth of Water in roadside ditch = 0.48 feet (based on 10-year storm event)

The depth of water in the roadside ditch was calculated to be 0.48 feet. Therefore based on the calculations, there is adequate capacity in the ditch for the 10 year storm event.

Supporting Pages

Drainage Area Map

Oregon City GIS Map



Legend

- Streams
  - Above Ground
  - Below Ground
- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- Storm Structures (City Owned)
  - Manhole
  - Inlet
  - Outlet
- Storm Conduits (City Owned)
  - Pipe
  - Culvert
  - Ditch
  - Detention Tank
- Storm Ponds
  - Pond
  - Swale

Notes

Overview Map



0 400 800 Feet

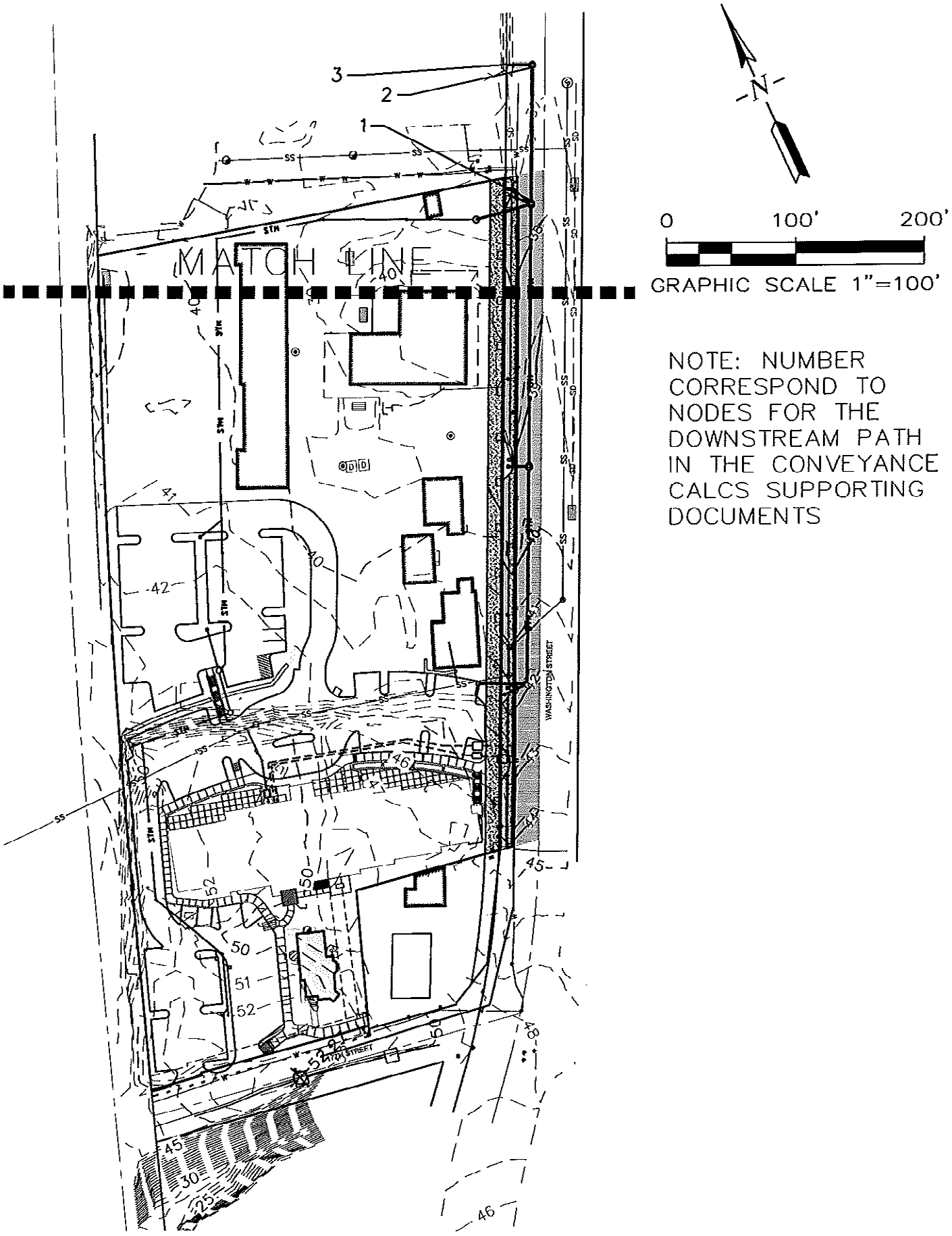
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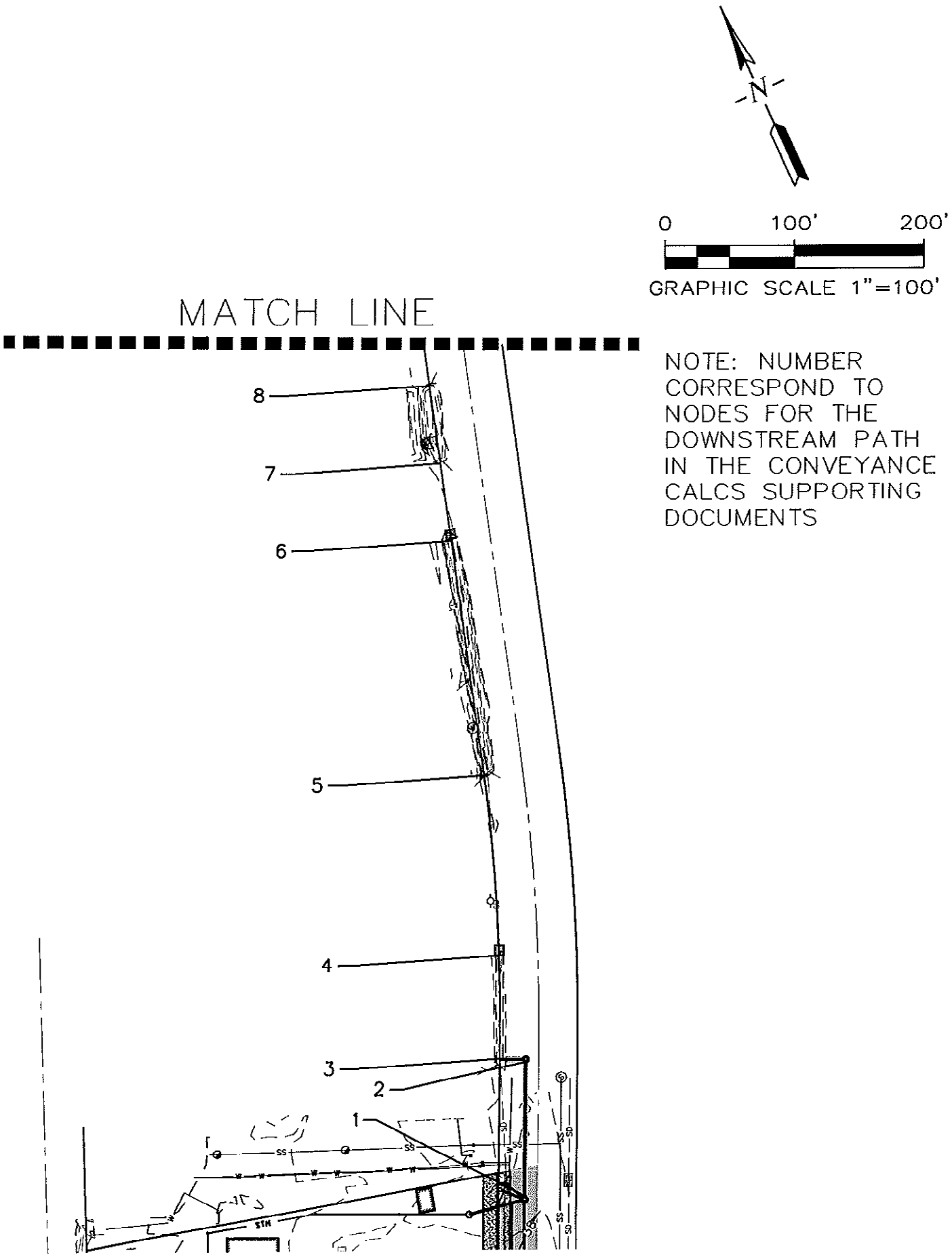
The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.

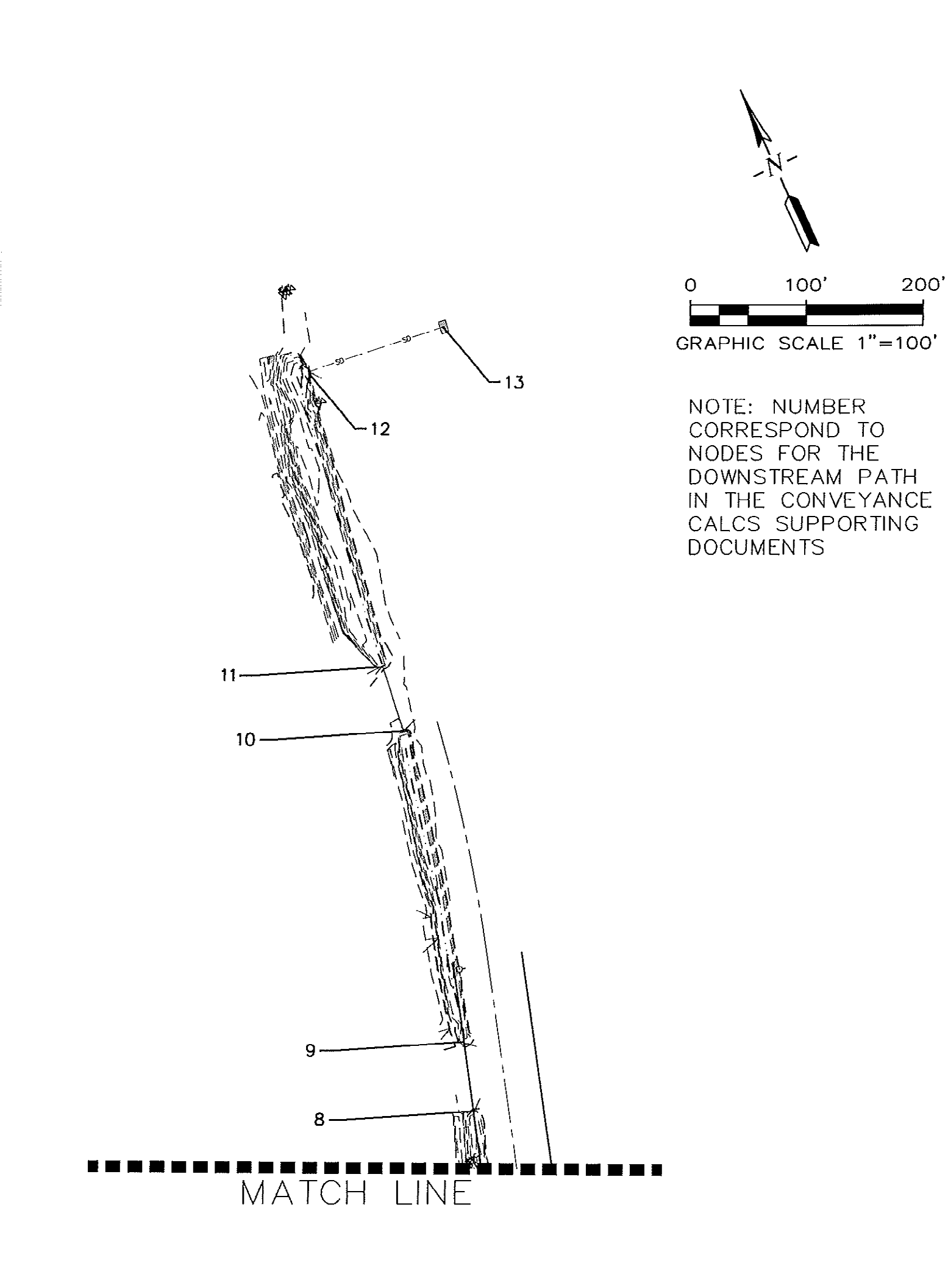
Map created 4/13/2017

City of Oregon City
PO Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
www.orcity.org

Conveyance Path


3
2
1
MATCH LINE
N
0
100'
200'
GRAPHIC SCALE 1"=100'
NOTE: NUMBER CORRESPOND TO NODES FOR THE DOWNSTREAM PATH IN THE CONVEYANCE CALCS SUPPORTING DOCUMENTS
WASHINGTON STREET
54TH STREET


N
0
100'
200'
GRAPHIC SCALE 1"=100'
MATCH LINE
8
7
6
5
4
3
2
1
NOTE: NUMBER CORRESPOND TO NODES FOR THE DOWNSTREAM PATH IN THE CONVEYANCE CALCS SUPPORTING DOCUMENTS


N
0
100'
200'
GRAPHIC SCALE 1"=100'
NOTE: NUMBER CORRESPOND TO NODES FOR THE DOWNSTREAM PATH IN THE CONVEYANCE CALCS SUPPORTING DOCUMENTS
50
50
13
12
11
10
9
8
MATCH LINE

Conveyance Calcs

STORM RUNOFF CALCULATIONS

SITE: **Abernethy Place**
SGL 17-021

USE: Tc = 5 min.
i=3.5 in/hr

RESULTS:

AREA #	AREA (Ac)	PERV. AREA (Ac)	CN	IMP. AREA (Ac)	CN	Runoff Q (cfs)	
1	0.25	0.04	86	0.21	98	0.21	=> SEE SBUH OUTPUTS FOR RUNOFF CALC
2	0.24	0.00	86	0.24	98	0.22	
3	3.50	0.00	86	3.50	98	3.20	
4	4.10	0.82	86	3.28	98	3.46	
5	2.30	0.69	86	1.61	98	1.86	
6	5.45	1.36	86	4.09	98	4.51	
7	3.45	0.52	86	2.93	98	2.97	
8	0.55	0.17	86	0.39	98	0.45	
9	7.65	3.06	86	4.59	98	5.93	
					TOTAL	22.81	
		6.65		20.838			

Storm Drain Lines

PIPE SIZE AND CAPACITY:

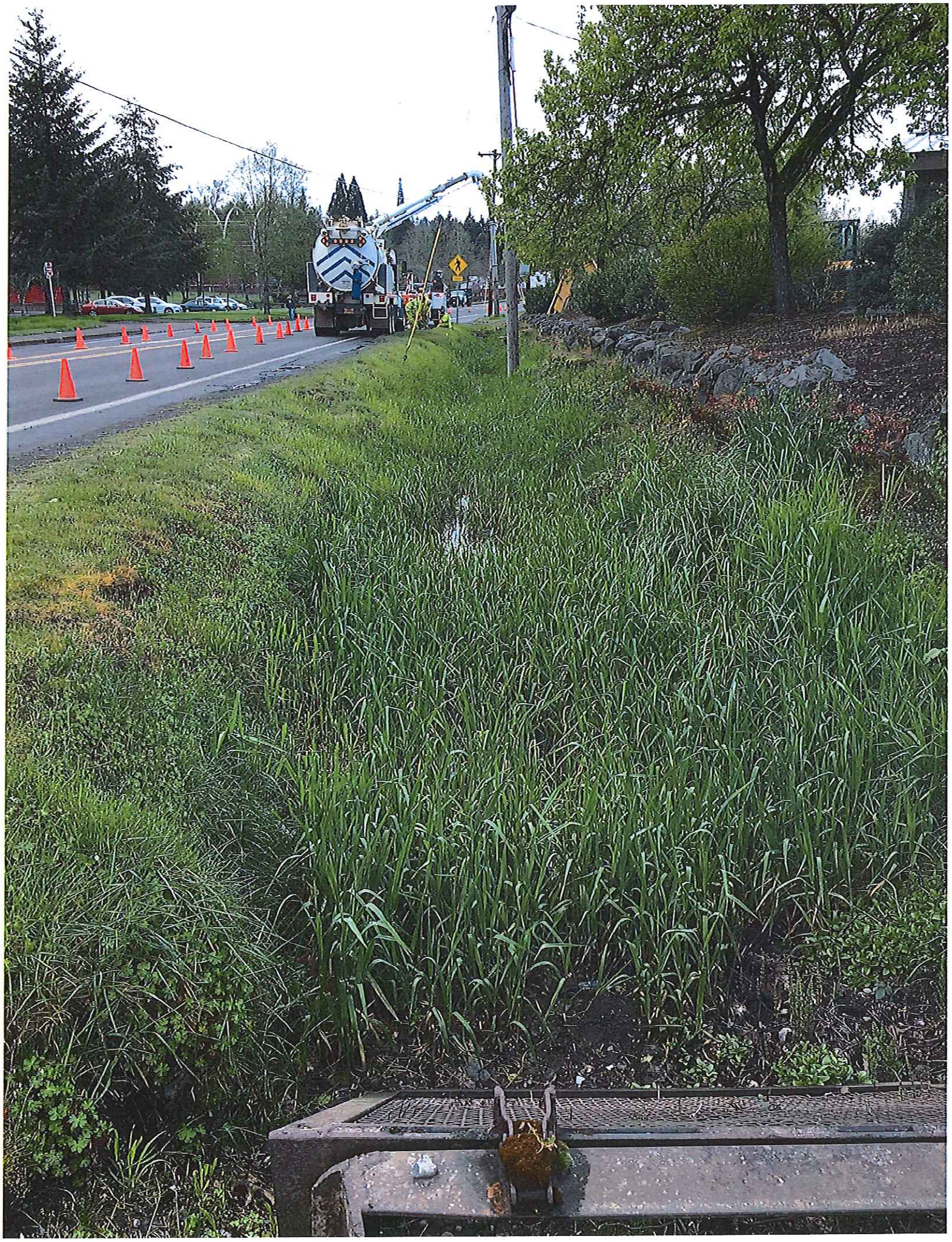
DOWNSTREAM PATH	Drainage Area	Pipe Size (in)	Pipe Slope (ft/ft)	Runoff Q (cfs)	Full Flow Capacity (cfs)	Full Flow Velocity (ft/sec)	
1 > 2	1,2,4,3(35%)	16	0.0050	5.01	5.435	3.886	
2 > 3	1,2,4,3(35%)	16	0.0050	5.01	5.435	3.886	
3 > 4	1,2,4,3(43%)	DITCH 1	0.0045	5.27	#VALUE!	#VALUE!	=> SEE FLOWMASTER OUTPUTS FOR DEPTH WITHIN DITCH
4 > 5	1,2,4,3(43%)	18	0.0060	5.27	8.151	4.604	
5 > 6	1,2,4,3(57%)	DITCH 2	0.0033	5.71	#VALUE!	#VALUE!	=> SEE FLOWMASTER OUTPUTS FOR DEPTH WITHIN DITCH
6 > 7	1,2,4,5,9,3(57%),6(20%)	30	0.0075	14.41	35.586	7.236	
7 > 8	1,2,4,5,9,3(63%),6(35%)	DITCH 3	0.0100	15.27	#VALUE!	#VALUE!	=> SEE FLOWMASTER OUTPUTS FOR DEPTH WITHIN DITCH
8 > 9	1,2,4,5,9,3(63%),6(35%)	24	0.0085	15.27	20.894	6.639	
9 > 10	1,2,4,5,9,3(78%),6(55%)	DITCH 4	0.0067	16.66	#VALUE!	#VALUE!	=> SEE FLOWMASTER OUTPUTS FOR DEPTH WITHIN DITCH
10 > 11	1,2,4,5,9,3(78%),6(55%)	36	0.0115	16.66	71.655	10.119	
11 > 12	1-5,9,6(80%)	DITCH 5	0.0067	18.49	#VALUE!	#VALUE!	=> SEE FLOWMASTER OUTPUTS FOR DEPTH WITHIN DITCH
12 > 13	1-6,9	72	0.0040	19.39	268.333	9.473	

Circular Pipes
Flowing Full: V = (1.486/n)*((A/P)^2/3)*((S)1/2) Q = (0.464/n)*((D)^8/3)*((S)1/2)
Mannings n value: Pipe n = 0.013

Ditch 1 Photo



Ditch 2 Photo



Ditch 3 Photo



Ditch 4 Photo



Ditch 5 Photo

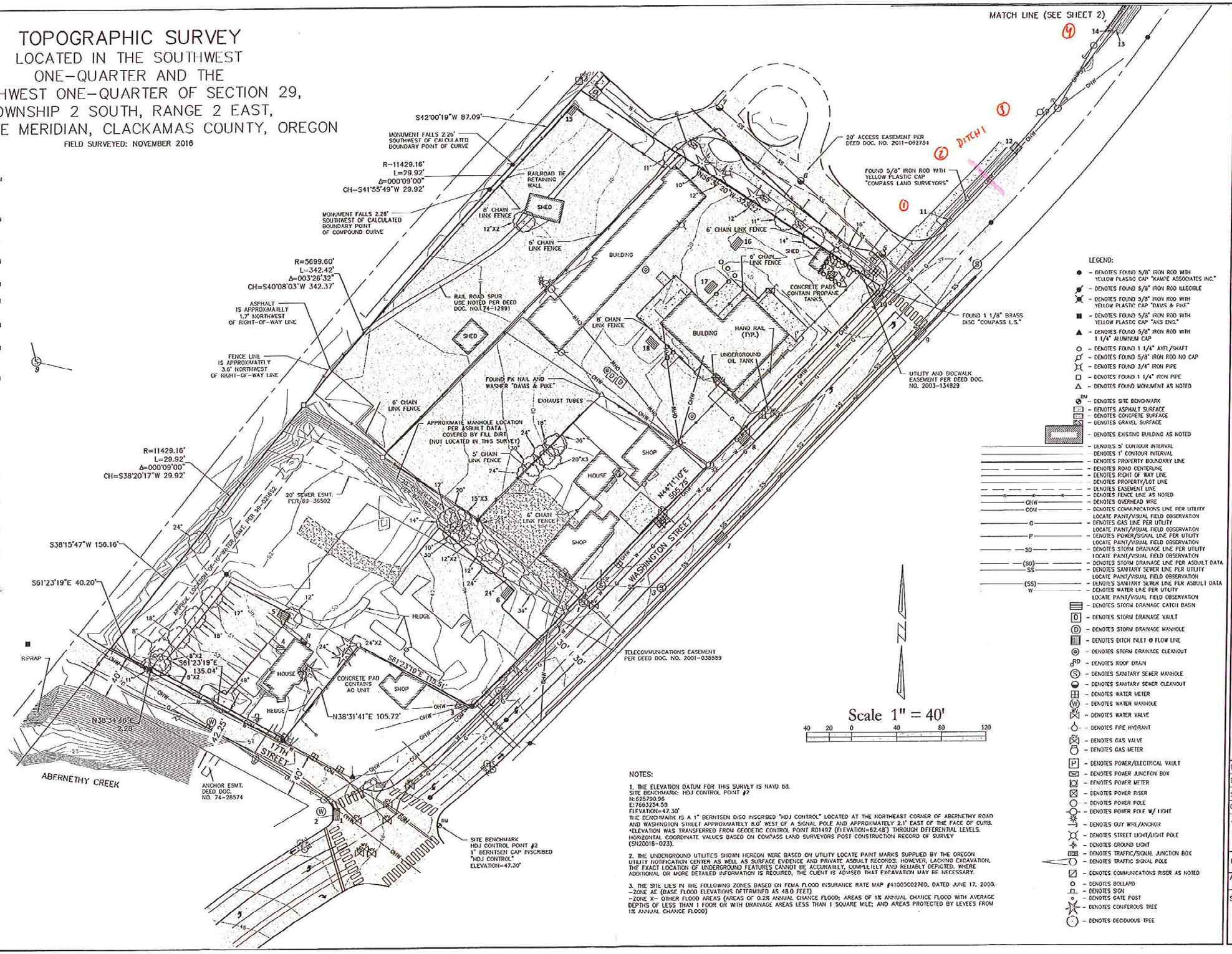


Topo Survey for Reference

TOPOGRAPHIC SURVEY

LOCATED IN THE SOUTHWEST ONE-QUARTER AND THE NORTHWEST ONE-QUARTER OF SECTION 29, TOWNSHIP 2 SOUTH, RANGE 2 EAST, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON

FIELD SURVEYED: NOVEMBER 2016



STORM SEWER DATA:

1 STORM SEWER CATCH BASIN RIM=48.57' IE 12"+/- (SW)=46.26'

2 STORM SEWER IE IE 12" +/- (NE)=42.66'

3 STORM SEWER CATCH BASIN RIM=44.63' FULL OF WATER

4 STORM SEWER AREA DRAIN RIM=49.39'

5 STORM SEWER CATCH BASIN LYNCH STYLE RIM=48.55'

6 STORM SEWER CATCH BASIN RIM=44.55'

7 STORM SEWER CATCH BASIN RIM=39.16' IE 12"+/- (NE)=36.75'

8 STORM SEWER CATCH BASIN RIM=38.52' FULL OF WATER

9 STORM SEWER CATCH BASIN RIM=36.68' IE 12"+/- (SW)=34.00' IE 12"+/- (NE)=31.02'

10 STORM SEWER CATCH BASIN RIM=36.84' IE 12"+/- (NE)=34.74'

11 STORM SEWER IE IE 12" +/- (SW)=33.85'

12 STORM SEWER DITCH INLET FLOWLINE=33.40' IE 18"+/- (NE)=31.93'

13 STORM SEWER IE IE 18"+/- (SW)=31.03'

14 STORM SEWER IE IE 8"+/- (W)=34.28'

15 STORM SEWER CATCH BASIN W/ BIO BAG RIM=39.62'

16 STORM SEWER CATCH BASIN LYNCH STYLE RIM=37.47' IE 4"+/- (SW)=36.57'

17 STORM SEWER CATCH BASIN FULL OF DEBRIS RIM=37.46'

18 STORM SEWER CATCH BASIN RIM=37.29' IE 3"+/- (SW)=35.95'

SANITARY SEWER DATA:

1 SANITARY SEWER MANHOLE RIM=41.65' IE 12"+/- (N)=29.70' IE 8"+/- (NE)=26.95'+/-* *PIPE RECESSED UNDER MANHOLE CONE IE 48"+/- (SE)=26.95' IE 48"+/- (NW)=26.75'

2 SANITARY SEWER MANHOLE RIM=41.38' IE 8"+/- (E)=27.28' IE 8"+/- (SW)=27.18'

3 SANITARY SEWER MANHOLE RIM=40.70' IE 8"+/- (NE)=27.35' IE 8"+/- (SW)=27.30'

4 SANITARY SEWER MANHOLE RIM=36.58' IE 8"+/- (NE)=28.98' IE 8"+/- (SW)=29.08'

5 SANITARY SEWER CLEANOUT RIM=37.44'

6 SANITARY SEWER CLEANOUT RIM=38.37'

7 SANITARY SEWER CLEANOUT RIM=39.53'

8 SANITARY SEWER CLEANOUT RIM=53.66'

9 SANITARY SEWER MANHOLE RIM=47.33' IE 48"+/- (SE)=26.43' IE 48"+/- (NW)=26.03'

NOTES:

1. THE ELEVATION DATUM FOR THIS SURVEY IS NAVD 88. SITE BENCHMARK: HDJ CONTROL POINT #2 N:625790.96 E:7663294.53 ELEVATION=47.30' THE BENCHMARK IS A 1" BERNTSEN DISC INSCRIBED "HDJ CONTROL" LOCATED AT THE NORTHEAST CORNER OF ABERNETHY ROAD AND WASHINGTON STREET APPROXIMATELY 8.0' WEST OF A SIGNAL POLE AND APPROXIMATELY 2.1' EAST OF THE FACE OF CURB. *ELEVATION WAS TRANSFERRED FROM GEODETIC CONTROL POINT R01497 (ELEVATION=62.48') THROUGH DIFFERENTIAL LEVELS. HORIZONTAL COORDINATE VALUES BASED ON COMPASS LAND SURVEYORS POST CONSTRUCTION RECORD OF SURVEY (SN20016-023).

2. THE UNDERGROUND UTILITIES SHOWN HEREON WERE BASED ON UTILITY LOCATE PAINT MARKS SUPPLIED BY THE OREGON UTILITY NOTIFICATION CENTER AS WELL AS SURFACE EVIDENCE AND PRIVATE ASBUILT RECORDS. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY AND RELIABLY DEPICTED. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION MAY BE NECESSARY.

3. THE SITE LIES IN THE FOLLOWING ZONES BASED ON FEMA FLOOD INSURANCE RATE MAP #41005C0276D, DATED JUNE 17, 2008. -ZONE AE (BASE FLOOD ELEVATIONS DETERMINED AS 48.0 FEET) -ZONE X- OTHER FLOOD AREAS (AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD)

LEGEND:

- DENOTES FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP "KAMPE ASSOCIATES INC."
- DENOTES FOUND 5/8" IRON ROD ILLEGIBLE
- DENOTES FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP "DAWS & PIKE"
- DENOTES FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP "ANS ENG."
- DENOTES FOUND 5/8" IRON ROD WITH 1 1/4" ALUMINUM CAP
- DENOTES FOUND 1 1/4" AXEL/SHAFT
- DENOTES FOUND 5/8" IRON ROD NO CAP
- DENOTES FOUND 3/4" IRON PIPE
- DENOTES FOUND 1 1/4" IRON PIPE
- DENOTES FOUND MONUMENT AS NOTED
- BM DENOTES SITE BENCHMARK
- DENOTES ASPHALT SURFACE
- DENOTES CONCRETE SURFACE
- DENOTES GRAVEL SURFACE
- DENOTES EXISTING BUILDING AS NOTED
- DENOTES 5' CONTOUR INTERVAL
- DENOTES 1' CONTOUR INTERVAL
- DENOTES PROPERTY BOUNDARY LINE
- DENOTES ROAD CENTERLINE
- DENOTES RIGHT OF WAY LINE
- DENOTES PROPERTY/LOT LINE
- DENOTES EASEMENT LINE
- DENOTES FENCE LINE AS NOTED
- OHW DENOTES OVERHEAD WIRE
- COM DENOTES COMMUNICATIONS LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- G DENOTES GAS LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- P DENOTES POWER/SIGNAL LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- SD DENOTES STORM DRAINAGE LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- (SD) DENOTES STORM DRAINAGE LINE PER ASBUILT DATA
- SS DENOTES SANITARY SEWER LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- (SS) DENOTES SANITARY SEWER LINE PER ASBUILT DATA
- W DENOTES WATER LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- DENOTES STORM DRAINAGE CATCH BASIN
- D DENOTES STORM DRAINAGE VAULT
- (D) DENOTES STORM DRAINAGE MANHOLE
- DENOTES DITCH INLET @ FLOW LINE
- DENOTES STORM DRAINAGE CLEANOUT
- RD DENOTES ROOF DRAIN
- (S) DENOTES SANITARY SEWER MANHOLE
- DENOTES SANITARY SEWER CLEANOUT
- DENOTES WATER METER
- (W) DENOTES WATER MANHOLE
- DENOTES WATER VALVE
- DENOTES FIRE HYDRANT
- DENOTES GAS VALVE
- DENOTES GAS METER
- P DENOTES POWER/ELECTRICAL VAULT
- DENOTES POWER JUNCTION BOX
- DENOTES POWER METER
- DENOTES POWER RISER
- DENOTES POWER POLE
- DENOTES POWER POLE W/ LIGHT
- DENOTES GUY WIRE/ANCHOR
- DENOTES STREET LIGHT/LIGHT POLE
- DENOTES GROUND LIGHT
- DENOTES TRAFFIC/SIGNAL JUNCTION BOX
- DENOTES TRAFFIC SIGNAL POLE
- DENOTES COMMUNICATIONS RISER AS NOTED
- DENOTES BOLLARD
- DENOTES SIGN
- DENOTES GATE POST
- DENOTES CONIFEROUS TREE
- DENOTES DECIDUOUS TREE

HDJ A DIVISION OF PBS
314 W 15th Street
Vancouver, WA 98660-2927
360.695.3488
360.695.8767 fax
www.hdjg.com

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON JULY 16, 1982 TERRY GOODMAN 1909
RENEWAL DATE: 6-30-17

TOPOGRAPHIC SURVEY
ABERNETHY PLACE
OREGON CITY, OREGON 97045

REVISIONS		
REV.:	DESCRIPTION:	
2/21/17	ADD TOPO ON SW WASHINGTON	

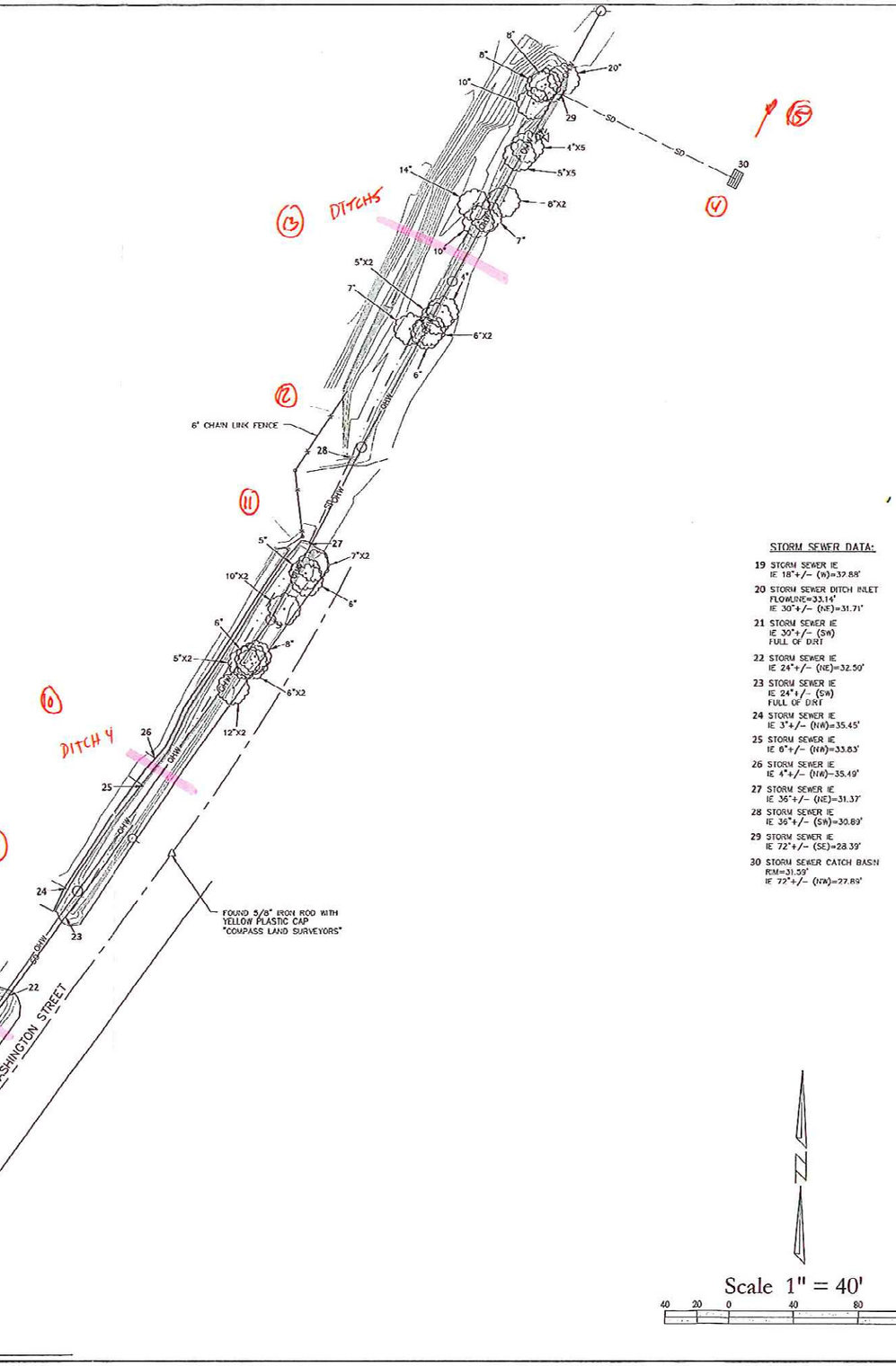
DATE	1/5/2017
DRAWN	MDL
SURVEYED	MFD/MFG
CHECKED	TLG/RFS
JOB NO.:	70997-000
DRAWING NAME:	70997-00-TOPO
SHEET NO.	1/2

TOPOGRAPHIC SURVEY

LOCATED IN THE SOUTHWEST ONE-QUARTER AND
THE NORTHWEST ONE-QUARTER OF SECTION 29,
TOWNSHIP 2 SOUTH, RANGE 2 EAST, WILLAMETTE MERIDIAN,
CLACKAMAS COUNTY, OREGON

FIELD SURVEYED: NOVEMBER 2016

LEGEND:
- △ – DENOTES FOUND MONUMENT AS NOTED
- – DENOTES 5' CONTOUR INTERVAL
- – DENOTES 1' CONTOUR INTERVAL
- – DENOTES ROAD CENTERLINE
- – DENOTES RIGHT OF WAY LINE
- – DENOTES FENCE LINE AS NOTED
- OHW – DENOTES OVERHEAD WIRE
- SD – DENOTES STORM DRAINAGE LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- – DENOTES STORM DRAINAGE CATCH BASIN
- – DENOTES DITCH INLET @ FLOW LINE
- (W) – DENOTES WATER MANHOLE
- – DENOTES WATER VALVE
- FDC – DENOTES FIRE DEPT CONNECTION
- – DENOTES FIRE HYDRANT
- – DENOTES POWER POLE
- – DENOTES GUY WIRE/ANCHOR
- – DENOTES GATE POST
- – DENOTES DECIDUOUS TREE



STORM SEWER DATA:

19 STORM SEWER IE
IE 18"+/- (W)=37.88'

20 STORM SEWER DITCH INLET
FLOWLINE=33.14'
IE 30"+/- (NE)=31.71'

21 STORM SEWER IE
IE 30"+/- (SW)
FULL OF DIRT

22 STORM SEWER IE
IE 24"+/- (NE)=32.50'

23 STORM SEWER IE
IE 24"+/- (SW)
FULL OF DIRT

24 STORM SEWER IE
IE 3"+/- (NW)=35.45'

25 STORM SEWER IE
IE 6"+/- (NW)=33.83'

26 STORM SEWER IE
IE 4"+/- (NW)=35.49'

27 STORM SEWER IE
IE 36"+/- (NE)=31.37'

28 STORM SEWER IE
IE 36"+/- (SW)=30.89'

29 STORM SEWER IE
IE 72"+/- (SE)=28.39'

30 STORM SEWER CATCH BASIN
RIM=31.59'
IE 72"+/- (NW)=27.89'

Scale 1" = 40'

40 20 0 40 80 120

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3:4 W 15th Street
Vancouver, WA 98660-2927
360.695.3488
360.695.8767 fax
www.hdjg.com

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 15, 1982
TERRY GOODMAN
1959
RENEWAL DATE: 6-30-17

TOPOGRAPHIC SURVEY
ABERNETHY PLACE
OREGON CITY, OREGON 97045

REVISIONS		
REV.:	DESCRIPTION:	
2/21/17	ADD TOPO ON SW WASHINGTON	

DATE	1/5/2017
DRAWN	MDL
SURVEYED	MFD/MFG
CHECKED	TLG/RFS
JOB NO.:	70997-000
DRAWING NAME:	70997-00-TOPO
SHEET NO.	2/2

Abernethy Place

Oregon City, OR

Developer: Hackett Hospitality Group, LLC

J.O. SGL 17-021
April 13th, 2017

PRELIMINARY PUBLIC WATER QUALITY CALCULATIONS

SISUL ENGINEERING
A Division of Sisul Enterprises, Inc.
375 Portland Avenue
Gladstone, OR 97027
phone: (503) 657-0188
fax: (503) 657-5779

Narrative:

The site is proposed to be developed into two phases. The first phase will consist of a new 100 room hotel along with 100 parking spaces distributed around the lot. New private utilities will also be constructed with the development. The second phase will consist of a multi-use site to be constructed at a later date yet to be determined. The site will require a public storm extension to the northeast and a half street improvement along Washington Street. Calculations in this report only include in improvements within Washington Street right-of-way and nothing onsite.

The development will not have to meet flow control or detention requirements based off of the exemptions stated in Chapter 1.2.2.H of the Oregon City Public Works Stormwater and Grading Design Standards. The development will have to meet the water quality requirement of treating the volume that equates to a water quality design storm of 1.0 inch over 24 hours.

Site Conditions & Design Values - Post Development:

Area: These calculations are for the area that drains to street-side planters in Washington Street. See attached basin map.

Total Area = 0.71 Acres

Impervious area = 30,882 SF or 0.71 acres

Runoff Curve Numbers: (per Table 4-3 MODIFIED CURVE NUMBERS, City of Oregon City Stormwater and Grading Design Standards)

Impervious Surfaces, AC, Roofs etc.-Hydrologic Group 'C' => 98

Rainfall Distribution: (per Table 4-1 TOTAL DEPTH, City of Oregon City Stormwater and Grading Design Standards)

1yr, 24-hour duration STD SCS Type 1A Storm => 1.0 inches

Time of Concentration – Post Development:

Since a large portion of the site is impervious, the minimum time of concentration of 5 minutes will be used. Tc = 5 minutes

Water Quality Analysis:

The water quality requirements will be met by water quality swale for treatment of the water quality storm event of 1.0-inch in 24 hours.

Water Quality – 1.0-inch in 24 hours:

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********   1-YEAR  24-HOUR STORM  ****  1.00" TOTAL PRECIP. *********

------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
0,0,.71,98,5

DATA PRINT-OUT:

  AREA(ACRES)    PERVIOUS    IMPERVIOUS   TC(MINUTES)
                 A     CN     A     CN
        .7        .0    .0     .7  98.0        5.0

  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
       .16          7.67           2038

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
17021-wq
```

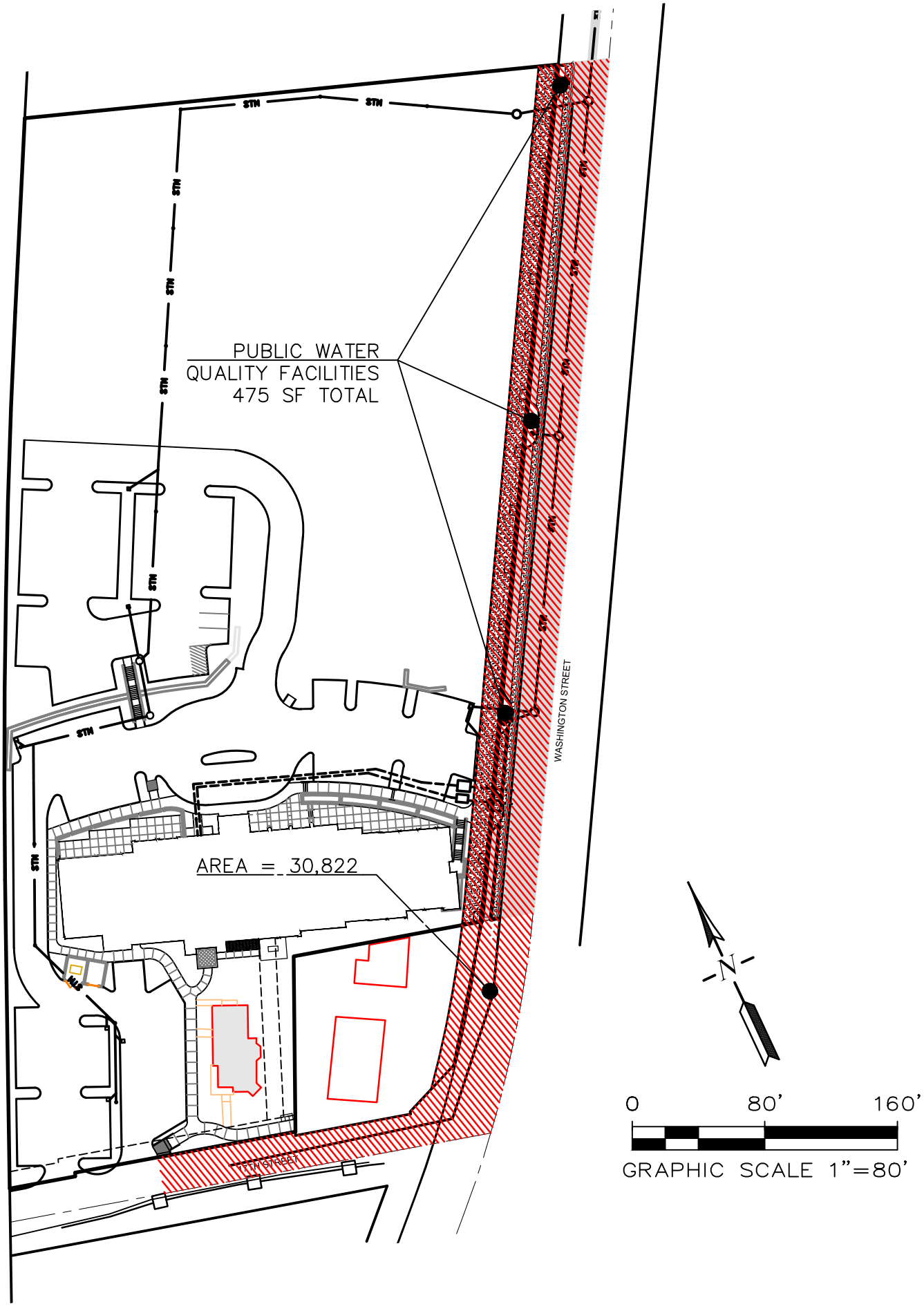
Methodology:

The WES BMP Sizing software was used to determine the size of the facilities. A copy of the report has been attached i. 475 SF of planter areas is proposed which exceeds the 462 SF required for water quality treatment. The planters were sized for both phases of the development

Analysis:

Engineering Conclusions

The proposed stormwater facilities has been designed in accordance with the 2015 Oregon City Stormwater and Grading Design Standards for stormwater management. The storm water facilities have been designed to meet water quality requirements according to the BMP Sizing tool. See the attached calculations.


STM
PUBLIC WATER
QUALITY FACILITIES
475 SF TOTAL
AREA = 30,822
WASHINGTON STREET
N
0
80'
160'
GRAPHIC SCALE 1"=80'

WES BMP Sizing Software Version 1.6.0.1, August 2015

WES BMP Sizing Report

Project Information

Project Name	New Project
Project Type	PublicFacilities
Location	
Stormwater Management Area	475
Project Applicant	
Jurisdiction	OutofDistrict

Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
DMA	30,822	Impervious	ConventionalConcrete	D	BMP

LID Facility Sizing Details

LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
BMP	WaterQuality	Stormwater Planter - Filtration	Lined	462.3	475.0	1.0

Pond Sizing Details

1. FCWQT = Flow control and water quality treatment, WQT = Water quality treatment only

2. Depth is measured from the bottom of the facility and includes the three feet of media (drain rock, separation layer and growing media).

3. Maximum volume of the facility. Includes the volume occupied by the media at the bottom of the facility.

4. Maximum water storage volume of the facility. Includes water storage in the three feet of soil media assuming a 40 percent porosity.



ABERNETHY PLACE GDP

OREGON CITY, OREGON

HILL ARCHITECTS

VICINITY MAP 1.0

APRIL 14, 2017

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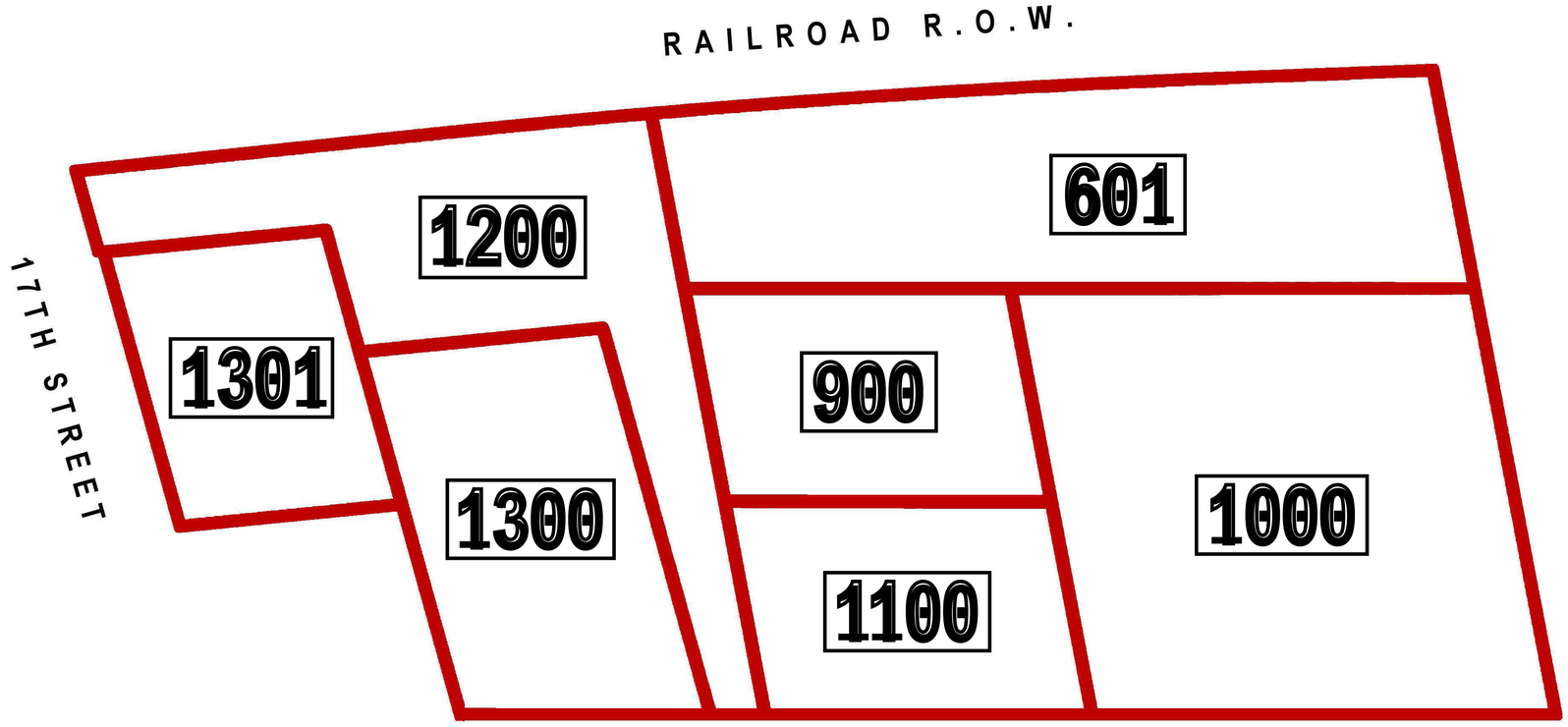
HILL ARCHITECTS

NEIGHBORHOOD AERIAL PHOTO **1.1**

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OREGON CITY, OREGON

0 20' 40' 80'

TAXLOTS 1.2

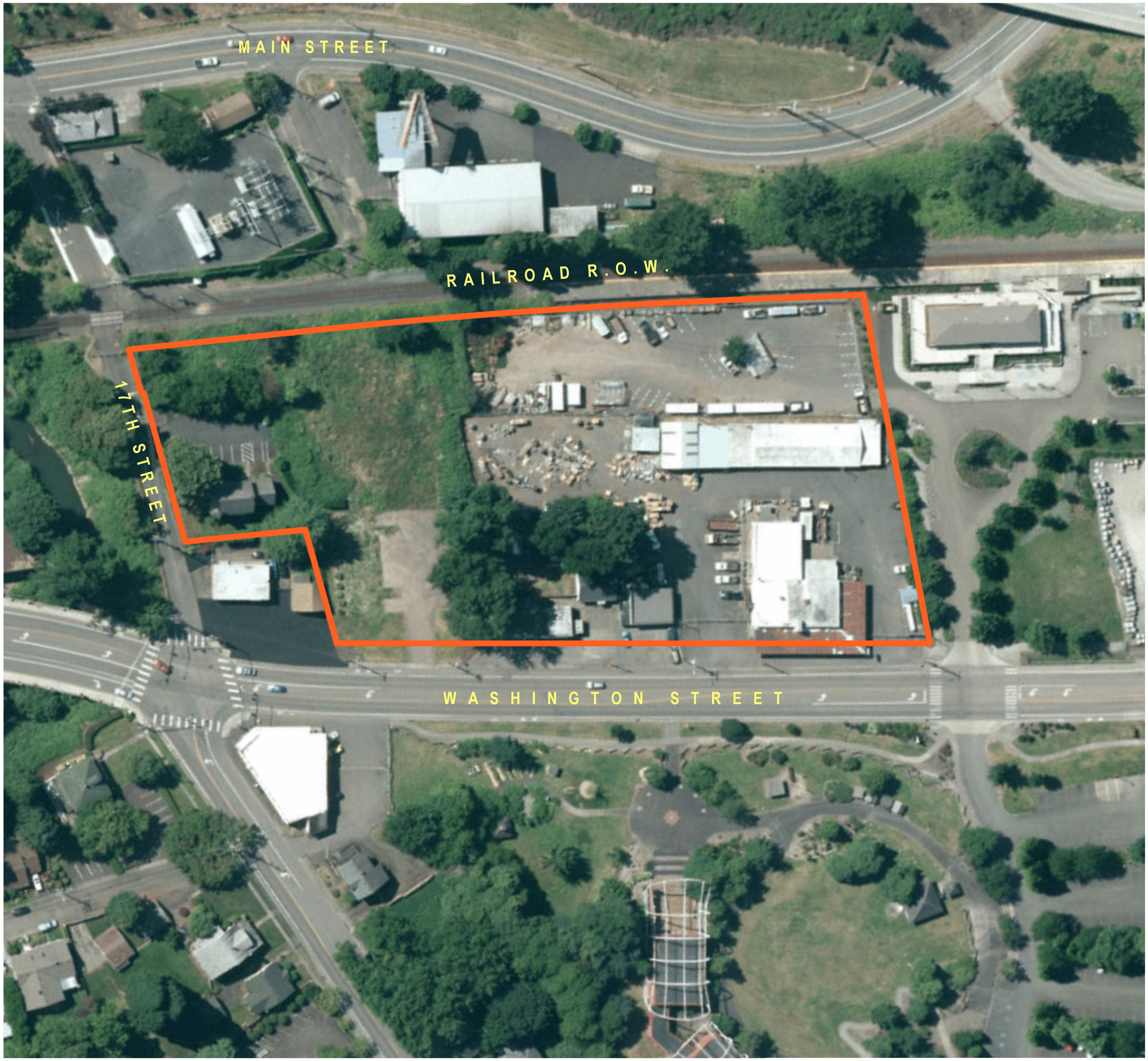
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OREGON CITY, OREGON

0 20' 40' 80'

HILL ARCHITECTS

PROJECT SITE AERIAL PHOTO **1.3**

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0 40' 80' 160'

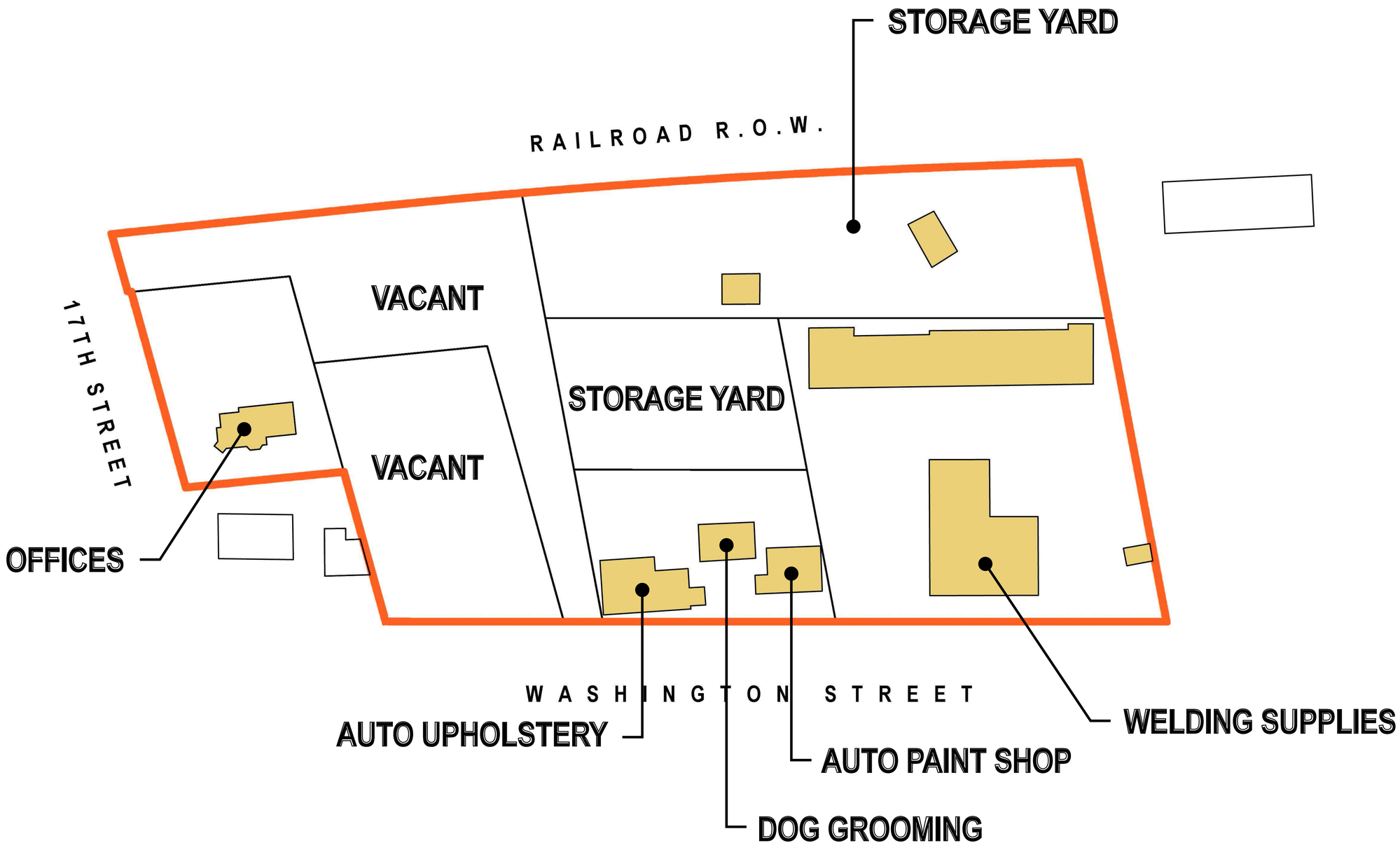
SURROUNDING USES 1.4

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0 20' 40' 80'

ABERNETHY PLACE GDP

OREGON CITY, OREGON

HILL ARCHITECTS

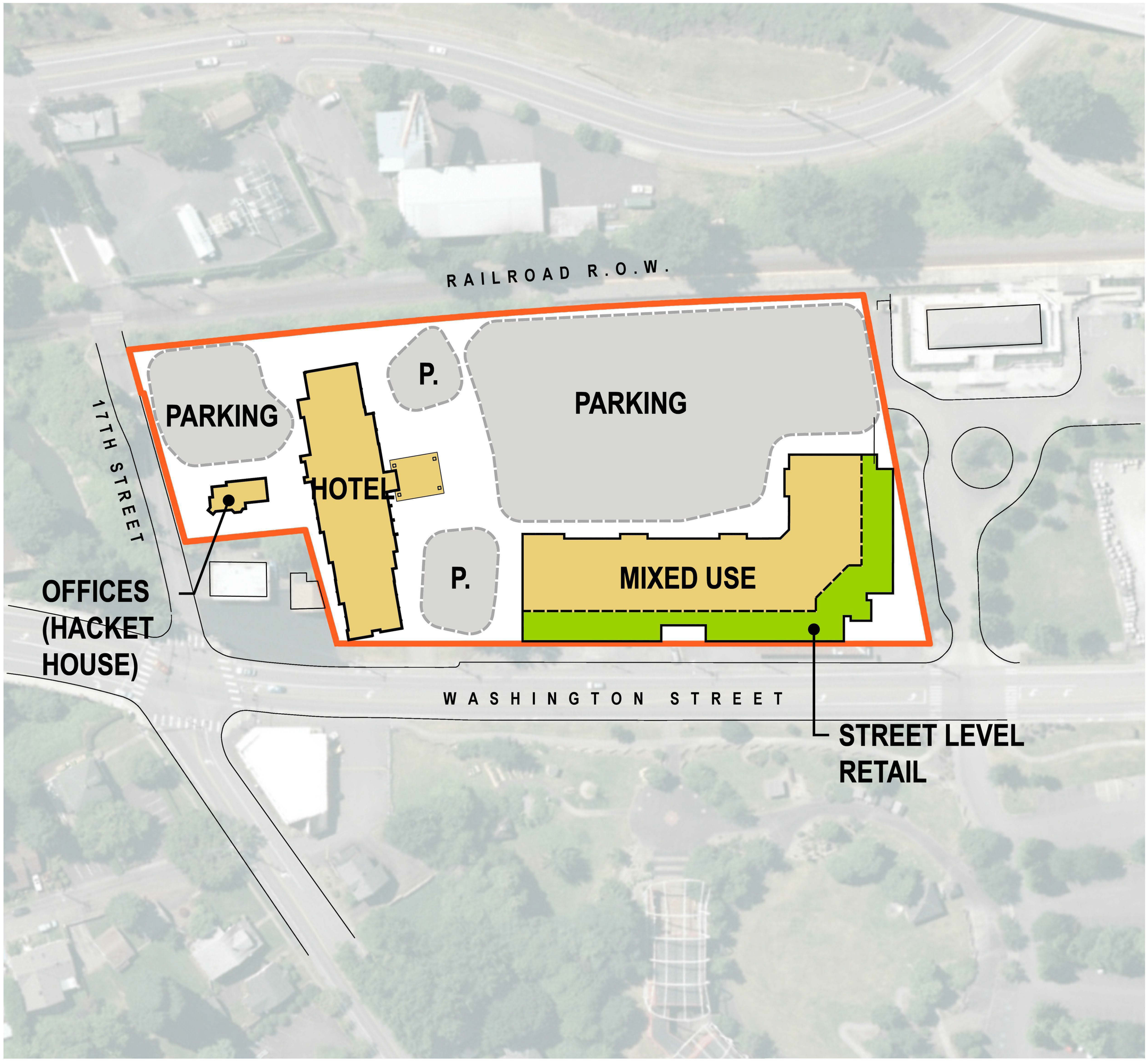
EXISTING USES **1.5**

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OREGON CITY, OREGON

0 20' 40' 80'

PROPOSED USES 2.0

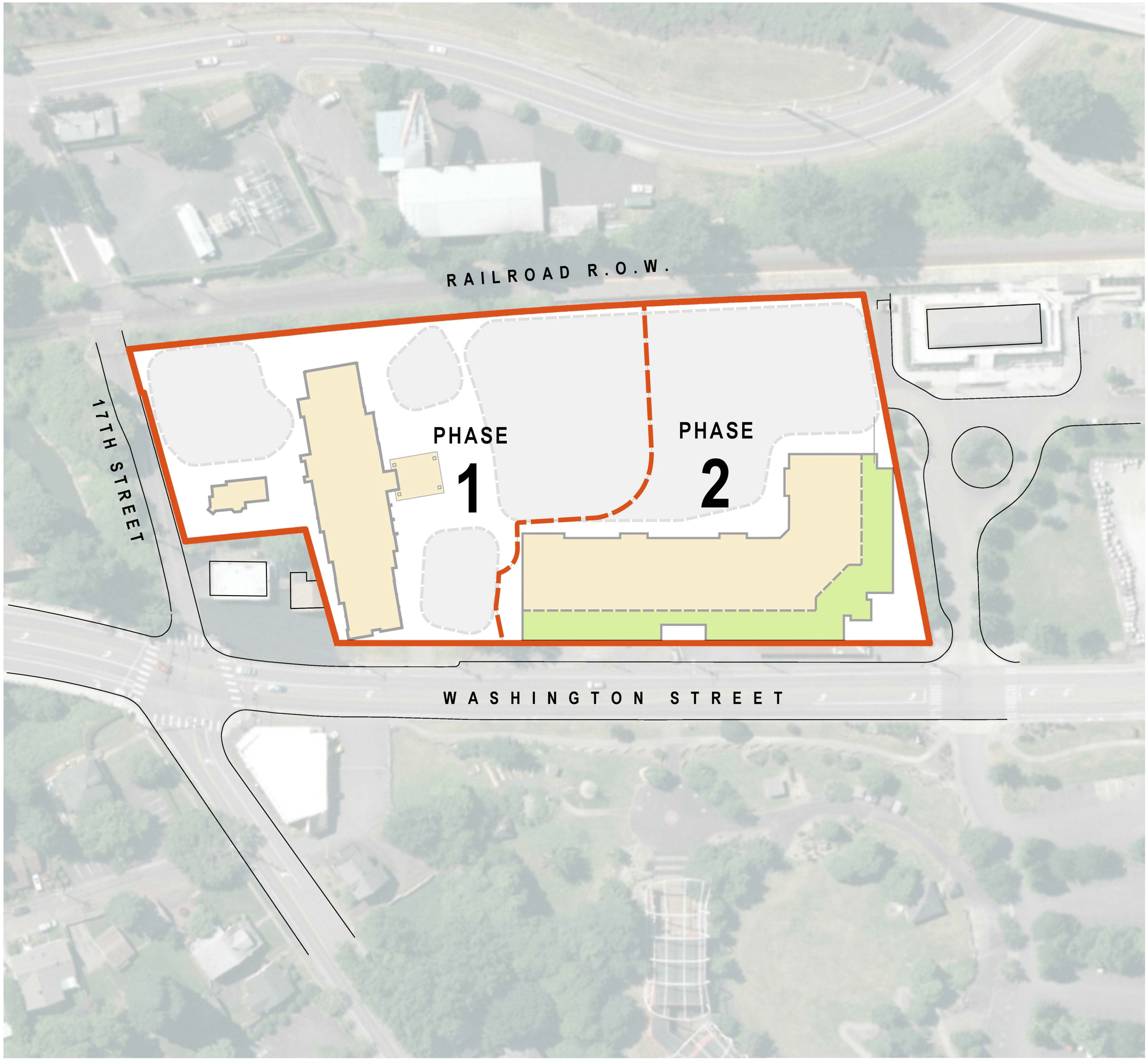
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ABERNETHY PLACE GDP

OREGON CITY, OREGON

0 20' 40' 80'

HILL ARCHITECTS

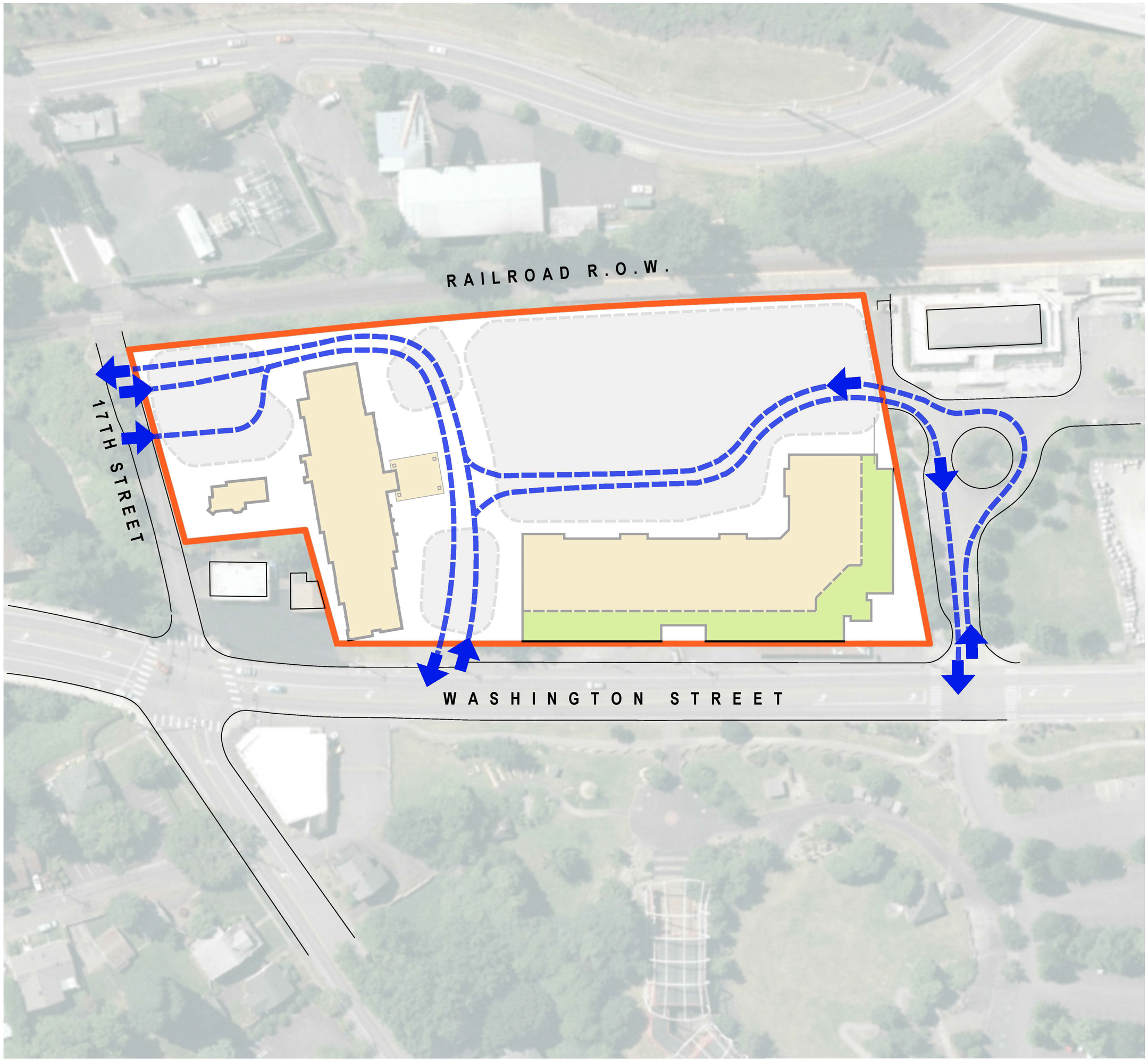
PHASING 2.1

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OREGON CITY, OREGON

0 20' 40' 80'

VEHICULAR CIRCULATION 2.2

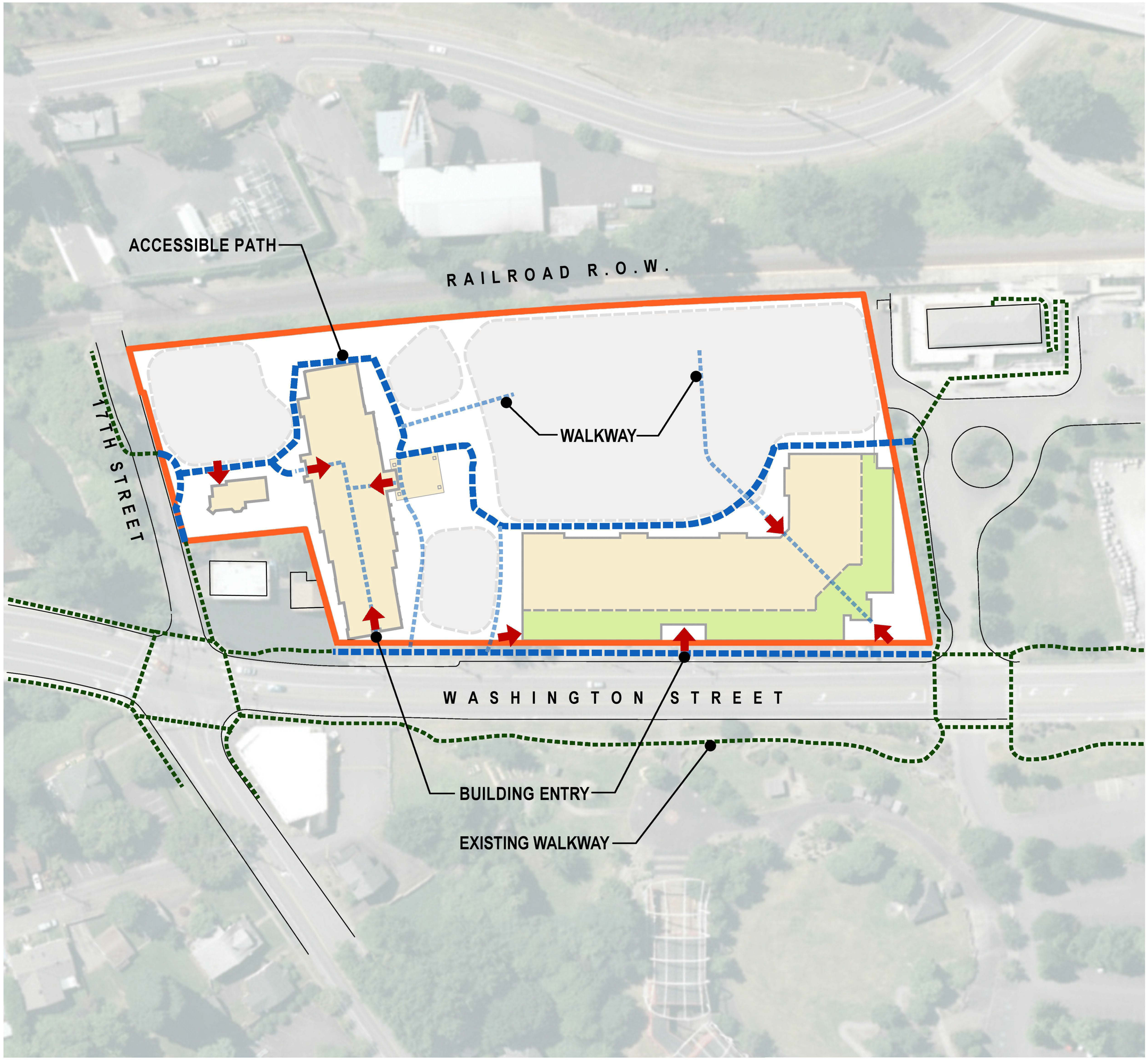
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HILL ARCHITECTS

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OREGON CITY, OREGON

0 20' 40' 80'

PEDESTRIAN CIRCULATION 2.3

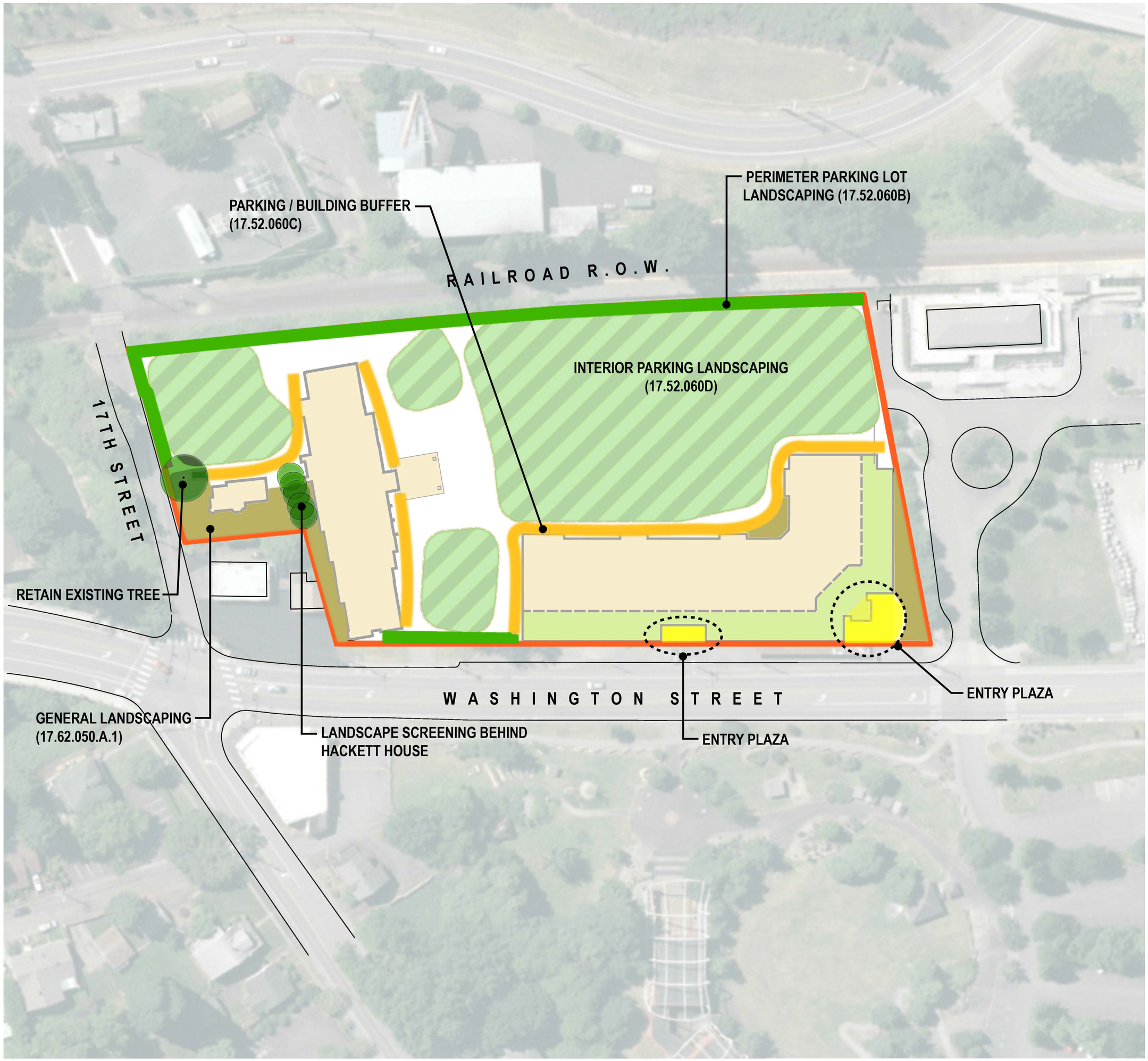
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HILL ARCHITECTS

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OREGON CITY, OREGON

0 20' 40' 80'

HILL ARCHITECTS

CONCEPTUAL LANDSCAPING 2.4

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TOPOGRAPHIC SURVEY

LOCATED IN THE SOUTHWEST ONE-QUARTER AND THE NORTHWEST ONE-QUARTER OF SECTION 29, TOWNSHIP 2 SOUTH, RANGE 2 EAST, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON

FIELD SURVEYED: NOVEMBER 2016

SANITARY SEWER DATA:

1 SANITARY SEWER MANHOLE
RIM=41.65'
IE 12"+/- (N)=29.70'
IE 8"+/- (NE)=26.95'+/-*
*PIPE RECESSED UNDER MANHOLE CONE
IE 48"+/- (SE)=26.95'
IE 48"+/- (NW)=26.75'

2 SANITARY SEWER MANHOLE
RIM=41.38'
IE 8"+/- (E)=27.28'
IE 8"+/- (SW)=27.18'

3 SANITARY SEWER MANHOLE
RIM=40.70'
IE 8"+/- (NE)=27.35'
IE 8"+/- (SW)=27.30'

4 SANITARY SEWER MANHOLE
RIM=36.58'
IE 8"+/- (NE)=28.98'
IE 8"+/- (SW)=29.08'

5 SANITARY SEWER CLEANOUT
RIM=37.44'

6 SANITARY SEWER CLEANOUT
RIM=38.37'

7 SANITARY SEWER CLEANOUT
RIM=39.53'

8 SANITARY SEWER CLEANOUT
RIM=53.66'

9 SANITARY SEWER MANHOLE
RIM=47.33'
IE 48"+/- (SE)=26.43'
IE 48"+/- (NW)=26.03'

STORM SEWER DATA:

1 STORM SEWER CATCH BASIN
RIM=48.57'
IE 12"+/- (SW)=46.26'

2 STORM SEWER IE
IE 12" +/- (NE)=42.86'

3 STORM SEWER CATCH BASIN
RIM=44.63'
FULL OF WATER

4 STORM SEWER AREA DRAIN
RIM=49.39'

5 STORM SEWER CATCH BASIN
LYNCH STYLE
RIM=48.55'

6 STORM SEWER CATCH BASIN
RIM=44.55'

7 STORM SEWER CATCH BASIN
RIM=39.16'
IE 12"+/- (NE)=36.75'

8 STORM SEWER CATCH BASIN
RIM=38.52'
FULL OF WATER

9 STORM SEWER CATCH BASIN
RIM=36.88'
IE 12"+/- (SW)=34.00'
IE 12"+/- (NE)=34.02'

10 STORM SEWER CATCH BASIN
RIM=36.84'
IE 12"+/- (NE)=34.74'

11 STORM SEWER IE
IE 12" +/- (SW)=33.83'

12 STORM SEWER DITCH INLET
FLOWLINE=33.46'
IE 18"+/- (NE)=31.93'

13 STORM SEWER IE
IE 18"+/- (SW)=31.08'

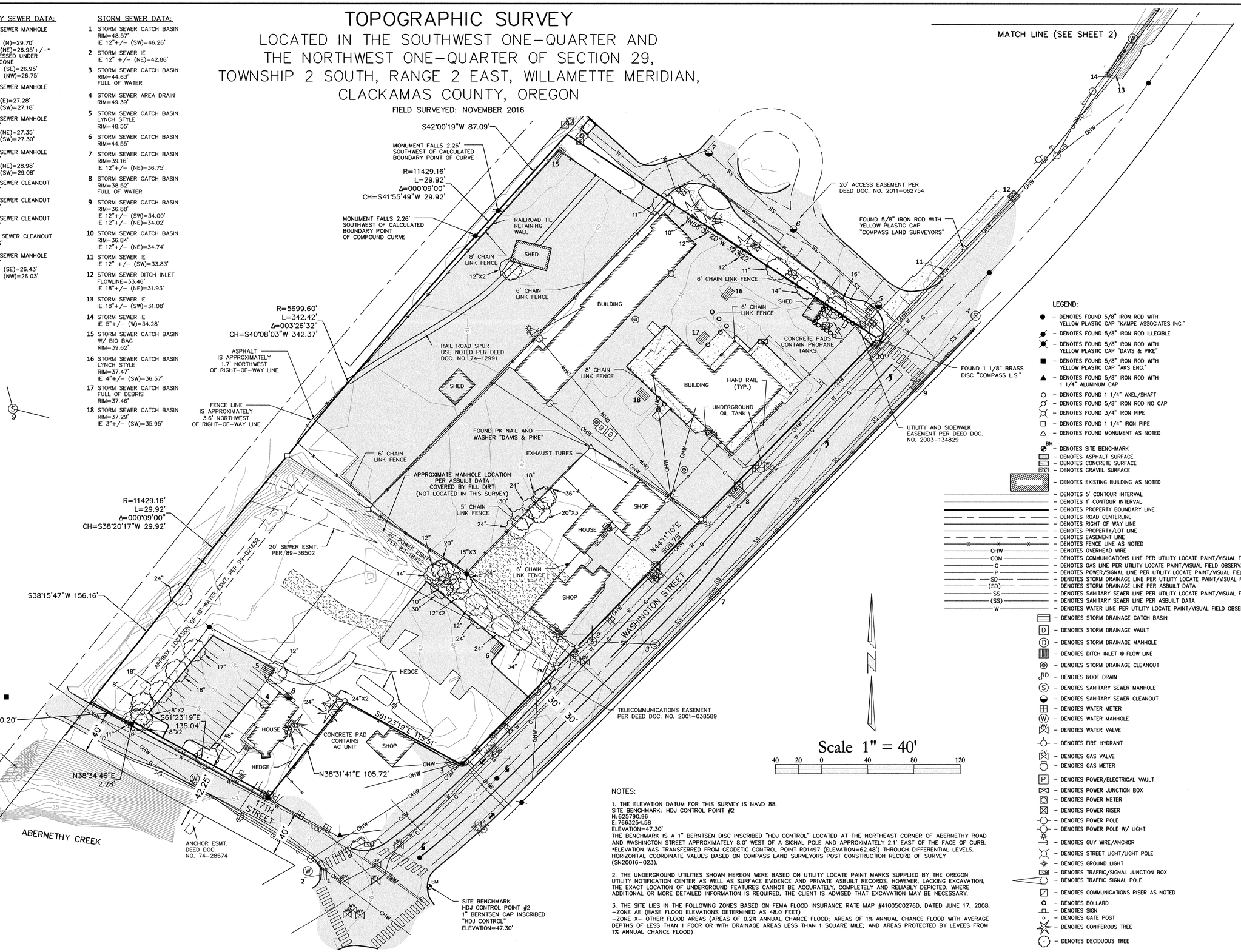
14 STORM SEWER IE
IE 5"+/- (W)=34.28'

15 STORM SEWER CATCH BASIN
W/ BIO BAG
RIM=39.62'

16 STORM SEWER CATCH BASIN
LYNCH STYLE
RIM=37.47'
IE 4"+/- (SW)=36.57'

17 STORM SEWER CATCH BASIN
FULL OF DEBRIS
RIM=37.46'

18 STORM SEWER CATCH BASIN
RIM=37.29'
IE 3"+/- (SW)=35.95'



LEGEND:

- ● – DENOTES FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP "KAMPE ASSOCIATES INC."
- ⊘ – DENOTES FOUND 5/8" IRON ROD ILLEGIBLE
- ⊗ – DENOTES FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP "DAVIS & PIKE"
- ■ – DENOTES FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP "AKS ENG."
- ▲ – DENOTES FOUND 5/8" IRON ROD WITH 1 1/4" ALUMINUM CAP
- ○ – DENOTES FOUND 1 1/4" AXEL/SHAFT
- ⊘ – DENOTES FOUND 5/8" IRON ROD NO CAP
- ⊗ – DENOTES FOUND 3/4" IRON PIPE
- □ – DENOTES FOUND 1 1/4" IRON PIPE
- △ – DENOTES FOUND MONUMENT AS NOTED
- BM – DENOTES SITE BENCHMARK
- ▭ – DENOTES ASPHALT SURFACE
- ▭ – DENOTES CONCRETE SURFACE
- ▭ – DENOTES GRAVEL SURFACE
- ▨ – DENOTES EXISTING BUILDING AS NOTED
- – DENOTES 5' CONTOUR INTERVAL
- – DENOTES 1' CONTOUR INTERVAL
- – DENOTES PROPERTY BOUNDARY LINE
- – DENOTES ROAD CENTERLINE
- – DENOTES RIGHT OF WAY LINE
- – DENOTES PROPERTY/LOT LINE
- – DENOTES EASEMENT LINE
- – DENOTES FENCE LINE AS NOTED
- OHW – DENOTES OVERHEAD WIRE
- COM – DENOTES COMMUNICATIONS LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- G – DENOTES GAS LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- P – DENOTES POWER/SIGNAL LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- SD – DENOTES STORM DRAINAGE LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- (SD) – DENOTES STORM DRAINAGE LINE PER ASBUILT DATA
- SS – DENOTES SANITARY SEWER LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- (SS) – DENOTES SANITARY SEWER LINE PER ASBUILT DATA
- W – DENOTES WATER LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- ▤ – DENOTES STORM DRAINAGE CATCH BASIN
- D – DENOTES STORM DRAINAGE VAULT
- Ⓓ – DENOTES STORM DRAINAGE MANHOLE
- ▥ – DENOTES DITCH INLET @ FLOW LINE
- ◎ – DENOTES STORM DRAINAGE CLEANOUT
- RD – DENOTES ROOF DRAIN
- Ⓢ – DENOTES SANITARY SEWER MANHOLE
- ◒ – DENOTES SANITARY SEWER CLEANOUT
- ⊞ – DENOTES WATER METER
- Ⓦ – DENOTES WATER MANHOLE
- WV – DENOTES WATER VALVE
- – DENOTES FIRE HYDRANT
- GV – DENOTES GAS VALVE
- – DENOTES GAS METER
- P – DENOTES POWER/ELECTRICAL VAULT
- ⊠ – DENOTES POWER JUNCTION BOX
- ▣ – DENOTES POWER METER
- ⊠ – DENOTES POWER RISER
- – DENOTES POWER POLE
- – DENOTES POWER POLE W/ LIGHT
- – DENOTES GUY WIRE/ANCHOR
- – DENOTES STREET LIGHT/LIGHT POLE
- – DENOTES GROUND LIGHT
- TCB – DENOTES TRAFFIC/SIGNAL JUNCTION BOX
- – DENOTES TRAFFIC SIGNAL POLE
- – DENOTES COMMUNICATIONS RISER AS NOTED
- – DENOTES BOLLARD
- – DENOTES SIGN
- – DENOTES GATE POST
- – DENOTES CONIFEROUS TREE
- – DENOTES DECIDUOUS TREE

NOTES:

1. THE ELEVATION DATUM FOR THIS SURVEY IS NAVD 88.
SITE BENCHMARK: HDJ CONTROL POINT #2
N:625790.96
E:7663254.58
ELEVATION=47.30'
THE BENCHMARK IS A 1" BERNTSEN DISC INSCRIBED "HDJ CONTROL" LOCATED AT THE NORTHEAST CORNER OF ABERNETHY ROAD AND WASHINGTON STREET APPROXIMATELY 8.0' WEST OF A SIGNAL POLE AND APPROXIMATELY 2.1' EAST OF THE FACE OF CURB. *ELEVATION WAS TRANSFERRED FROM GEODETIC CONTROL POINT RD1497 (ELEVATION=62.48') THROUGH DIFFERENTIAL LEVELS. HORIZONTAL COORDINATE VALUES BASED ON COMPASS LAND SURVEYORS POST CONSTRUCTION RECORD OF SURVEY (SN20016-023).

2. THE UNDERGROUND UTILITIES SHOWN HEREON WERE BASED ON UTILITY LOCATE PAINT MARKS SUPPLIED BY THE OREGON UTILITY NOTIFICATION CENTER AS WELL AS SURFACE EVIDENCE AND PRIVATE ASBUILT RECORDS. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY AND RELIABLY DEPICTED. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION MAY BE NECESSARY.

3. THE SITE LIES IN THE FOLLOWING ZONES BASED ON FEMA FLOOD INSURANCE RATE MAP #41005C0276D, DATED JUNE 17, 2008.
-ZONE AE (BASE FLOOD ELEVATIONS DETERMINED AS 48.0 FEET)
-ZONE X- OTHER FLOOD AREAS (AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOR OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD)

HDJ A DIVISION OF PBS
314 W 15th Street
Vancouver, WA 98660-2927
360.695.3488
360.695.8767 fax
www.hdjdg.com

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 16, 1982
TERRY GOODMAN
1989
RENEWAL DATE: 6-30-17

TOPOGRAPHIC SURVEY
ABERNETHY PLACE
OREGON CITY, OREGON 97045

REVISIONS	REV.:	DESCRIPTION:

DATE	1/5/2017
DRAWN	MDL
SURVEYED	MFD/MFG
CHECKED	TLG/RFS
JOB NO.:	70997-000
DRAWING NAME:	70997-00-TOPO
SHEET NO.	1/2

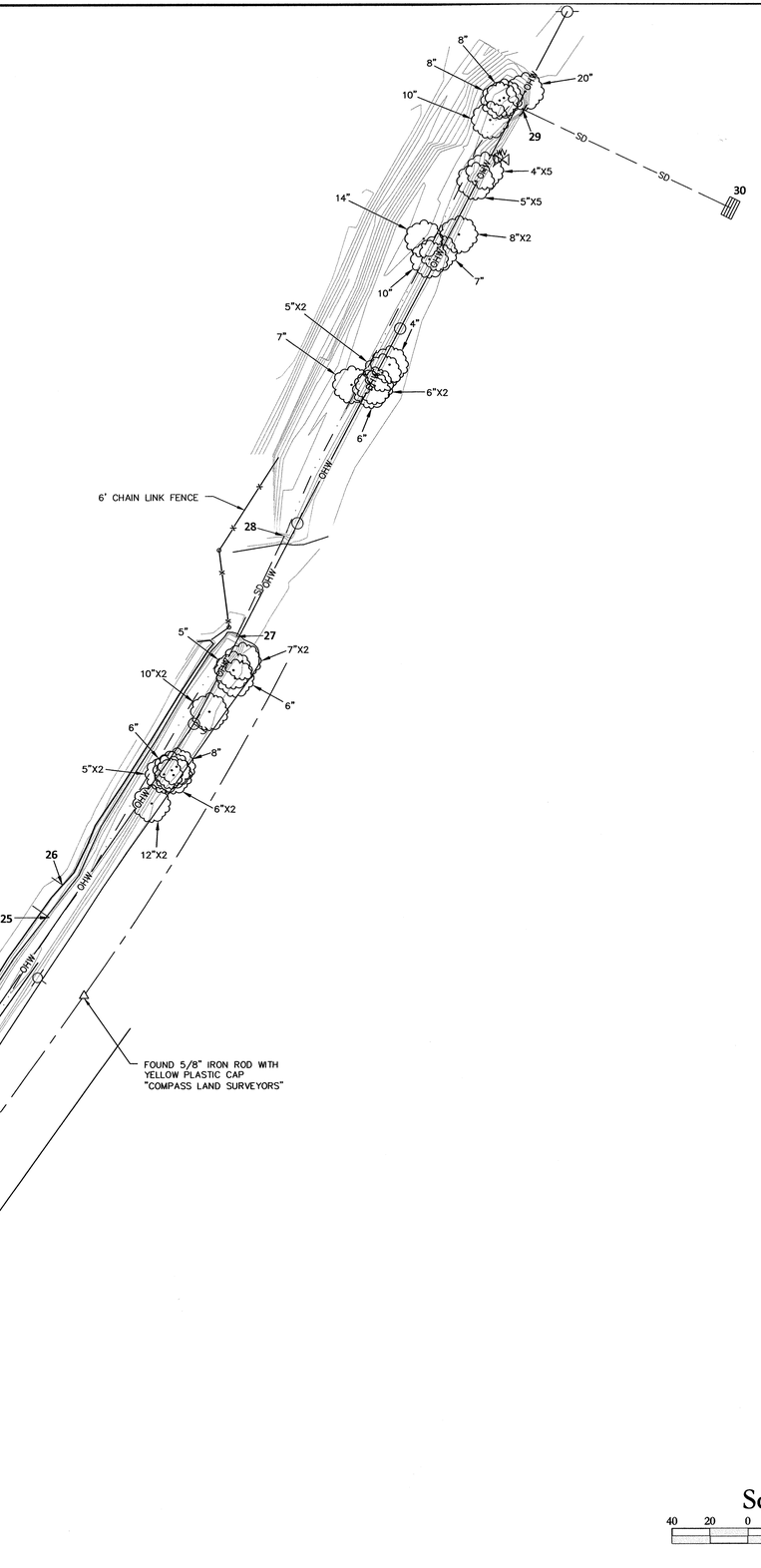
TOPOGRAPHIC SURVEY

LOCATED IN THE SOUTHWEST ONE-QUARTER AND THE NORTHWEST ONE-QUARTER OF SECTION 29, TOWNSHIP 2 SOUTH, RANGE 2 EAST, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON

FIELD SURVEYED: NOVEMBER 2016

LEGEND:

- △ – DENOTES FOUND MONUMENT AS NOTED
- – DENOTES 5' CONTOUR INTERVAL
- – DENOTES 1' CONTOUR INTERVAL
- – DENOTES ROAD CENTERLINE
- – DENOTES RIGHT OF WAY LINE
- – DENOTES FENCE LINE AS NOTED
- OHW – DENOTES OVERHEAD WIRE
- SD – DENOTES STORM DRAINAGE LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- – DENOTES STORM DRAINAGE CATCH BASIN
- – DENOTES DITCH INLET @ FLOW LINE
- Ⓦ – DENOTES WATER MANHOLE
- – DENOTES WATER VALVE
- FDC – DENOTES FIRE DEPT CONNECTION
- – DENOTES FIRE HYDRANT
- – DENOTES POWER POLE
- – DENOTES GUY WIRE/ANCHOR
- – DENOTES GATE POST
- – DENOTES DECIDUOUS TREE



STORM SEWER DATA:

19 STORM SEWER IE
IE 18"+/- (W)=32.88'

20 STORM SEWER DITCH INLET
FLOWLINE=33.14'
IE 30"+/- (NE)=31.71'

21 STORM SEWER IE
IE 30"+/- (SW)
FULL OF DIRT

22 STORM SEWER IE
IE 24"+/- (NE)=32.50'

23 STORM SEWER IE
IE 24"+/- (SW)
FULL OF DIRT

24 STORM SEWER IE
IE 3"+/- (NW)=35.45'

25 STORM SEWER IE
IE 6"+/- (NW)=33.83'

26 STORM SEWER IE
IE 4"+/- (NW)=35.49'

27 STORM SEWER IE
IE 36"+/- (NE)=31.37'

28 STORM SEWER IE
IE 36"+/- (SW)=30.89'

29 STORM SEWER IE
IE 72"+/- (SE)=28.39'

30 STORM SEWER CATCH BASIN
RIM=31.59'
IE 72"+/- (NW)=27.89'

N

Scale 1" = 40'

40 20 0 40 80 120

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Vancouver, WA 98660-2927
360.695.3488
360.695.8767 fax
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REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
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ABERNETHY PLACE
OREGON CITY, OREGON 97045

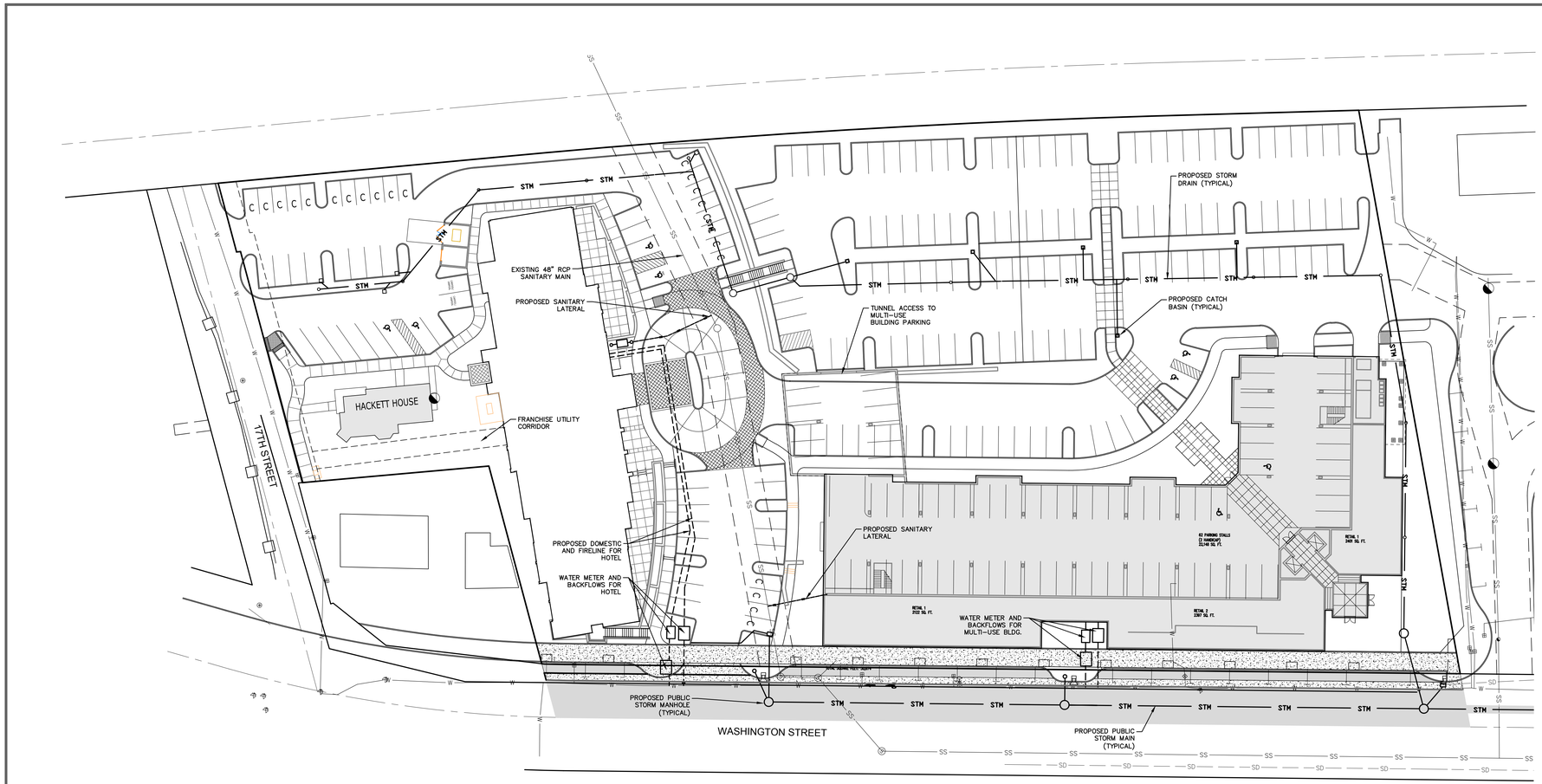
REVISIONS REV.:	DESCRIPTION:

DATE	1/5/2017
DRAWN	MDL
SURVEYED	MFD/MFG
CHECKED	TLG/RFS

JOB NO.: 70997-000

DRAWING NAME: 70997-00-TOPO

SHEET NO. 2/2



REVISIONS	BY

ABERNETHY PLACE
BOTH PHASES

Preliminary Utility Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE FEB. 2017
SCALE 1"=30'
DRAWN JVM
JOB SGL17-021
SHEET PP1
OF PP2 SHEETS

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DRAWING: SGL17-021-P1-GRADING.dwg

ABERNETHY PLACE
GDP
GENERAL DEVELOPMENT PLAN
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

2017-03-30 PROGRESS

MARK	DATE	REVISION/ISSUE

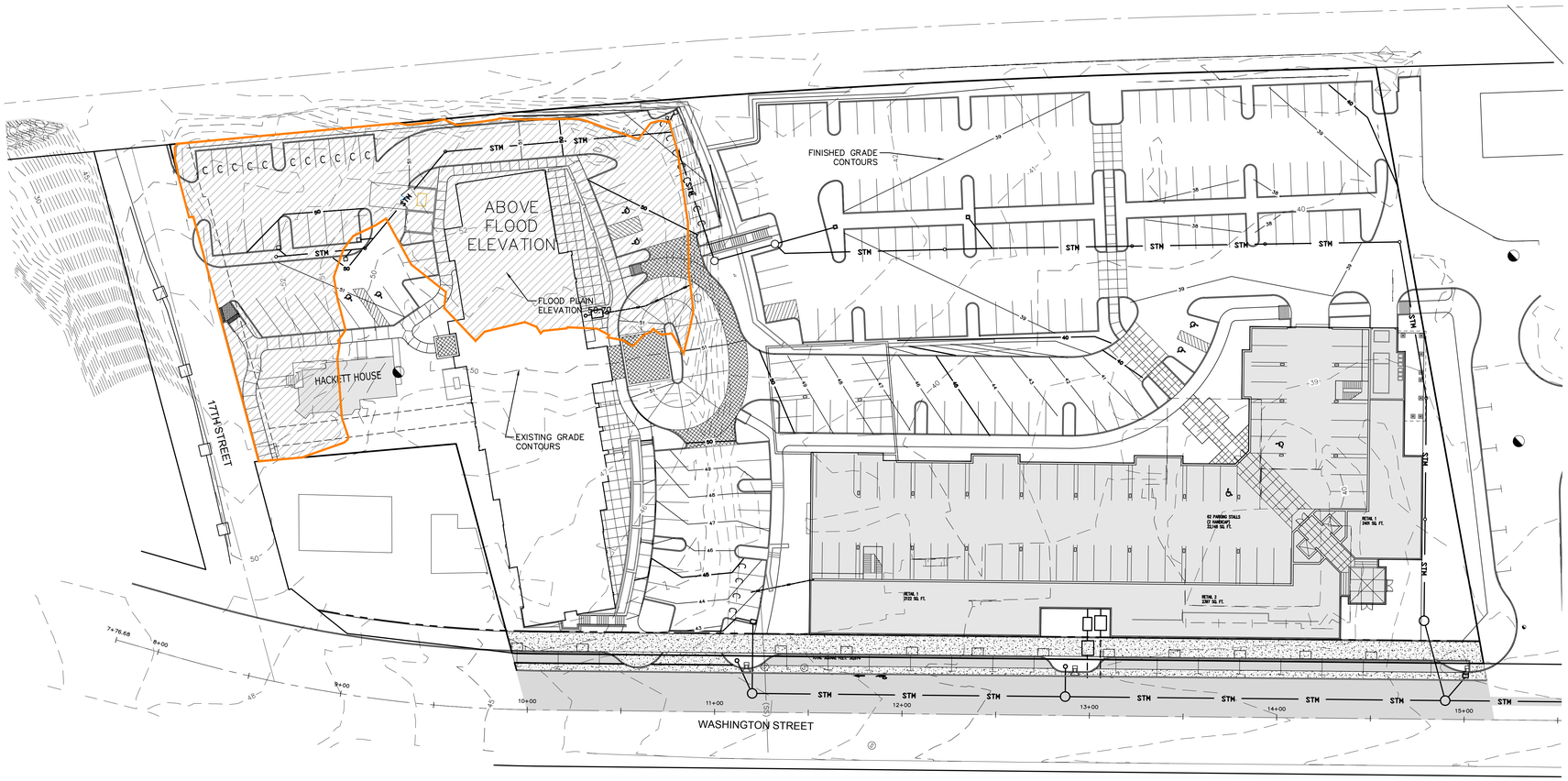
PROJECT NUMBER	DRAWN BY	CHECKED BY
13647	JVM	TJS

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PRELIMINARY UTILITY PLAN

PP1

Date: Thursday, April 13, 2017 12:19:17 PM / Location: X:\Sisul Gladstone\Engineering\Autocad\2017\17-021 Abernethy Place\dwg\17-021-U-UTILITIES.dwg / User: Jordan Marla / Layout: 23-3/4-Phase2



N

0 30' 60'

GRAPHIC SCALE 1"=30'

REVISIONS	BY

ABERNETHY PLACE
BOTH PHASES

Preliminary Grading Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE FEB. 2017
SCALE 1"=30'
DRAWN JVM
JOB SGL17-021
SHEET PP2
OF PP2 SHEETS

HILL
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1750 BLANKENSHIP ROAD
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375 PORTLAND AVENUE
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DRAWING: SGL17-021-PP1-GRADING.dwg

ABERNETHY PLACE
GDP
GENERAL DEVELOPMENT PLAN
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

MARK	DATE	REVISION/ISSUE
	2017-03-30	PROGRESS

PROJECT NUMBER 13647 | DRAWN BY JVM | CHECKED BY TJS

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PRELIMINARY GRADING PLAN

PP2

Date: Tuesday, April 11, 2017 11:29:33 AM / Location: X:\Sisul Gladstone\Engineering\Autocad\2017\17-021 Abernethy Place\dwg\17-021-PP2-GRADING.dwg / User: Jordan Morilla / Layout: 22x34+Plotter2

SITE ASSESSMENT AND PLANNING CHECKLIST

✓	Information needed	Attach supporting materials as needed
2.2.1 Site Information		
	Applicant contact information	Applicant name: Tom Sisul Business name: Sisul Egineering Contact address, phone number, and e-mail: tomsisul@sisulengineering.com 375 Portland Avenue, Gladstone, OR 97027 503-657-0188
	Project location	Site address: various- Map 22E29CA, TL 1200, 1300, 1301, 601, 900,1000 and 1100 Site description: Contains the Hackett House and several businesses. pavement, some in use some not, and several buildings some storage areas in gravel or dirt Major drainage basin: Lower Clackamas River Is the project site located with the WQRA as defined in OCMC 17.49? N (Y/N) *Include a vicinity map of the site (including location of property in relation to adjacent properties, roads, and pedestrian/bike facilities).*
	Project type	Identify types of development planned for the site such as commercial, industrial, single-family residential, multi-family residential, or other (describe): Hotel and Multi-family with some commercial on ground floor.
	Size of site	Size of site: 4.07 (acres) Number of existing/proposed tax lots: 7 / 2 Amount of new and replaced impervious area: app 149,000 (SF)
2.2.2 Site Assessment *Note: Site assessment information may be available from the OCMaps online tool available through the City's website.*		
	Site Assessment Map	*Attach engineered scale Site Assessment Map, showing items below.*
	Topography Evaluate site and map slopes: *Flat: 0-10%* *Moderate: 10-25%* *Steep: 25% and greater*	*Surveyed or aerial-based mapping with 2-foot intervals for slopes 0-25% slope and 10-foot intervals for steeper. Indicate Geologic Hazard Areas as defined by OCMC 17.04.510 and Geologic Hazards Overlay Zone as defined by OCMC 17.04.515.*
	Soils and Groundwater Research and map site soil hydrologic group, depth to groundwater	NRCS Hydrologic Soil Type (show on map if more than one type present): A per NCRS *Attach seasonal groundwater depth evaluation if available or required (site has floodplain and/or wetland). Groundwater depth information is available from the City.* Geotechnical report indicates undocumented fill overlays the site.
	Infiltration Assessment Determine soil capacity for onsite infiltration	If an infiltration test is performed, attach the documentation. Report the test type (Basic/Professional) performed and results. See **Appendix D** for the approved infiltration testing methods. Test type: Borings per PDX SWM Negligible (inches/hour)

SITE ASSESSMENT AND PLANNING CHECKLIST		
	Hydrology – Conditions and Natural Features Map site floodplains, wetlands, streams, and location of outfalls	Clearly label on map all intermittent and perennial creeks/streams/rivers and wetlands, FEMA floodplains, and existing drainage systems (pipes, ditches, outfalls). Check here if present on site: _____ Sensitive area(s) None Floodplain Yes
	Downstream Conveyance	Indicate the proposed point of discharge on the site plan. *Prepare and attach a Downstream Analysis as required by **Chapter 5**.* Check here to verify that adequate downstream capacity is available: X
	Existing Vegetation Map trees and vegetation	Using aerial photos or survey, map all trees and vegetation. Note all existing trees 6-inch caliper and greater (DBH) on map. Delineate and identify other areas and types of existing vegetation. The local planning authority may require a formal tree survey.
	Required Vegetated Buffers and Setbacks Assess and map buffers	Identify required vegetated buffer areas and other setback limits as defined by OCMC Title 17.
	Land Use and Zoning	Existing Land Use Zoning designation(s): MUD
	Access and Parking	Delineate proposed access points for all transportation modes on map. Indicate amount and area of required parking onsite if applicable, *attach documentation as needed.*
	Utilities to Site and Surrounding Area	Map existing utilities including stormwater facilities, storm conveyance, sewer, water, electricity, phone/cable, gas, and any public storm system/facility downstream.
2.2.3 Site Planning Design Objectives *(attach engineered scale Preliminary Site Plan)*		
	1. Preserve existing resources	**Required:** Show sensitive areas and buffers on site plan. Denote buffer areas that require enhancement. Show any proposed areas of encroachment and associated buffer mitigation areas.
	2. Minimize site disturbance	**Required:** Delineate protection areas on site plan for areas to remain undisturbed during construction.
	3. Minimize soil compaction	**Required:** Delineate and note temporary fencing on site plan for proposed infiltration facilities, vegetated stormwater management facilities, and re-vegetation areas.
	4. Minimize imperviousness	**Required:** Delineate proposed impervious areas and proposed impervious area reduction methods on the site plan. A. Total proposed new/replaced impervious area: approx. 140,000 (SF) B. Area of proposed Green Roofs: 0 (SF) C. Area of proposed pervious pavements: 0 (SF) D. Describe type of pavers or pavement proposed: not applicable E. Impervious area requiring management [A-(B+C)]: approx. 140,000 (SF)

SITE ASSESSMENT AND PLANNING CHECKLIST

2.2.4 Proposed Stormwater Management Strategy

Proposed Stormwater Management Strategy

_____ Infiltration facilities

_____ Surface Infiltration facilities to the MEP

_____ Full onsite retention/infiltration up to the 10-year storm event

X Infiltration facilities are limited by the following conditions *(include documentation to demonstrate the limiting condition and choose an alternate strategy below):*

- _____ Stormwater management facility to be located on fill
- _____ Steep slopes
- _____ High groundwater extremely soil draining soils
- _____ Contaminated soils
- _____ Conflict with required Source Controls (**Chapter 6**)

X Onsite Stormwater management facilities (indicate below)

_____ Offsite stormwater management facilities/regional facilities

_____ Fee in Lieu, as determined by the City

Preliminary Facility Selection/Sizing

Check all that apply, *attach output from BMP Sizing Tool*, and show proposed Stormwater Management Facilities on Preliminary Site Plan.

LID facilities:

_____ Infiltration Stormwater Planter

_____ Filtration Stormwater Planter

_____ Infiltration Rain Garden

_____ Filtration Rain Garden

X Vegetated Swale Filtration

_____ Detention Pond

_____ Infiltration Trench

X Manufactured Treatment Technology

_____ Other: _____

Verify Minimum Facility Size

Infiltration not possible due to extremely slow draining soils.

A. Required surface area of onsite surface infiltration facilities:

As determined by BMP sizing tool or engineered method: _____ (SF)

B. Calculate MEP surface area of surface infiltration facilities for sites with limiting conditions:

Total new/replaced impervious area (SF) x 0.10 = _____ (SF)

C. Calculate required surface area of onsite LID facilities:

Smaller of [A] or [B]: _____ (SF)

D. Proposed surface infiltration facility size(s):

From site plan: _____ (SF) *must be larger than [C]*

SITE ASSESSMENT AND PLANNING CHECKLIST		
2.2.5 Other Project Requirements		
	Grading Permit	Review OCMC 15.48 to determine whether a grading permit will be required. Grading permit required? Y (Y/N) Type of Grading Plan proposed (see **Chapter 3**): Excavations adn Engineered Fills
	Erosion Prevention and Sediment Control	Identify the required permits: X ESC Permit from the City *(sites that include 1,000+ SF new or replaced impervious area)* X 1200-C Permit from DEQ *(sites that disturb 1 acre or more land surface)*
	Source Control for High Use Sites	Identify whether the proposed development will include any of the following: _____ Fuel Dispensing Facilities and Surrounding Traffic Areas _____ Above-Ground Storage of Liquid Materials _____ Solid Waste Storage Areas, Containers, and Trash Compactors _____ Exterior Storage of Bulk Materials _____ Material Transfer Areas/Loading Docks _____ Equipment and/or Vehicle Washing Facilities _____ Development on Land With Suspected or Known Contamination _____ Covered Vehicle Parking Areas _____ Industrial and Commercial High Traffic Areas _____ Other land uses subject to the ODEQ 1200-Z Industrial Stormwater Permit
	Other Permits	Identify other natural resources related permits from local, state, or federal agencies that may be required as part of the proposed development activity. It is the responsibility of the applicant to identify and obtain required permits prior to project approval. List other anticipated permits:

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

LAND USE APPLICATION FORM

Type I (OCMC 17.50.030.A)	Type II (OCMC 17.50.030.B)	Type III / IV (OCMC 17.50.030.C)
❑ Compatibility Review	❑ Extension	❑ Annexation
❑ Lot Line Adjustment	❑ Detailed Development Review	❑ Code Interpretation / Similar Use
❑ Non-Conforming Use Review	❑ Geotechnical Hazards	❑ Concept Development Plan
❑ Natural Resource (NROD) Verification	❑ Minor Partition (<4 lots)	❑ Conditional Use
❑ Site Plan and Design Review	❑ Minor Site Plan & Design Review	❑ Comprehensive Plan Amendment (Text/Map)
	❑ Non-Conforming Use Review	☒ Detailed Development Plan
	❑ Site Plan and Design Review	❑ Historic Review
	❑ Subdivision (4+ lots)	❑ Municipal Code Amendment
	❑ Minor Variance	❑ Variance
	❑ Natural Resource (NROD) Review	❑ Zone Change

File Number(s): PA 17-02 & PA 16-30 **DP-17-0003**

Proposed Land Use or Activity: DDP FOR PHASE ONE OF ABERNETHY PLACE GDP INCLUDING HOTEL + EXISTING HISTORIC BUILDING (OFFICE)

Project Name: OREGON CITY HAMPTON INN & SUITES Number of Lots Proposed (If Applicable): N/A

Physical Address of Site: 415 17th ST + (NO ADDRESS) ON WASHINGTON ST.

Clackamas County Map and Tax Lot Number(s): MAP 2S-2E-29CA, LOTS 601, 900, 1000, 1100, 1200, 1300, 1301

Applicant(s):

Applicant(s) Signature: [signature]

Applicant(s) Name Printed: HILL ARCHITECTS Date: 4/14/2017

Mailing Address: 1750 BLANKENSHIP RD., SUITE 400, WEST LINN, OR 97068

Phone: (503) 305-8033 Fax: (503) 305-8034 Email: lloyd.hill@hillarchitects.com

Property Owner(s):

Property Owner(s) Signature: D.B. Desai 4/14/17

Property Owner(s) Name Printed: HACKETT HOSPITALITY GROUP, LLC Date: 4/14/2017

Mailing Address: 1419 W. MAIN ST., BATTLEGROUND, WA 98604

Phone: (360) 655-1455 Fax: _____ Email: a1kesh@tmpadi.com

Representative(s):

Representative(s) Signature: _____

Representative (s) Name Printed: _____ Date: _____

Mailing Address: _____

Phone: _____ Fax: _____ Email: _____

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

HAMPTON INN & SUITES
Oregon City, Oregon

An Application for:

Detailed Development Plan (DDP)

Submitted:

14 April 2017

Owner:

Hackett Hospitality Group, LLC
1419 W. Main Street
Battleground, WA
(360) 666-5551

Applicant:

Hill Architects
1750 Blankenship Road
West Linn, Oregon
(503) 305-8033

Oregon City Planning Project Number **PA 17-02**
PA 16-30
PA-15-25
Hill Architects Project **# 13647**

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Applicant's Submittal

APPLICANT: Hill Architects
1750 Blankenship Road, Suite 400
West Linn, OR 97068

OWNER: Hackett Hospitality Group, LLC
1419 W. Main Street
Battleground, WA
(360) 666-5551

Historic Properties, LLC
1300 Adams Street
Oregon City, OR
(503)655-1455

REQUEST: GDP for hotel + mixed use project
DDP for hotel

LOCATION: 415 17th Street + no address on Washington Street
map number 2-2E-29CA, tax lots 601, 900, 1000, 1100, 1200, 1300, 1301

I. BACKGROUND :

1. **Existing Conditions**
   See various drawings and exhibits included with this submittal and GDP submittal for additional information.

   Abernethy Place General Development Plan area consists of approximately 4 acres of privately owned land bounded on the south by 17th Street, Washington Street on the east, the Oregon City Trail Station on the north, and the railroad right-of-way on the west. The Phase 1 DDP includes slightly over 2.1 acres.

   All parcels within the phase 1 DDP are zoned MUD and are within the Downtown Parking Overlay District. (See "Taxlot Reports", Exhibit C). Taxlot parcels 1200 & 1301 abutting 17th Street are within the Geologic Hazard and Natural Resources Overlay Districts.

   Abernethy Creek is located across 17th Street and the End of the Oregon Trail Interpretive Center is located across Washington Street from the GDP area. (See "Surrounding Uses", GDP drawing 1.4).

   The historic Hackett House is located within the DDP and fronts 17th Street. Currently the Hackett House functions as an office building. The remainder of the DDP area contains a mix of uses including commercial, retail, storage, and vacant land. (See "Existing Uses", GDP drawing 1.5).

   Vehicular access is available from Washington Street and 17th Street. No curbs, sidewalks, or on-street parking exists along DDP frontage. Existing uses have multiple driveways fronting Washington Street.

Topography of the DDP area is relatively flat with the exception of a 8-12 foot change in grade located roughly along the north edge of taxlot 1200.

2. **Project Description**
Phase 1 of Abernethy Place is a portion of a GDP planned as a phased mixed-use development including a variety of complementary uses including hotel, retail, office, and multi-family.

The historic Hackett House fronts 17th street and will remain in its current office use anchoring the south end of project. Phase 1 DDP includes development of a hotel located adjacent to the north side of the Hackett House, parking as required for the Hackett House and hotel, and public improvements along 17th Street and Washington Street at the Phase 1 frontage.

Primary entrance to the hotel will be located on Washington Street. The Hackett House primary entrance is on 17th Street. Street sidewalk improvements will provide connectivity to neighborhoods, while on-site pedestrian walkways will provide connectivity between on-site uses. (See "Site Plan", drawing A100).

Primary vehicular access to the hotel will be from Washington Street. Secondary vehicular access to the hotel and primary vehicular access to the Hackett House will be provided from 17th Street adjacent to the Hackett House.

Directly across from the End of the Oregon Trail Interpretive Center, the Washington Street frontage will be improved with right-of-way dedication, relocation of utilities underground, on-street parking, curbs, gutters, sidewalks, and street trees.

Vehicle parking is primarily located behind existing buildings (to be redeveloped in Phase 2), with additional parking to the west of the Hackett House and along the hotel porte cochere access drive. Parking spaces provided are designed to meet the demands of hotel franchise and office use and significantly exceed Oregon City code requirements for number of spaces.

A 5 story, 99 room hotel is located adjacent to the Hackett House. The building location is constrained to the north by the existing Tri-Cities sewer easement. These on-site conditions as well as the owner's desire to protect and retain the Hackett House restrict the hotel building orientation and footprint size. As a result, an adjustment is requested to exceed the allowable height and maintain a viable hotel project with a franchise minimum acceptable number of rooms.

The lobby floor of the hotel will be elevated above Washington Street at elevation 51.7 feet in order to keep the floor above the flood elevation of 50.7 feet.

Along the Washington Street frontage, a stepped landscape feature will provide a visual and acoustic buffer between the access drive and an elevated pedestrian plaza adjacent to meeting rooms at the Washington Street end of the Hotel. Stone faced stairs connect the public sidewalk with the Hotel entry at Washington Street.

II. RESPONSES TO THE OREGON CITY MUNICIPAL CODE :

CHAPTER 12.04 - STREETS SIDEWALKS AND PUBLIC PLACES

12.04.003 - Applicability.
A. Compliance with this chapter is required for all land divisions, site plan and design review, master plan, detailed development plan and conditional use applications and all public improvements.

B. Compliance with this chapter is also required for new construction or additions which exceed fifty percent of the existing square footage, of all single and two-family dwellings. All applicable single and two-family dwellings shall provide any necessary dedications, easements or agreements as identified in the transportation system plan and this chapter. In addition, the frontage of the site shall comply with the following prioritized standards identified in this chapter:

1. Improve street pavement, construct curbs, gutters, sidewalks and planter strips; and

2. Plant street trees.

The cost of compliance with the standards identified in 12.04.003.B.1 and 12.04.003.B.2 is limited to ten percent of the total construction costs. The value of the alterations and improvements as determined by the community development director is based on the entire project and not individual building permits. It is the responsibility of the applicant to submit to the community development director the value of the required improvements. Additional costs may be required to comply with other applicable requirements associated with the proposal such as access or landscaping requirements.

Applicant's Response: It is expected that public street and sidewalk improvements required by the City will not exceed 10% of the total development costs and therefore these required improvements are applicable to the proposed developments.

12.04.005 - Jurisdiction and management of the public rights-of-way.

A. The city has jurisdiction and exercises regulatory management over all public rights-of-way within the city under authority of the City Charter and state law by issuing separate public works right-of-way permits or permits as part of issued public infrastructure construction plans. No work in the public right-of-way shall be done without the proper permit. Some public rights-of-way within the city are regulated by the State of Oregon Department of Transportation (ODOT) or Clackamas County and as such, any work in these streets shall conform to their respective permitting requirements.

B. Public rights-of-way include, but are not limited to, streets, roads, highways, bridges, alleys, sidewalks, trails, paths, public easements and all other public ways or areas, including the subsurface under and air space over these areas.

C. The city has jurisdiction and exercises regulatory management over each public right-of-way whether the city has a fee, easement, or other legal interest in the right-of-way. The city has jurisdiction and regulatory management of each right-of-way whether the legal interest in the right-of-way was obtained by grant, dedication, prescription, reservation, condemnation, annexation, foreclosure or other means.

D. No person may occupy or encroach on a public right-of-way without the permission of the city. The city grants permission to use rights-of-way by franchises, licenses and permits.

E. The exercise of jurisdiction and regulatory management of a public right-of-way by the city is not official acceptance of the right-of-way, and does not obligate the city to maintain or repair any part of the right-of-way.

Applicant's Response: To the best of the applicant's knowledge the City of Oregon City has sole jurisdiction and management of adjacent public street rights-of-way adjacent to the site.

12.04.007 - Modifications.

The review body may consider modification of this standard resulting from constitutional limitations restricting the city's ability to require the dedication of property or for any other reason, based upon the criteria listed below and other criteria identified in the standard to be modified. All modifications shall be processed through a Type II Land Use application and may require additional evidence from a transportation engineer or others to verify compliance. Compliance with the following criteria is required:

A. The modification meets the intent of the standard;

B. The modification provides safe and efficient movement of pedestrians, motor vehicles, bicyclists and freight;

C. The modification is consistent with an adopted plan; and

D. The modification is complementary with a surrounding street design; or, in the alternative;

E. If a modification is requested for constitutional reasons, the applicant shall demonstrate the constitutional provision or provisions to be avoided by the modification and propose a modification that complies with the state or

federal constitution. The city shall be under no obligation to grant a modification in excess of that which is necessary to meet its constitutional obligations.

Applicant's Response: Modification from normal street design standards will be requested in the following areas

On Washington Street

- **Having a half street right-of-way width of 43 feet, (up to 58 feet can be requested/required under 12,04.180 for arterials.**
- **Having driveway entrance with curbed entries on radius, in combination with street water quality planter**
- **Having a 4 foot gutter pan between the on-street parking area and bike lane**
- **Having a parking stall area that slopes towards the gutter pan and away from the curbline**
- **Having a 6 foot wide through pedestrian way on the sidewalk and a 4 foot street tree area, rather than the standard 5 foot through way and 5 foot street tree area (street tree wells would be 4'x6' rather than 5'x5')**
- **Having a standard curb, instead of curb and gutter along the on-street parking area, as the street is proposed to drain back towards the gutter pan instead of to the curb.**

On 17th Street

- **Having a 24 feet wide street section, as can be fitted without extending street pavement towards Abernethy Creek**
- **Stopping the sidewalk short of the railroad right-of-way, and allowing for a mid-block ramp that could be utilized for a possible future pedestrian extension under the railroad trestle.**
- **Having a 7 foot sidewalk rather than the required 5 foot sidewalk.**
- **In order to save a large tree near the Hackett House, routing the public sidewalk around the tree onto a public sidewalk easement on private property.**

12.04.195 Spacing Standards

- **Because of the narrow depth between Washington Street and the railroad right-of-way, it is requested that no public street or public pedestrian connection be imposed on the development as the railroad right-of-way blocks any through connection to Main St.**

The modification requests are intended to meet the of the standards. All would allow for safe and efficient movement of pedestrians, motor vehicles, bicycles and freight and would hopefully reduce conflicts of such. The proposed changes are generally consistent with the adopted plan and together provide a complimentary package to make the streetscape work better for pedestrians and drainage while still allowing vehicular traffic to use a visually better defined through street area with the extended landscape area marking the through street area from the parking area. We also note the proposed driveway entrance / planter extensions and radiuses would match that already in place for the Amtrak Station.

12.04.010 - Construction specifications—Improved streets.

All sidewalks hereafter constructed in the city on improved streets shall be constructed to city standards and widths required in the Oregon City Transportation System Plan. The curb shall be constructed at the same time as the construction of the sidewalk and shall be located as provided in the ordinance authorizing the improvement of said street next proceeding unless otherwise ordered by the city commission. Both sidewalks and curbs are to be constructed according to plans and specifications provided by the city engineer.

Applicant's Response: Construction to City standards would be the intent except as noted in the modification requests under Chapter 12.04.007

12.04.020 - Construction specifications—Unimproved streets.

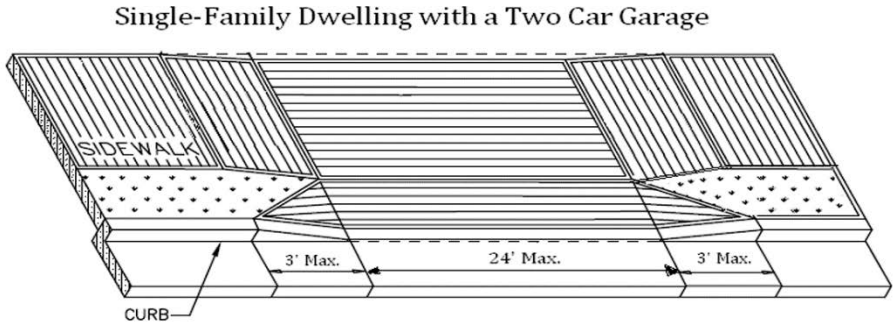
Sidewalks constructed on unimproved streets shall be constructed of concrete according to lines and grades established by the city engineer and approved by the city commission. On unimproved streets curbs do not have to be constructed at the same time as the sidewalk.

Applicant's Response: Both street frontages are proposed to be improved so this section is not applicable.

12.04.025 - Street design—Driveway curb cuts.
A. One driveway shall be allowed per frontage. In no case shall more than two driveways be allowed on any single or two-family residential property with multiple frontages.
B. With the exception of the limitations identified in 12.04.025.C, all driveway curb cuts shall be limited to the following dimensions.

Property Use	*Minimum Driveway Width at sidewalk or property line*	*Maximum Driveway Width at sidewalk or property line*
Single or two-family dwelling with one car garage/parking space	*10 feet*	*12 feet*
Single or two-family dwelling with two car garage/parking space	*12 feet*	*24 feet*
Single or two-family dwelling with three or more car garages/parking space	*18 feet*	*30 feet*
Nonresidential or multi-family residential driveway access	*15 feet*	*40 feet*

The driveway width abutting the street pavement may be extended three feet on either side of the driveway to accommodate turn movements. Driveways may be widened onsite in locations other than where the driveway meets sidewalk or property line (for example between the property line and the entrance to a garage).
Figure 12.04.025: Example Driveway Curb Cut



Applicant's Response: The proposed driveways will all be between 15 and 40 feet wide as permitted for non-residential or multi-family residential.

C. The decision maker shall be authorized through a Type II process, unless another procedure applicable to the proposal applies, to minimize the number and size of curb cuts (including driveways) as far as practicable for any of the following purposes:
1. To provide adequate space for on-street parking;
2. To facilitate street tree planting requirements;
3. To assure pedestrian and vehicular safety by limiting vehicular access points; and
4. To assure that adequate sight distance requirements are met.
a. Where the decision maker determines any of these situations exist or may occur due to the approval of a proposed development for non-residential uses or attached or multi-family housing, a shared driveway shall be required and limited to twenty-four feet in width adjacent to the sidewalk or property line and may extend to a maximum of thirty feet abutting the street pavement to facilitate turning movements.
b. Where the decision maker determines any of these situations exist or may occur due to approval of a proposed development for detached housing within the "R-5" Single-Family Dwelling District or "R-3.5" Dwelling District,

driveway curb cuts shall be limited to twelve feet in width adjacent to the sidewalk or property line and may extend to a maximum of eighteen feet abutting the street pavement to facilitate turning movements.
Applicant's Response: This is not applicable to this application.

D. For all driveways, the following standards apply.
1. Each new or redeveloped curb cut shall have an approved concrete approach or asphalted street connection where there is no concrete curb and a minimum hard surface for at least ten feet and preferably twenty feet back into the lot as measured from the current edge of street pavement to provide for controlling gravel tracking onto the public street. The hard surface may be concrete, asphalt, or other surface approved by the city engineer.
2. Driving vehicles, trailers, boats, or other wheeled objects across a sidewalk or roadside planter strip at a location other than an approved permanent or city-approved temporary driveway approach is prohibited. Damages caused by such action shall be corrected by the adjoining property owner.
3. Placing soil, gravel, wood, or other material in the gutter or space next to the curb of a public street with the intention of using it as a permanent or temporary driveway is prohibited. Damages caused by such action shall be corrected by the adjoining property owner.
4. Any driveway built within public street or alley right-of-way shall be built and permitted per city requirements as approved by the city engineer.
Applicant's Response: The proposed would meet the City standards, except for the modification requested to allow the use of radiuses for the driveway wings.

E. Exceptions. The public works director reserves the right to waive this standard, if it is determined through a Type II decision including written findings that it is in the best interest of the public to do so.
Applicant's Response: The applicant is not request waiving of the standard but is requesting certain modifications noted in 12.04.007.

12.04.030 - Maintenance and repair.
The owner of land abutting the street where a sidewalk has been constructed shall be responsible for maintaining said sidewalk and abutting curb, if any, in good repair.
Applicant's Response: Noted.

12.04.031 - Liability for sidewalk injuries.
A. The owner or occupant of real property responsible for maintaining the adjacent sidewalk shall be liable to any person injured because of negligence of such owner or occupant in failing to maintain the sidewalk in good condition.
B. If the city is required to pay damages for an injury to persons or property caused by the failure of a person to perform the duty that this ordinance imposes, the person shall compensate the city for the amount of the damages paid. The city may maintain an action in a court of competent jurisdiction to enforce this section.
Applicant's Response: Noted.

12.04.032 - Required sidewalk repair.
A. When the public works director determines that repair of a sidewalk is necessary he or she shall issue a notice to the owner of property adjacent to the sidewalk.
B. The notice shall require the owner of the property adjacent to the defective sidewalk to complete the repair of the sidewalk within ninety days after the service of notice. The notice shall also state that if the repair is not made by the owner, the city may do the work and the cost of the work shall be assessed against the property adjacent to the sidewalk.
C. The public works director shall cause a copy of the notice to be served personally upon the owner of the property adjacent to the defective sidewalk, or the notice may be served by registered or certified mail, return receipt requested. If after diligent search the owner is not discovered, the public works director shall cause a copy of the notice to be posted in a conspicuous place on the property, and such posting shall have the same effect as service of notice by mail or by personal service upon the owner of the property.
D. The person serving the notice shall file with the city recorder a statement stating the time, place and manner of service or notice.
Applicant's Response: Noted.

12.04.033 - City may do work.

If repair of the sidewalk is not completed within ninety days after the service of notice, the public works director shall carry out the needed work on the sidewalk. Upon completion of the work, the public works director shall submit an itemized statement of the cost of the work to the finance director. The city may, at its discretion, construct, repair or maintain sidewalks deemed to be in disrepair by the public works director for the health, safety and general welfare of the residents of the city.

Applicant's Response: Noted.

12.04.034 - Assessment of costs.

Upon receipt of the report, the finance director shall assess the cost of the sidewalk work against the property adjacent to the sidewalk. The assessment shall be a lien against the property and may be collected in the same manner as is provided for in the collection of street improvement assessment.

Applicant's Response: Noted.

12.04.040 - Streets—Enforcement.

Any person whose duty it is to maintain and repair any sidewalk, as provided by this chapter, and who fails to do so shall be subject to the enforcement procedures of Chapters 1.16, 1.20 and 1.24. Failure to comply with the provisions of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Applicant's Response: Noted.

12.04.045 - Reserved.

Editor's note— Ord. No. 13-1003, § 1, Exhibit 1, adopted July 17, 2013, repealed § 12.04.045 in its entirety. Former § 12.04.045 pertained to "Street Design—Constrained local streets and/or rights-of-way." See Prior Code Cross-Reference Table and Code Comparative Table and Disposition List for derivation.

Applicant's Response: Noted.

12.04.050 - Retaining walls—Required.

Every owner of a lot within the city, abutting upon an improved street, where the surface of the lot or tract of land is above the surface of the improved street and where the soil or earth from the lot, or tract of land is liable to, or does slide or fall into the street or upon the sidewalk, or both, shall build a retaining wall, the outer side of which shall be on the line separating the lot, or tract of land from the improved street, and the wall shall be so constructed as to prevent the soil or earth from the lot or tract of land from falling or sliding into the street or upon the sidewalk, or both, and the owner of any such property shall keep the wall in good repair.

Applicant's Response: No soil is expected to fall or slide from the proposed improvements into public street right-of-way.

12.04.060 - Retaining walls—Maintenance.

When a retaining wall is necessary to keep the earth from falling or sliding onto the sidewalk or into a public street and the property owner or person in charge of that property fails or refuses to build such a wall, such shall be deemed a nuisance. The violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Applicant's Response: Noted.

12.04.070 - Removal of sliding dirt.

It shall be the duty of the owner of any property as mentioned in Section 12.04.050, and in case the owner is a nonresident, then the agent or other person in charge of the same, to remove from the street or sidewalk or both as the case may be, any and all earth or dirt falling on or sliding into or upon the same from the property, and to build and maintain in order at all times, the retaining wall as herein required; and upon the failure, neglect or refusal of the land owner, the agent or person in charge of the same to clean away such earth or dirt, falling or sliding from the property into the street or upon the sidewalk, or both, or to build the retaining wall, shall be deemed guilty of a misdemeanor.

Applicant's Response: Noted.

12.04.080 - Excavations—Permit required.
It shall be unlawful for any person to dig up, break, excavate, disturb, dig under or undermine any public street or alley, or any part thereof or any macadam, gravel, or other street pavement or improvement without first applying for and obtaining from the engineer a written permit so to do.
Applicant's Response: Noted.

12.04.090 - Excavations—Permit restrictions.
The permit shall designate the portion of the street to be so taken up or disturbed, together with the purpose for making the excavation, the number of days in which the work shall be done, and the trench or excavation to be refilled and such other restrictions as may be deemed of public necessity or benefit.
Applicant's Response: Noted.

12.04.095 - Reserved.
Editor's note— Ord. No. 13-1003, § 1, Exhibit 1, adopted July 17, 2013, repealed § 12.04.095 in its entirety. Former § 12.04.095 pertained to "Street Design—Curb Cuts." See Prior Code Cross-Reference Table and Code Comparative Table and Disposition List for derivation.

12.04.100 - Excavations—Restoration of pavement.
Whenever any excavation shall have been made in any pavement or other street improvement on any street or alley in the city for any purpose whatsoever under the permit granted by the engineer, it shall be the duty of the person making the excavation to restore the pavement in accordance with the City of Oregon City Public Works Pavement Cut Standard in effect at the time a right-of-way permit application is filed. The city commission may adopt and modify the City of Oregon City Public Works Pavement Cut Standards by resolution as necessary to implement the requirements of this chapter.
Applicant's Response: Noted.

12.04.110 - Excavations—Nuisance—Penalty.
Any excavation in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.
Applicant's Response: Proposed project will comply with excavation nuisance requirements as set forth in this code.

12.04.120 - Obstructions—Permit required.
A. Permanent Obstructions. It is unlawful for any person to place, put or maintain any obstruction, other than a temporary obstruction, as defined in subsection B. of this section, in any public street or alley in the city, without obtaining approval for a right-of-way permit from the commission by passage of a resolution.
1. The city engineer shall provide applicants with an application form outlining the minimum submittal requirements.
2. The applicant shall submit at least the following information in the permitting process in order to allow the commission to adequately consider whether to allow the placement of an obstruction and whether any conditions may be attached:
a. Site plan showing right-of-way, utilities, driveways as directed by staff;
b. Sight distance per Chapter 10.32, Traffic Sight Obstructions;
c. Traffic control plan including parking per Manual on Uniform Traffic Control Devices (MUTCD);
d. Alternative routes if necessary;
e. Minimizing obstruction area; and
f. Hold harmless/maintenance agreement.
3. If the commission adopts a resolution allowing the placement of a permanent obstruction in the right-of-way, the city engineer shall issue a right-of-way permit with any conditions deemed necessary by the commission.
B. Temporary Obstructions.

1. A "temporary obstruction" is defined as an object placed in a public street, road or alley for a period of not more than sixty consecutive days. A "temporary obstruction" includes, but is not limited to, moving containers and debris dumpsters.
2. The city engineer, or designee, is authorized to grant a permit for a temporary obstruction.
3. The city engineer shall provide applicants with an application form outlining the minimum submittal requirements.
4. The applicant shall submit, and the city engineer, or designee, shall consider, at least the following items in the permitting process. Additional information may be required in the discretion of the city engineer:
a. Site plan showing right-of-way, utilities, driveways as directed by staff;
b. Sight distance per Chapter 10.32, Traffic Sight Obstructions;
c. Traffic control plan including parking per Manual on Uniform Traffic Control Devices (MUTCD);
d. Alternative routes if necessary;
e. Minimizing obstruction area; and
f. Hold harmless/maintenance agreement.
5. In determining whether to issue a right-of-way permit to allow a temporary obstruction, the city engineer may issue such a permit only after finding that the following criteria have been satisfied:
a. The obstruction will not unreasonably impair the safety of people using the right-of-way and nearby residents;
b. The obstruction will not unreasonably hinder the efficiency of traffic affected by the obstruction;
c. No alternative locations are available that would not require use of the public right-of-way; and
d. Any other factor that the city engineer deems relevant.
6. The permittee shall post a weatherproof copy of the temporary obstruction permit in plain view from the right-of-way.
C. Fees. The fee for obtaining a right-of-way permit for either a permanent obstruction or a temporary obstruction shall be set by resolution of the commission.
Applicant's Response: Proposed site design does not incorporate any permanent obstructions.

12.04.130 - Obstructions—Sidewalk sales.
A. It is unlawful for any person to use the public sidewalks of the city for the purpose of packing, unpacking or storage of goods or merchandise or for the display of goods or merchandise for sale. It is permissible to use the public sidewalks for the process of expeditiously loading and unloading goods and merchandise.
B. The city commission may, in its discretion, designate certain areas of the city to permit the display and sale of goods or merchandise on the public sidewalks under such conditions as may be provided.
Applicant's Response: Proposed project site does not propose using public sidewalks for packing, unpacking or storage of goods or merchandise, or to display merchandise for sale. Site design provides for private walks and loading unloading areas for use of tenants of the proposed structures on the proposed site.

12.04.140 - Obstructions—Nuisance—Penalty.
Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.
Applicant's Response: Project will comply with this chapter of the code.

12.04.150 - Street and alley vacations—Cost.
At the time of filing a petition for vacation of a street, alley or any part thereof, a fee as established by city commission resolution shall be paid to the city.
Applicant's Response: The proposed project does not include the vacation of any streets.

12.04.160 - Street vacations—Restrictions.
The commission, upon hearing such petition, may grant the same in whole or in part, or may deny the same in whole or in part, or may grant the same with such reservations as would appear to be for the public interest, including reservations pertaining to the maintenance and use of underground public utilities in the portion vacated.
Applicant's Response: The proposed project does not include the vacation of any streets.

12.04.170 - Street design—Purpose and general provisions.

All development shall be in conformance with the policies and design standards established by this chapter and with applicable standards in the city's public facility master plan and city design standards and specifications. In reviewing applications for development, the city engineer shall take into consideration any approved development and the remaining development potential of adjacent properties. All street, water, sanitary sewer, storm drainage and utility plans associated with any development must be reviewed and approved by the city engineer prior to construction. All streets, driveways or storm drainage connections to another jurisdiction's facility or right-of-way must be reviewed by the appropriate jurisdiction as a condition of the preliminary plat and when required by law or intergovernmental agreement shall be approved by the appropriate jurisdiction.

Applicant's Response: ***Is the intent to conform with City standards, except as per the modifications as requested under Chapter 12.04.007.***

12.04.175 - Street design—Generally.

The location, width and grade of street shall be considered in relation to: existing and planned streets, topographical conditions, public convenience and safety for all modes of travel, existing and identified future transit routes and pedestrian/bicycle accessways, overlay districts, and the proposed use of land to be served by the streets. The street system shall assure an adequate traffic circulation system with intersection angles, grades, tangents and curves appropriate for the traffic to be carried considering the terrain. To the extent possible, proposed streets shall connect to all existing or approved stub streets that abut the development site. The arrangement of streets shall either:

A. Provide for the continuation or appropriate projection of existing principal streets in the surrounding area and on adjacent parcels or conform to a plan for the area approved or adopted by the city to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical;

B. Where necessary to give access to or permit a satisfactory future development of adjoining land, streets shall be extended to the boundary of the development and the resulting dead-end street (stub) may be approved with a temporary turnaround as approved by the city engineer. Notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future. Access control in accordance with [Chapter] 12.04 shall be required to preserve the objectives of street extensions.

Applicant's Response: Extension of new or existing streets is not needed for the proposed development nor for adjoining parcels, this code section is not applicable to this application.

12.04.180 - Street design.

All development regulated by this chapter shall provide street improvements in compliance with the standards in Figure 12.04.180 depending on the street classification set forth in the Transportation System Plan and the Comprehensive Plan designation of the adjacent property, unless an alternative plan has been adopted. The standards provided below are maximum design standards and may be reduced with an alternative street design which may be approved based on the modification criteria in [Section] 12.04.007. The steps for reducing the maximum design below are found in the Transportation System Plan.

Table 12.04.180 Street Design

To read the table below, select the road classification as identified in the Transportation System Plan and the Comprehensive Plan designation of the adjacent properties to find the maximum design standards for the road cross section. If the Comprehensive Plan designation on either side of the street differs, the wider right-of-way standard shall apply.

Road Classification	*Comprehensive Plan Designation*	*Right-of-Way Width*	*Pavement Width*	*Public Access*	*Sidewalk*	*Landscape Strip*	*Bike Lane*	*Street Parking*	*Travel Lanes*	*Median*

Minor Arterial	*Mixed Use, Commercial or Public/Quasi Public*	*116 ft.*	*94 ft.*	*0.5 ft.*	*10.5 ft. sidewalk including 5 ft. x 5 ft. tree wells*		*6 ft.*	*8 ft.*	*(5) 12 ft. Lanes*	*6 ft.*
	Industrial	*118 ft.*	*86 ft.*	*0.5 ft.*	*5 ft.*	*10.5 ft.*	*6 ft.*	*7 ft.*	*(5) 12 ft. Lanes*	*N/A*
	Residential	*100 ft.*	*68 ft.*	*0.5 ft.*	*5 ft.*	*10.5 ft.*	*6 ft.*	*7 ft.*	*(3) 12 ft. Lanes*	*6 ft.*

Road Classification	*Comprehensive Plan Designation*	*Right-of-Way Width*	*Pavement Width*	*Public Access*	*Sidewalk*	*Landscape Strip*	*Bike Lane*	*Street Parking*	*Travel Lanes*	*Median*
Local	*Mixed Use, Commercial or Public/Quasi Public*	*62 ft.*	*40 ft.*	*0.5 ft.*	*10.5 ft. sidewalk including 5 ft. x 5 ft. tree wells*		*N/A*	*8 ft.*	*(2) 12 ft. Lanes*	*N/A*
	Industrial	*60 ft.*	*38 ft.*	*0.5 ft.*	*5 ft.*	*5.5 ft.*	*(2) 19 ft. Shared Space*			*N/A*
	Residential	*54 ft.*	*32 ft.*	*0.5 ft.*	*5 ft.*	*5.5 ft.*	*(2) 16 ft. Shared Space*			*N/A*

1. Pavement width includes, bike lane, street parking, travel lanes and median.
2. Public access, sidewalks, landscape strips, bike lanes and on-street parking are required on both sides of the street in all designations. The right-of-way width and pavement widths identified above include the total street section.
3. A 0.5 foot curb is included in landscape strip or sidewalk width.
4. Travel lanes may be through lanes or turn lanes.
5. The 0.5 foot public access provides access to adjacent public improvements.
6. Alleys shall have a minimum right-of-way width of twenty feet and a minimum pavement width of sixteen feet. If alleys are provided, garage access shall be provided from the alley.

Applicant's Response: The applicant has proposed several modifications, as outlined in Chapter 12.04.007 to the standard street sections.

12.04.185 - Street design—Access control.
A. A street which is dedicated to end at the boundary of the development or in the case of half-streets dedicated along a boundary shall have an access control granted to the city as a city controlled plat restriction for the purposes of controlling ingress and egress to the property adjacent to the end of the dedicated street. The access control

restriction shall exist until such time as a public street is created, by dedication and accepted, extending the street to the adjacent property.
B. The city may grant a permit for the adjoining owner to access through the access control.
C. The plat shall contain the following access control language or similar on the face of the map at the end of each street for which access control is required: "Access Control (See plat restrictions)."
D. Said plats shall also contain the following plat restriction note(s): "Access to (name of street or tract) from adjoining tracts (name of deed document number[s]) shall be controlled by the City of Oregon City by the recording of this plat, as shown. These access controls shall be automatically terminated upon the acceptance of a public road dedication or the recording of a plat extending the street to adjacent property that would access through those Access Controls."
Applicant's Response: This is not applicable to the proposed development.

12.04.190 - Street design—Alignment.
The centerline of streets shall be:
A. Aligned with existing streets by continuation of the centerlines; or
B. Offset from the centerline by no more than five (5) feet, provided appropriate mitigation, in the judgment of the city engineer, is provided to ensure that the offset intersection will not pose a safety hazard.
Applicant's Response: This is not applicable to the proposed development.

12.04.194 - Traffic sight obstructions.
All new streets shall comply with the Traffic Sight Obstructions in Chapter 10.32.
Applicant's Response: This not applicable as no new streets are proposed.

12.04.195 - Spacing standards.
A. All new streets shall be designed as local streets unless otherwise designated as arterials and collectors in Figure 8 in the transportation system plan. The maximum block spacing between streets is five hundred thirty feet and the minimum block spacing between streets is one hundred fifty feet as measured between the right-of-way centerlines. If the maximum block size is exceeded, pedestrian accessways must be provided every three hundred thirty feet. The spacing standards within this section do not apply to alleys.
B. All new development and redevelopment shall meet the minimum driveway spacing standards identified in Table 12.04.195.B.

Table 12.04.195.B Minimum Driveway Spacing Standards

Street Functional Classification	*Minimum Driveway Spacing Standards*	*Distance*
Major Arterial Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*175 ft.*
Minor Arterial Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*175 ft.*
Collector Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*100 ft.*
Local Streets	*Minimum distance from a street corner to a driveway for all uses and Minimum distance between driveways for uses other than single and two-family dwellings*	*25 ft.*

The distance from a street corner to a driveway is measured along the right-of-way from the edge of the intersection right-of-way to the nearest portion of the driveway and the distance between driveways is measured at the nearest portions of the driveway at the right-of-way.

Applicant's Response: A modification to the maximum block spacing between streets standard is requested due the railroad right-of-way which parallels Washington Street, and which prevents any vehicular or pedestrian connections between Washington Street and Main Street.

12.04.199 - Pedestrian and bicycle accessways.

Pedestrian/bicycle accessways are intended to provide direct, safe and convenient connections between residential areas, retail and office areas, institutional facilities, industrial parks, transit streets, neighborhood activity centers, rights-of-way, and pedestrian/bicycle accessways which minimize out-of-direction travel, and transit-orientated developments where public street connections for automobiles, bicycles and pedestrians are unavailable. Pedestrian/bicycle accessways are appropriate in areas where public street options are unavailable, impractical or inappropriate. Pedestrian and bicycle accessways are required through private property or as right-of-way connecting development to the right-of-way at intervals not exceeding three hundred thirty feet of frontage; or where the lack of street continuity creates inconvenient or out of direction travel patterns for local pedestrian or bicycle trips.

A. Entry points shall align with pedestrian crossing points along adjacent streets and with adjacent street intersections.

Applicant's Response: Pedestrian-bicycle accessway connections through the property perpendicular to Washington St, is not possible because of the railroad right-of-way that would block continuing connections to Main Street. Pedestrian-bicycle accessway connections parallel with Washington Street is not needed as the width of the parcel between Washington Street and the railroad right-of-way does not exceed 350 feet.

B. Accessways shall be free of horizontal obstructions and have a nine-foot, six-inch high vertical clearance to accommodate bicyclists. To safely accommodate both pedestrians and bicycles, accessway right-of-way widths shall be as follows:

1. Accessways shall have a fifteen-foot-wide right-of-way with a seven-foot wide paved surface between a five-foot planter strip and a three-foot planter strip.

2. If an accessway also provides secondary fire access, the right-of-way width shall be at least twenty-three feet wide with a fifteen-foot paved surface a five-foot planter strip and a three-foot planter strip.

Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

C. Accessways shall be direct with at least one end point of the accessway always visible from any point along the accessway. On-street parking shall be prohibited within fifteen feet of the intersection of the accessway with public streets to preserve safe sight distance and promote safety.

Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

D. To enhance pedestrian and bicycle safety, accessways shall be lighted with pedestrian-scale lighting. Accessway lighting shall be to a minimum level of one-half-foot-candles, a one and one-half foot-candle average, and a maximum to minimum ratio of seven-to-one and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances.

Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

E. Accessways shall comply with Americans with Disabilities Act (ADA).

Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

F. The planter strips on either side of the accessway shall be landscaped along adjacent property by installation of the following:

1. Within the three-foot planter strip, an evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than four feet apart on average;
2. Ground cover covering one hundred percent of the exposed ground. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees;
3. Within the five-foot planter strip, two-inch minimum caliper trees with a maximum of thirty-five feet of separation between the trees to increase the tree canopy over the accessway;
4. In satisfying the requirements of this section, evergreen plant materials that grow over forty-two inches in height shall be avoided. All plant materials shall be selected from the Oregon City Native Plant List.
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

G. Accessways shall be designed to prohibit unauthorized motorized traffic. Curbs and removable, lockable bollards are suggested mechanisms to achieve this.
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

H. Accessway surfaces shall be paved with all-weather materials as approved by the city. Pervious materials are encouraged. Accessway surfaces shall be designed to drain stormwater runoff to the side or sides of the accessway. Minimum cross slope shall be two percent.
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

I. In parks, greenways or other natural resource areas, accessways may be approved with a five-foot wide gravel path with wooden, brick or concrete edgings.
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

J. The community development director may approve an alternative accessway design due to existing site constraints through the modification process set forth in Section 12.04.007.
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

K. Ownership, liability and maintenance of accessways. To ensure that all pedestrian/bicycle accessways will be adequately maintained over time, the hearings body shall require one of the following:
1. Dedicate the accessways to the public as public right-of-way prior to the final approval of the development; or
2. The developer incorporates the accessway into a recorded easement or tract that specifically requires the property owner and future property owners to provide for the ownership, liability and maintenance of the accessway.
Applicant's Response: This is not applicable as accessways are not practical or needed as noted under 12.04.199A above.

12.04.200 - Reserved.
Editor's note— Ord. No. 13-1003, § 1, Exhibit 1, adopted July 17, 2013, repealed § 12.04.200 in its entirety. Former § 12.04.200 pertained to "Street Design—Constrained local streets and/or rights-of-way." See Prior Code Cross-Reference Table and Code Comparative Table and Disposition List for derivation.

12.04.205 - Mobility standards.
Development shall demonstrate compliance with intersection mobility standards. When evaluating the performance of the transportation system, the City of Oregon City requires all intersections, except for the facilities identified in subsection D below, to be maintained at or below the following mobility standards during the two-hour peak operating conditions. The first hour has the highest weekday traffic volumes and the second hour is the next highest hour before or after the first hour. Except as provided otherwise below, this may require the installation of mobility improvements as set forth in the transportation system plan or as otherwise identified by the city transportation engineer.

A. For intersections within the regional center, the following mobility standards apply:
1. During the first hour, a maximum v/c ratio of 1.10 shall be maintained. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.
2. During the second hour, a maximum v/c ratio of 0.99 shall be maintained at signalized intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.
3. Intersections located on the Regional Center boundary shall be considered within the Regional Center.
B. For intersections outside of the Regional Center but designated on the Arterial and Throughway Network, as defined in the Regional Transportation Plan, the following mobility standards apply:
1. During the first hour, a maximum v/c ratio of 0.99 shall be maintained. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.
2. During the second hour, a maximum v/c ratio of 0.99 shall be maintained at signalized intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.
C. For intersections outside the boundaries of the Regional Center and not designated on the Arterial and Throughway Network, as defined in the Regional Transportation Plan, the following mobility standards apply:
1. For signalized intersections:
a. During the first hour, LOS "D" or better will be required for the intersection as a whole and no approach operating at worse than LOS "E" and a v/c ratio not higher than 1.0 for the sum of the critical movements.
b. During the second hour, LOS "D" or better will be required for the intersection as a whole and no approach operating at worse than LOS "E" and a v/c ratio not higher than 1.0 for the sum of the critical movements.
2. For unsignalized intersections outside of the boundaries of the Regional Center:
a. For unsignalized intersections, during the peak hour, all movements serving more than twenty vehicles shall be maintained at LOS "E" or better. LOS "F" will be tolerated at movements serving no more than twenty vehicles during the peak hour.
D. Until the city adopts new performance measures that identify alternative mobility targets, the city shall exempt proposed development that is permitted, either conditionally, outright, or through detailed development master plan approval, from compliance with the above-referenced mobility standards for the following state-owned facilities:
I-205/OR 99E Interchange
I-205/OR 213 Interchange
OR 213/Beavercreek Road
State intersections located within or on the Regional Center Boundaries
1. In the case of conceptual development approval for a master plan that impacts the above references intersections:
a. The form of mitigation will be determined at the time of the detailed development plan review for subsequent phases utilizing the Code in place at the time the detailed development plan is submitted; and
b. Only those trips approved by a detailed development plan review are vested.
2. Development which does not comply with the mobility standards for the intersections identified in [Section] 12.04.205.D shall provide for the improvements identified in the Transportation System Plan (TSP) in an effort to improve intersection mobility as necessary to offset the impact caused by development. Where required by other provisions of the Code, the applicant shall provide a traffic impact study that includes an assessment of the development's impact on the intersections identified in this exemption and shall construct the intersection improvements listed in the TSP or required by the Code.

Applicant's Response: A traffic impact study is included in this application including assessment of the development's impact on the intersections identified in this exemption.

12.04.210 - Street design—Intersection angles.
Except where topography requires a lesser angle, streets shall be laid out to intersect at angles as near as possible to right angles. In no case shall the acute angles be less than eighty degrees unless there is a special intersection design. An arterial or collector street intersecting with another street shall have at least one hundred feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least fifty feet of tangent adjacent to the intersection unless topography requires a lesser distance. All street intersections shall

be provided with a minimum curb return radius of twenty-five feet for local streets. Larger radii shall be required for higher street classifications as determined by the city engineer. Additional right-of-way shall be required to accommodate curb returns and sidewalks at intersections. Ordinarily, intersections should not have more than two streets at any one point.

Applicant's Response: No new streets are proposed therefore new intersections are not proposed either.

12.04.215 - Street design—Off-site street improvements.

During consideration of the preliminary plan for a development, the decision maker shall determine whether existing streets impacted by, adjacent to, or abutting the development meet the city's applicable planned minimum design or dimensional requirements. Where such streets fail to meet these requirements, the decision-maker shall require the applicant to make proportional improvements sufficient to achieve conformance with minimum applicable design standards required to serve the proposed development.

Applicant's Response: Traffic impact study proportionality analysis indicates construction of left-turn lane serving the site access would be proportionate to the impacts of the proposed development.

12.04.220 - Street design—Half street.

Half streets, while generally not acceptable, may be approved where essential to the development, when in conformance with all other applicable requirements, and where it will not create a safety hazard. When approving half streets, the decision maker must first determine that it will be practical to require the dedication of the other half of the street when the adjoining property is divided or developed. Where the decision maker approves a half street, the applicant must construct an additional ten feet of pavement width so as to make the half street safe and usable until such time as the other half is constructed. Whenever a half street is adjacent to property capable of being divided or developed, the other half of the street shall be provided and improved when that adjacent property divides or develops. Access control may be required to preserve the objectives of half streets.

When the remainder of an existing half-street improvement is made it shall include the following items: dedication of required right-of-way, construction of the remaining portion of the street including pavement, curb and gutter, landscape strip, sidewalk, street trees, lighting and other improvements as required for that particular street. It shall also include at a minimum the pavement replacement to the centerline of the street. Any damage to the existing street shall be repaired in accordance with the city's "Moratorium Pavement Cut Standard" or as approved by the city engineer.

Applicant's Response: A half street development is not applicable to this site.

12.04.225 - Street design—Cul-de-sacs and dead-end streets.

The city discourages the use of cul-de-sacs and permanent dead-end streets except where construction of a through street is found by the decision maker to be impracticable due to topography or some significant physical constraint such as geologic hazards, wetland, natural or historic resource areas, dedicated open space, existing development patterns, arterial access restrictions or similar situation as determined by the community development director. When permitted, access from new cul-de-sacs and permanent dead-end streets shall be limited to a maximum of twenty-five dwelling units and a maximum street length of two hundred feet, as measured from the right-of-way line of the nearest intersecting street to the back of the cul-de-sac curb face. In addition, cul-de-sacs and dead end roads shall include pedestrian/bicycle accessways as required in this chapter. This section is not intended to preclude the use of curvilinear eyebrow widening of a street where needed.

Where approved, cul-de-sacs shall have sufficient radius to provide adequate turn-around for emergency vehicles in accordance with fire district and city adopted street standards. Permanent dead-end streets other than cul-de-sacs shall provide public street right-of-way/easements sufficient to provide turn-around space with appropriate no-parking signs or markings for waste disposal, sweepers, and other long vehicles in the form of a hammerhead or other design to be approved by the decision maker. Driveways shall be encouraged off the turnaround to provide for additional on-street parking space.

Applicant's Response: No new streets are proposed nor will any existing street be extended; thus this code section is not applicable.

12.04.230 - Street design—Street names.

Except for extensions of existing streets, no street name shall be used which will duplicate or be confused with the name of an existing street. Street names shall conform to the established standards in the city and shall be subject to the approval of the city.

Applicant's Response: No new streets are proposed and thus this is not applicable.

12.04.235 - Street design—Grades and curves.

Grades and center line radii shall conform to the standards in the city's street design standards and specifications.

Applicant's Response: No new streets are proposed and thus this is not applicable.

12.04.240 - Street design—Development abutting arterial or collector street.

Where development abuts or contains an existing or proposed arterial or collector street, the decision maker may require: access control; screen planting or wall contained in an easement or otherwise protected by a restrictive covenant in a form acceptable to the decision maker along the rear or side property line; or such other treatment it deems necessary to adequately protect residential properties or afford separation of through and local traffic. Reverse frontage lots with suitable depth may also be considered an option for residential property that has arterial frontage. Where access for development abuts and connects for vehicular access to another jurisdiction's facility then authorization by that jurisdiction may be required.

Applicant's Response: No restrictive covenant or other form of protection is needed for the proposed developments.

12.04.245 - Street design—Pedestrian and bicycle safety.

Where deemed necessary to ensure public safety, reduce traffic hazards and promote the welfare of pedestrians, bicyclists and residents of the subject area, the decision maker may require that local streets be so designed as to discourage their use by nonlocal automobile traffic.

All crosswalks shall include a large vegetative or sidewalk area which extends into the street pavement as far as practicable to provide safer pedestrian crossing opportunities. These curb extensions can increase the visibility of pedestrians and provide a shorter crosswalk distance as well as encourage motorists to drive slower. The decision maker may approve an alternative design that achieves the same standard for constrained sites or where deemed unnecessary by the city engineer.

Applicant's Response: Washington Street is an arterial, not a local street so this code section is not applicable to Washington St. 17th Street has no sidewalk on its southerly side, however the applicant is setting up the northerly sidewalk for a mid-block crossing to allow for a future pedestrian connection under the railroad trestle in the future if approval could be obtained from the railroad.

12.04.255 - Street design—Alleys.

Public alleys shall be provided in the following districts R-5, R-3.5, R-2, MUC-1, MUC-2 and NC zones unless other permanent provisions for private access to off-street parking and loading facilities are approved by the decision maker. The corners of alley intersections shall have a radius of not less than ten feet.

Applicant's Response: The parcel is zoned MUD, and thus the code section is not applicable to the site.

12.04.260 - Street design—Transit.

Streets shall be designed and laid out in a manner that promotes pedestrian and bicycle circulation. The applicant shall coordinate with transit agencies where the application impacts transit streets as identified in [Section] 17.04.1310. Pedestrian/bicycle access ways shall be provided as necessary in Chapter 12.04 to minimize the travel distance to transit streets and stops and neighborhood activity centers. The decision maker may require provisions, including easements, for transit facilities along transit streets where a need for bus stops, bus pullouts or other transit facilities within or adjacent to the development has been identified.

Applicant's Response: Washington St., north of 17 St. is not a transit route. Therefore, this code section is not applicable.

12.04.265 - Street design—Planter strips.

All development shall include vegetative planter strips that are five feet in width or larger and located adjacent to the curb. This requirement may be waived or modified if the decision maker finds it is not practicable. The decision

maker may permit constrained sites to place street trees on the abutting private property within ten feet of the public right-of-way if a covenant is recorded on the title of the property identifying the tree as a city street tree which is maintained by the property owner. Development proposed along a collector, minor arterial, or major arterial street may use tree wells with root barriers located near the curb within a wider sidewalk in lieu of a planter strip, in which case each tree shall have a protected area to ensure proper root growth and reduce potential damage to sidewalks, curbs and gutters.

To promote and maintain the community tree canopy adjacent to public streets, trees shall be selected and planted in planter strips in accordance with Chapter 12.08, Street Trees. Individual abutting lot owners shall be legally responsible for maintaining healthy and attractive trees and vegetation in the planter strip. If a homeowners' association is created as part of the development, the association may assume the maintenance obligation through a legally binding mechanism, e.g., deed restrictions, maintenance agreement, etc., which shall be reviewed and approved by the city attorney. Failure to properly maintain trees and vegetation in a planter strip shall be a violation of this code and enforceable as a civil infraction.

Applicant's Response: Tree wells are proposed, as well as landscape extensions into the on street parking areas for use as both water quality and greenery.

12.04.270 - Standard construction specifications.

The workmanship and materials for any work performed under permits issued per this chapter shall be in accordance with the edition of the "Oregon Standard Specifications for Construction" as prepared by the Oregon Department of Transportation (ODOT) and the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the city in accordance with this ordinance, in effect at the time of application. The exception to this requirement is where this chapter and the Public Works Street Design Drawings provide other design details, in which case the requirements of this chapter and the Public Works Street Design Drawings shall be complied with. In the case of work within ODOT or Clackamas County rights-of-way, work shall be in conformance with their respective construction standards.

Applicant's Response: Noted.

12.04.280 - Violation—Penalty.

Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of Chapters 1.16, 1.20 and 1.24.

Applicant's Response: Noted.

CHAPTER 12.08 - PUBLIC AND STREET TREES

12.08.010 - Purpose.

The purpose of this chapter is to:

A. Develop tree-lined streets to protect the living quality and beautify the city;

B. Establish physical separation between pedestrians and vehicular traffic;

C. Create opportunities for solar shading;

D. Improve air quality; and

E. Increase the community tree canopy and resource.

Applicant's Response: Duly Noted

12.08.015 - Street tree planting and maintenance requirements.

All new construction or major redevelopment shall provide street trees adjacent to all street frontages. Species of trees shall be selected based upon vision clearance requirements, but shall in all cases be selected from the Oregon City Street Tree List or be approved by a certified arborist. If a setback sidewalk has already been constructed or the Development Services determines that the forthcoming street design shall include a setback sidewalk, then all street trees shall be installed with a planting strip. If existing street design includes a curb-tight sidewalk, then all street trees shall be placed within the front yard setback, exclusive of any utility easement.

Applicant's Response: **Street trees will be selected from the Oregon City Street Tree List or otherwise approved as appropriate for use along the street frontages. Street trees along Washington Street will be in tree wells, trees along 17th Street will be planted behind the curb tight sidewalk.**

A. One street tree shall be planted for every thirty-five feet of property frontage. The tree spacing shall be evenly distributed throughout the total development frontage. The community development director may approve an alternative street tree plan if site or other constraints prevent meeting the placement of one street tree per thirty-five feet of property frontage.

Applicant's Response: **Every attempt will be made to plant street trees at the ratio of 1 tree per 35 feet, allowing for restrictions for plantings around driveways, street lights and other utility elements, and minimal tree spacing requirements that would prevent otherwise number of street trees to be planted.**

B. The following clearance distances shall be maintained when planting trees:
1. Fifteen feet from streetlights;
2. Five feet from fire hydrants;
3. Twenty feet from intersections;
4. A minimum of five feet (at mature height) below power lines.

Applicant's Response: **Duly Noted**

C. All trees shall be a minimum of two inches in caliper at six inches above the root crown and installed to city specifications.

Applicant's Response: **All street trees will meet the standard.**

D. All established trees shall be pruned tight to the trunk to a height that provides adequate clearance for street cleaning equipment and ensures ADA complaint clearance for pedestrians.

Applicant's Response: **Duly Noted**

12.08.020 - Street tree species selection.
The community development director may specify the species of street trees required to be planted if there is an established planting scheme adjacent to a lot frontage, if there are obstructions in the planting strip, or if overhead power lines are present.

Applicant's Response: **Duly Noted**

12.08.025 - General tree maintenance.
Abutting property owners shall be responsible for the maintenance of street trees and planting strips. Topping of trees is permitted only under recommendation of a certified arborist, or other qualified professional, if required by city staff. Trees shall be trimmed appropriately. Maintenance shall include trimming to remove dead branches, dangerous limbs and to maintain a minimum seven-foot clearance above all sidewalks and ten-foot clearance above the street. Planter strips shall be kept clear of weeds, obstructing vegetation and trash.

Applicant's Response: **Duly Noted**

12.08.030 - Public property tree maintenance.
The city shall have the right to plant, prune, maintain and remove trees, plants and shrubs in all public rights-of-way and public grounds, as may be necessary to ensure public safety or to preserve and enhance the symmetry or other desirable characteristics of such public areas. The natural resources committee may recommend to the community development director the removal of any tree or part thereof which is in an unsafe condition, or which by reason of its nature is injurious to above or below-ground public utilities or other public improvements.

Applicant's Response: **Duly Noted**

12.08.035 - Public tree removal.

Existing street trees shall be retained and protected during construction unless removal is specified as part of a land use approval or in conjunction with a public facilities construction project, as approved by the community development director. A diseased or hazardous street tree, as determined by a registered arborist and verified by the City, may be removed if replaced. A non-diseased, non-hazardous street tree that is removed shall be replaced in accordance with the Table 12.08.035.

All new street trees will have a minimum two-inch caliper trunk measured six inches above the root crown. The community development director may approve off-site installation of replacement trees where necessary due to planting constraints. The community development director may additionally allow a fee in-lieu of planting the tree(s) to be placed into a city fund dedicated to planting trees in Oregon City in accordance with Oregon City Municipal Code 12.08.

Table 12.08.035

Replacement Schedule for Trees Determined to be Dead, Diseased or Hazardous by a Certified Arborist		*Replacement Schedule for Trees Not Determined to be Dead, Diseased or Hazardous by a Certified Arborist*	
Diameter of tree to be Removed (Inches of diameter at 4-ft height)	*Number of Replacement Trees to be Planted*	*Diameter of tree to be Removed (Inches of diameter at 4-ft height)*	*Number of Replacement Trees to be Planted*
Any Diameter	*1 Tree*	*Less than 6"*	*1 Tree*
		6" to 12"	*2 Trees*
		13" to 18"	*3 Trees*
		19" to 24"	*4 Trees*
		25" to 30"	*5 Trees*
		31" and over	*8 Trees*

Applicant's Response: **No street trees currently exist, but care will be taken to preserve a large tree adjacent to the 17th St. ROW and near the Hackett House.**

12.08.040 - Heritage Trees and Groves.

A. Purpose. Certain trees, because of their age, species, natural resource value, ecological or historical association, are of special importance to the city. These trees may live on private or public property.

1. The purpose of this chapter is to recognize, foster appreciation and provide for voluntary protection of Heritage Trees.

2. In particular, the following trees are shall be considered significant, and therefore eligible for heritage tree nomination in Oregon City, if they meet the minimum size requirements of the table below:

Tree Eligibility based on Size

Species	*Common Name*	*Size (d.b.h)*
Quercus garrayana	*Oregon white oak*	*8"*
Pseudotsuga menziesii	*Douglas-fir*	*18"*
Thuja plicata	*Western red cedar*	*12"*
Pinus ponderosa	*Ponderosa pine*	*12"*

Taxus brevifolia	*Western yew*	*6"*
Other deciduous and horticultural tree species		*20"*
Other evergreen and conifer trees		*18"*

Applicant's Response: **We are not aware of a heritage tree, but aware of the significance of the large tree (Spanish Chestnut) near the Hackett House and will save it.**

B. Recommendation.
1. Any citizen may recommend tree(s) to be designated as a Heritage Tree or Grove. If the proposed Heritage Tree or Grove is located on property other than city property or public right-of-way under city jurisdiction, the recommendation shall be submitted by the property owner or accompanied by the property owner's written consent. If the proposed Heritage Tree or Grove is located on city property or public right-of-way under city jurisdiction, the recommendation shall be submitted to the community development director; if the recommendation is consented to by the city, the community development director shall submit the recommendation to the city commission.
2. Recommendation shall be made on such form as required by the community development director. The recommendation form shall include a narrative explaining why the tree qualifies for Heritage Tree or Grove status pursuant to the definition in subsection 1. and the written consent of the property owner as described in subsection 1., of this section.
Applicant's Response: **Duly Noted.**

C. Review Process.
1. The city commission shall review all Heritage Trees and Grove recommendations at a public meeting. Notice of the meeting shall be provided to the recommending applicant, the property owner (unless the recommended tree or grove is located on public right-of-way under city jurisdiction, in which event notice shall be given to the community development director), the chair of any recognized neighborhood association in which the tree or grove is located, and the parks and recreation advisory committee (PRAC), if applicable.
2. Staff shall prepare a report for the city commission analyzing whether the tree or grove complies with the requirements for designation.
3. After considering the staff report and any testimony by interested persons, the city commission shall vote on the recommendation.
4. Following approval by the city commission:
a. If the tree or grove is located on private property, the designation shall be complete upon the property owner's execution of a covenant running with the land suitable for recordation by the city. The covenant shall describe the subject property, generally describe the location of the heritage tree or grove, and covenant that the tree or grove is protected as a "Heritage Tree" or "Heritage Grove" by the City of Oregon City and is therefore subject to special protection as provided in this Title.
b. If the tree or grove is located on public right-of-way, the designation shall be complete upon the Staff's listing of the tree or grove on the city Heritage Tree and Grove records.
c. If the tree or grove is located on the public right-of-way, the city shall condition any future property owner-requested vacation of the public right-of-way upon the execution of a covenant in accordance with subsection a., above, which shall be recorded by the city upon the vacation of the right-of-way.
Applicant's Response: **Duly Noted.**

D. Criteria.
1. The city commission may designate a tree or grove as a Heritage Tree or Heritage Grove if the commission determines that the following criteria are met:
a. The tree or grove is of landmark importance to the City of Oregon City due to age, size, species, horticultural quality or historic importance; or
Applicant's Response: **Duly Noted.**

b. It is listed as a State Heritage Tree, as designated by the state division of forest resources; or
Applicant's Response: **Duly Noted.**

c. It is a rare species, or provides a habitat for rare species of plants, animals or birds; and
Applicant's Response: **Duly Noted.**

d. The tree is not irreparably damaged, diseased, hazardous or unsafe, or the applicant is willing to have the tree treated by an arborist and the treatment will alleviate the damage, disease or hazard;
Applicant's Response: **Duly Noted.**

E. Protection of Heritage Trees and Groves.
1. No Heritage Tree or Grove may be removed, topped, or otherwise altered unless permitted by this section.
2. An application to remove a Heritage Tree or Grove shall demonstrate that the burden imposed on the property owner, or, if the tree is located within the public right-of-way under city jurisdiction, then the burden imposed on the city by the continued presence of the tree outweighs the public benefit provided by the tree. For the purposes of making this determination, the following tree impacts shall not be considered unreasonable burdens on the property owner, or if appropriate, the city:
a. View obstruction;
b. Routine pruning, leaf raking and other maintenance activities; and
c. Infrastructure impacts or tree hazards that can be controlled or avoided by appropriate pruning or maintenance.
3. Unless the tree is permitted to be removed due to poor health or hazard pursuant to Section 12.08.042, the applicant shall be required to mitigate for the loss of the tree pursuant to Table 12.08.042.
4. Any person who removes a Heritage Tree or Grove in violation of this chapter shall be subject to the penalties provided in this chapter.
Applicant's Response: **Duly Noted.**

F. Recognition of Heritage Trees and Groves.
1. A Heritage Tree plaque may be designed and furnished by the city to the property owner, or if the tree is in the public right-of-way, to the appropriate city official, of a designated Heritage Tree or Grove. The city may charge a fee to cover the costs of the providing the plaque. The plaque shall be posted at a location at or near the tree or grove and, if feasible, visible from a public right-of-way.
2. The community development director shall maintain a list and map of designated Heritage Trees and Groves.
G. Removal of Heritage Tree or Grove Designation.
1. A Heritage Tree or Grove may be removed from designation if it dies or is removed pursuant to this chapter. If removed from private property, the city shall record a document extinguishing the covenant.
Applicant's Response: **Duly Noted.**

12.08.045 - Gifts and funding.
The City of Oregon City may accept gifts, which are specifically designated for the purpose of planting or maintaining trees within the city. the community development director may allow a fee in-lieu of planting the tree(s) to be placed into a city fund dedicated to planting trees in Oregon City. The community development director may determine the type, caliper and species of the trees purchased with the fund. The cost of each tree may be adjusted annually based upon current market prices for materials and labor as calculated by the community development director. A separate fund shall be established and maintained for revenues and expenditures created by activities specified in this chapter. The natural resources committee shall have authority on behalf of the city to seek grants and alternative funding for tree projects. Funds from such grant awards shall be administered by the city pursuant to this section.
Applicant's Response: **Duly Noted.**

12.08.050 - Violation—Penalty.
The violation of any provision of this chapter shall be constitute a civil infraction, subject to code enforcement procedures of Chapter 1.16 and/or Chapter 1.20.
Applicant's Response: **Duly Noted.**

CHAPTER 13.12 - STORMWATER CONVEYANCE, QUANTITY AND QUALITY

13.12.050 Pursuant to each of the subsections below, proposed activities may be required to meet the performance standards for stormwater conveyance, stormwater quantity or stormwater quality.
13.12.050.A. Stormwater Conveyance. The stormwater conveyance requirements of this chapter shall apply to all stormwater systems constructed with any development activity, except as follows:

1. *The conveyance facilities are located entirely on one privately owned parcel;*
2. *The conveyance facilities are privately maintained; and*
3. *The conveyance facilities receive no stormwater runoff from outside the parcel's property limits.*

Those facilities exempted from the stormwater conveyance requirements by the above subsection will remain subject to the requirements of the Oregon Uniform Plumbing Code. Those exempted facilities shall be reviewed by the building official.

Applicant's Response: Chapter 13.12 is applicable to the proposed developments.

13.12.050.B. Stormwater Quantity Control. The stormwater quantity control requirements of this chapter shall apply to the following proposed activities, uses or developments:

1. *Activities located wholly or partially within water quality resource areas pursuant to Chapter 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the WQRA or will disturb more than one thousand square feet of existing impervious surface within the WQRA as part of a commercial or industrial redevelopment project. These square footage measurements will be considered cumulative for any given seven-year period;*
2. *Activities that create more than two thousand square feet of impervious surface, cumulated over any given seven year period; or*
3. *Redevelopment of a commercial or industrial land use that will disturb more than five thousand square feet of existing impervious surface. This five thousand square foot measurement cumulates over any given seven year period;*
4. *An exemption to the stormwater quantity control requirements of this chapter will be granted in the following circumstances:*
   a. *The development site discharges to a stormwater quantity control facility approved by the city engineer to receive the developed site runoff after verification that the facility is adequately sized to receive the additional stormwater, or,*
   b. *The development site discharges to one of the following receiving bodies of water: Willamette River, Clackamas River or Abernethy Creek; and either lies within the one hundred year floodplain or is up to ten feet above the design flood elevation as defined in Chapter 17.42*

Applicant's Response: Most of the development site lies within the 100 year floodplain of the Willamette River/ Abernethy Creek floodplain and all of the subject site lies within 10 feet vertically of the design flood elevation as defined in Chapter 17.42 and therefore the site meets the exception of 13.12.050.B4(b).

13.12.050.C. Stormwater Quality Control. The stormwater quality control requirements of this chapter shall apply to the following proposed activities, uses or developments:

1. *Category A. Activities subject to general water quality requirements of this chapter:*
   a. The construction of four or more single-family residences;
   b. Activities located wholly or partially within water quality resource areas pursuant to Chapter 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the WQRA or will disturb more than one thousand square feet of existing impervious surface within the WQRA as part of a commercial or industrial redevelopment project. These square footage measurements will be considered cumulative for any given seven year period; or
   c. Activities that create more than eight thousand square feet of new impervious surface for other than a single-family residential development. This eight thousand square foot measurement will be considered cumulative for any given seven year period;
   d. An exemption to the stormwater quantity control requirements of this subsection will be granted if the development site discharges to a stormwater quality control facility approved by the city engineer to

receive the developed site runoff after verification that the facility is adequately sized to receive the additional stormwater.

2. *Category B. Uses Requiring Additional Management Practices. In addition to any other applicable requirements of this chapter, the following uses are subject to additional management practices as contained in the Public Works Stormwater and Grading Design Standards:*
   - *a. Fuel dispensing facilities;*
   - *b. Bulk petroleum storage in multiple stationary tanks;*
   - *c. Solid waste storage areas for commercial, industrial or multi-family uses;*
   - *d. Loading and unloading docks for commercial or industrial uses; or*
   - *e. Covered vehicle parking for commercial or industrial uses.*
3. *Category C. Clackamas River Watershed. In addition to any other applicable requirements of this chapter, any development that creates new waste discharges and whose stormwater runoff may directly or indirectly flow into the Clackamas River is subject to additional requirements associated with Oregon Administrative Rules (OAR) 340-41-470 (Thee Basin Rule).*

Applicant's Response: Chapter 13.12.050C1 is applicable to the site areas.

13.12.090 Approval criteria for engineered drainage plans and drainage report.

An engineered drainage plan and/or drainage report shall be approved only upon making the following findings:

A. The plan and report demonstrate how the proposed development and stormwater management facilities will accomplish the purpose statements of this chapter;

B. The plan and report meet the requirements of the Public Works Stormwater and Grading Design Standards adopted by resolution under Section 13.12.020

C. Unless otherwise exempted by Section 13.12.050(B), the plan and report includes adequate stormwater quantity control facilities, so that when the proposed land development activity takes place, peak rates and volumes of runoff:
   1. Do not exceed the capacity of receiving drainage conveyance facilities;
   2. Do not increase the potential for streambank erosion; and
   3. Do not add volume to an off-site closed depression without providing for mitigation.

D. Unless otherwise exempted by Section 13.12.050(C), the proposed development includes:
   1. Adequate stormwater quality control facilities, so that when the proposed land development activity takes place, the temperature and overall pollution level of stormwater runoff is no greater than the water entering. When no water enters a project, then stormwater runoff shall be compared to rain samples; and
   2. Stormwater quality control facilities which:
   a. Are in compliance with applicable National Pollutant Discharge Elimination System (NPDES) requirements;
   b. Minimize the deterioration of existing watercourses, culverts, bridges, dams and other structures; and
   c. Minimize any increase in nonpoint source pollution.

E. The storm drainage design within the proposed development includes provisions to adequately control runoff from all public and private streets and roof, footing, and area drains and ensures future extension of the current drainage system.

F. Streambank erosion protection is provided where stormwater, directly or indirectly, discharges to open channels or streams. The post-development peak stormwater discharge rate from a development site for the two year, twenty-four hour duration storm event shall not exceed fifty percent of the two year, twenty-four hour predevelopment peak runoff rate.

G. Specific operation and maintenance measures are proposed that ensure that the proposed stormwater quantity control facilities will be properly operated and maintained.

Applicant's Response: Plans for drainage improvements will be prepared in accordance with City requirements.

CHAPTER 15.48 - GRADING, FILLING AND EXCAVATING

15.48.030 Applicability—Grading permit required.

A. A city-issued grading permit shall be required before the commencement of any of the following filling or grading activities:

1. Grading activities in excess of ten cubic yards of earth;
2. Grading activities which may result in the diversion of existing drainage courses, both natural and man-made, from their natural point of entry or exit from the grading site;
3. Grading and paving activities resulting in the creation of impervious surfaces greater than two thousand square feet or more in area;
4. Any excavation beyond the limits of a basement or footing excavation, having an unsupported soil height greater than five feet after the completion of such a structure; or
5. Grading activities involving the clearing or disturbance of one-half acres (twenty-one thousand seven hundred eighty square feet) or more of land.
Applicant's Response: A grading permit will be required for the proposed improvements. Permits will be acquired prior to commencing grading activities.

15.48.090 Submittal requirements.
An engineered grading plan or an abbreviated grading plan shall be prepared in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards whenever a city approved grading permit is required. In addition, a geotechnical engineering report and/or residential lot grading plan may be required pursuant to the criteria listed below.
A. Abbreviated Grading Plan. The city shall allow the applicant to submit an abbreviated grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards if the following criteria are met:
1. No portion of the proposed site is within the flood management area overlay district pursuant to Chapter 17.42, the unstable soils and hillside constraints overlay district pursuant to Chapter 17.44, or a water quality resource area pursuant to Chapter 17.49; and
2. The proposed filling or grading activity does not involve more than fifty cubic yards of earth.
B. Engineered Grading Plan. The city shall require an engineered grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer if the proposed activities do not qualify for abbreviated grading plan.
C. Geotechnical Engineering Report. The city shall require a geotechnical engineering report in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer who specializes in geotechnical work when any of the following site conditions may exist in the development area:
1. When any publicly maintained facility (structure, street, pond, utility, park, etc.) will be supported by any engineered fill;
2. When an embankment for a stormwater pond is created by the placement of fill;
3. When, by excavation, the soils remaining in place are greater than three feet high and less than twenty feet wide.
D .Residential Lot Grading Plan. The city shall require a residential lot grading plan in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer for all land divisions creating new residential building lots or where a public improvement project is required to provide access to an existing residential lot.
Applicant's Response: Code section 15.48.090B is applicable to this site. Grading plans will be submitted in accordance with this code.

CHAPTER 17.34 - "MUD" MIXED USE DOWNTOWN DISTRICT

17.34.020 - Permitted uses.
Permitted uses in the MUD district are defined as:
A. Any use permitted in the mixed-use corridor without a size limitation, unless otherwise restricted in Sections 17.34.020, 17.34.030 or 17.34.040;
B. Hotel and motel, commercial lodging;
C. Marinas;
D. Religious institutions;

E. Retail trade, including grocery, hardware and gift shops, bakeries, delicatessens, florists, pharmacies, specialty stores provided the maximum footprint of a freestanding building with a single store does not exceed sixty thousand square feet (a freestanding building over sixty thousand square feet is allowed as long as the building contains multiple stores);
F. Live/work units.
Applicant's Response: Phase 1 includes a new hotel and retention of offices at the Hackett House building. These uses are permitted uses in the MUD zone.

17.34.030 - Conditional uses.
The following uses are permitted in this district when authorized and in accordance with the process and standards contained in Chapter 17.56.
A. Ancillary drive-in or drive-through facilities;
B. Emergency services;
C. Hospitals;
D. Outdoor markets that do not meet the criteria of Section 17.34.020;
E. Parks, playgrounds, play fields and community or neighborhood centers;
F. Parking structures and lots not in conjunction with a primary use;
G. Retail trade, including grocery, hardware and gift shops, bakeries, delicatessens, florists, pharmacies and specialty stores in a freestanding building with a single store exceeding a foot print of sixty thousand square feet;
H. Public facilities such as sewage and water treatment plants, water towers and recycling and resource recovery centers;
I. Public utilities and services such as pump stations and sub-stations;
J. Distributing, wholesaling and warehousing;
K. Gas stations;
L. Public and or private educational or training facilities;
M. Stadiums and arenas;
N. Passenger terminals (water, auto, bus, train);
O. Recycling center and/or solid waste facility.
Applicant's Response: Proposed project does not include any of the above Conditional Uses. Project Site design consists of Permitted Uses within the Mixed Use District.

17.34.040 - Prohibited uses.
The following uses are prohibited in the MUD district:
A. Kennels;
B. Outdoor storage and sales, not including outdoor markets allowed in Section 17.34.030;
C. Self-service storage;
D. Single-Family and two-family residential units;
E. Motor vehicle and recreational vehicle repair/service;
F. Motor vehicle and recreational vehicle sales and incidental service;
G. Heavy equipment service, repair, sales, storage or rental[2] (including but not limited to construction equipment and machinery and farming equipment)
Applicant's Response: Proposed project does not include any of the above listed Prohibited Uses.

17.34.050 - Pre-existing industrial uses.
Tax lot 5400 located at Clackamas County Tax Assessors Map #22E20DD, Tax Lots 100 and two hundred located on Clackamas County Tax Assessors Map #22E30DD and Tax Lot 700 located on Clackamas County Tax Assessors Map #22E29CB have special provisions for industrial uses. These properties may maintain and expand their industrial uses on existing tax lots. A change in use is allowed as long as there is no greater impact on the area than the existing use.
Applicant's Response: Proposed project Site does not contain any of the above-mentioned Tax Lots. Therefore, this section does not apply.

17.34.060 - Mixed-use downtown dimensional standards—For properties located outside of the downtown design district.
A. Minimum lot area: None.
Applicant's Response: Proposed project site is located outside of the downtown design district, therefore no minimum lot area is required.

B. Minimum floor area ratio: 0.30.
Applicant's Response: Floor Area Ratio of the proposed project will exceed 0.30.

C. Minimum building height: Twenty-five feet or two stories except for accessory structures or buildings under one thousand square feet.
Applicant's Response: New structures will exceed 25 feet or 2 stories in compliance with this section. The existing Hackett House is an existing nonconforming one and two story structure of approximately 25 feet in height at the two story portion and 15 feet in height at the one story portion.

D. Maximum building height: Seventy-five feet, except for the following locations where the maximum building height shall be forty-five feet:
1. Properties between Main Street and McLoughlin Boulevard and 11th and 16th streets;
2. Property within five hundred feet of the End of the Oregon Trail Center property; and
3. Property within one hundred feet of single-family detached or detached units.
Applicant's Response: Project property is within 500 feet of the End of the Oregon Trail Center property, therefore the maximum allowable building height is 45 feet. Building height has been measured from the flood plain elevation (see 17-02 pre-app notes – community development).

Applicant requests an adjustment to the maximum building height for the hotel. The existing Hackett House does not exceed the 45 foot maximum height.

E. Minimum required setbacks, if not abutting a residential zone: None.
Applicant's Response: Proposed project does not abutt a residential zone. Therefore, there is no minimum setback requirement. ODOT recommends a 15' minimum setback from the railroad right-of-way adjoining the property to the West. Proposed project will comply with 15' minimum setback along railroad right-of-way.

F. Minimum required interior side yard and rear yard setback if abutting a residential zone: Fifteen feet, plus one additional foot in yard setback for every two feet in height over thirty-five feet.
Applicant's Response: Proposed project does not abutt a residential zone. Therefore, there the minimum required interior side yard and rear yard does not apply.

G. Maximum Allowed Setbacks.
1. Front yard: Twenty feet provided the site plan and design review requirements of Section 17.62.055 are met.
Applicant's Response: Front yard setbacks will not exceed the twenty-foot maximum.

2. Interior side yard: No maximum.
Applicant's Response: Project will comply with no maximum side yard setback requirement.

3. Corner side yard abutting street: Twenty feet provided the site plan and design review requirements of Section 17.62.055 are met.
Applicant's Response: Project does not include corner side yard abutting street, therefore this requirement does not apply.

4. Rear yard: No maximum.
Applicant's Response: Project will comply with no maximum rear yard setback requirement.

5. Rear yard abutting street: Twenty feet provided the site plan and design review requirements of Section 17.62.055 are met.
Applicant's Response: Rear yard does not abutt a street, therefor this requirement does not apply.

H. Maximum site coverage including the building and parking lot: Ninety percent.
Applicant's Response: Proposed project will not exceed ninety percent site coverage.

I. Minimum landscape requirement (including parking lot): Ten percent.
Applicant's Response: The landscape plan provides landscaping exceeding 10% of the total property area.

17.34.070 - Mixed-use downtown dimensional standards—For properties located within the downtown design district.
Applicant's Response: Project is located outside of the downtown design district; therefore, this section does not apply.

17.34.080 - Explanation of certain standards.
A Floor Area Ratio (FAR).
1. Purpose. Floor area ratios are a tool for regulating the intensity of development. Minimum FARs help to achieve more intensive forms of building development in areas appropriate for larger-scale buildings and higher residential densities.
2. Standards.
a. The minimum floor area ratios contained in sections 17.34.060 and 17.34.070apply to all non-residential and mixed-use building developments.
b. Required minimum FARs shall be calculated on a project-by-project basis and may include multiple contiguous blocks. In mixed-use developments, residential floor space will be included in the calculations of floor area ratio to determine conformance with minimum FARs.
c. An individual phase of a project shall be permitted to develop below the required minimum floor area ratio provided the applicant demonstrates, through covenants applied to the remainder of the site or project or through other binding legal mechanism, that the required density for the project will be achieved at project build out.
B. Building height.
1. Purpose.
a. The Masonic Hall is currently the tallest building in downtown Oregon City, with a height of fifty-eight feet measured from Main Street. The maximum building height limit of fifty-eight feet will ensure that no new building will be taller than the Masonic Hall.
b. A minimum two-story (twenty-five feet) building height is established for the Downtown Design District Overlay sub-district to ensure that the traditional building scale for the downtown area is maintained.

CHAPTER 17.41 - TREE PROTECTION STANDARDS

17.41.020 - Tree protection—Applicability.
1. Applications for development subject to Chapters 16.08 or 16.12 (Subdivision or Minor Partition) or Chapter 17.62 (Site Plan and Design Review) shall demonstrate compliance with these standards as part of the review proceedings for those developments.
2. For public capital improvement projects, the city engineer shall demonstrate compliance with these standards pursuant to a Type II process.
3. Tree canopy removal greater than twenty-five percent on sites greater than twenty-five percent slope, unless exempted under Section 17.41.040, shall be subject to these standards.
4. A heritage tree or grove which has been designated pursuant to the procedures of Chapter 12.08.050 shall be subject to the standards of this section.

17.41.030 - Tree protection—Conflicting code provisions.

Except as otherwise specified in this section, where these standards conflict with adopted city development codes or policies, the provision which provides the greater protection for regulated trees or groves, as defined in Section 17.04, shall govern.

Applicant's Response: Tree protection is integral to the site clearing and demolition plan. The pre-existing industrial use of the site has compromised its overall ecological health and value. This project aims to meet or exceed the City intent to repair and reestablish ecological value to this site with the use of as many native and naturalized species as possible to suit the site's context and to meet the requirements set forth in the 17.62.050 Standards.

17.41.040 - Same—Exemptions.

These regulations are not intended to regulate normal cutting, pruning and maintenance of trees on private property except where trees are located on lots that are undergoing development review or are otherwise protected within the Natural Resource Overlay District (NROD) of section 17.49. These standards are not intended to regulate farm and forest practices as those practices are defined under ORS 30.930. Farm or forest resources. An applicant for development may claim exemption from compliance with these standards if the development site containing the regulated grove or trees was a designated farm or forest use, tree farm, Christmas tree plantation, or other approved timber use within one year prior to development application. "Forest practices" and "forestlands" as used in this subsection shall have the meaning as set out in ORS 30.930. The community development director has the authority to modify or waive compliance in this case.

Applicant's Response: The exemptions as noted above are not applicable to this site.

17.41.050 - Same—Compliance options.

Applicants for review shall comply with these requirements through one or a combination of the following procedures:

A. Option 1—Mitigation. Retention and removal of trees, with subsequent mitigation by replanting pursuant to Sections 17.41.060 or 17.41.070. All replanted and saved trees shall be protected by a permanent restrictive covenant or easement approved in form by the city.

B. Option 2—Dedicated Tract. Protection of trees or groves by placement in a tract within a new subdivision or partition plat pursuant to Sections 17.41.080—17.41.100; or

C. Option 3—Restrictive Covenant. Protection of trees or groves by recordation of a permanent restrictive covenant pursuant to Sections 17.41.110—17.41.120; or

D. Option 4—Cash-in-lieu of planting pursuant to Section 17.41.130.

A regulated tree that has been designated for protection pursuant to this section must be retained or permanently protected unless it has been determined by a certified arborist to be diseased or hazardous, pursuant to the following applicable provisions.

The community development director, pursuant to a Type II procedure, may allow a property owner to cut a specific number of trees within a regulated grove if preserving those trees would:

1. Preclude achieving eighty percent of minimum density with reduction of lot size; or

2. Preclude meeting minimum connectivity requirements for subdivisions.

Applicant's Response: The requirements for compliance will be met by one of the approved methods.

17.41.060 - Tree removal and replanting—Mitigation (Option 1).

A. Applicants for development who select this option shall ensure that all healthy trees shall be preserved outside the construction area as defined in Chapter 17.04to the extent practicable. Compliance with these standards shall be demonstrated in a tree mitigation plan report prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arborculture. At the applicant's expense, the city may require the report to be reviewed by a consulting arborist. The number of replacement trees required on a development site shall be calculated separately from, and in addition to, any public or street trees in the public right-of-way required under section 12.08—Community Forest and Street Trees.

B. The applicant shall determine the number of trees to be mitigated on the site by counting all of the trees six inch DBH (minimum four and one-half feet from the ground) or larger on the entire site and either:

1. Trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2; or
2. Diseased or hazardous trees, when the condition is verified by a certified arborist to be consistent with the definition in Section 17.04.1360, may be removed from the tree replacement calculation. Regulated healthy trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Regulated healthy trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2.
Table 17.41.060-1
Tree Replacement Requirements
All replacement trees shall be either:
Two-inch caliper deciduous, or
Six-foot high conifer

Size of tree removed (DBH)	*Column 1* *Number of trees to be planted. (If removed Outside of construction area)*	*Column 2* *Number of trees to be planted. (If removed Within the construction area)*
6 to 12"	*3*	*1*
13 to 18"	*6*	*2*
19 to 24"	*9*	*3*
25 to 30"	*12*	*4*
31 and over"	*15*	*5*

Steps for calculating the number of replacement trees:
1. Count all trees measuring six inches DBH (minimum four and one-half feet from the ground) or larger on the entire development site.
2. Designate (in certified arborists report) the condition and size (DBH) of all trees pursuant to accepted industry standards.
3. Document any trees that are currently diseased or hazardous.
4. Subtract the number of diseased or hazardous trees in step 3. from the total number of trees on the development site in step 1. The remaining number is the number of healthy trees on the site. Use this number to determine the number of replacement trees in steps 5. through 8.
5. Define the construction area (as defined in Chapter 17.04).
6. Determine the number and diameter of trees to be removed within the construction area. Based on the size of each tree, use Column 2 to determine the number of replacement trees required.
7. Determine the number and diameter of trees to be removed outside of the construction area. Based on the size of each tree, use Column 1 to determine the number of replacement trees required.
8. Determine the total number of replacement trees from steps 6. and 7.
Applicant's Response: It is estimated that approximately 150 replacement trees will be required for the Hotel development and parking areas to meet the replacement requirements of Columns 1 and 2 above appropriate.

17.41.070 - Planting area priority for mitigation (Option 1).
Development applications which opt for removal of trees with subsequent replanting pursuant to section 17.41.050A. shall be required to mitigate for tree cutting by complying with the following priority for replanting standards below:

A. First Priority. Replanting on the development site.
B. Second Priority. Off-site replacement tree planting locations. If the community development director determines that it is not practicable to plant the total number of replacement trees on-site, a suitable off-site planting location for the remainder of the trees may be approved that will reasonably satisfy the objectives of this section. Such locations may include either publicly owned or private land and must be approved by the community development director.
Applicant's Response: Where possible trees will be planted on site but some off-site planting may be required. As much as is feasible, this project strives to meet the requirements for replanting on the development site, using a favorable variety of native or naturalized species. Provided is a landscaping plan, drawn to scale, showing the location and types of existing trees (six inches or greater in caliper measured four feet above the ground level) and vegetation proposed to be removed and to be retained on the site, the location and design of landscaped areas, the varieties, sizes and spacing of trees and plant materials to be planted on the site, other pertinent landscape features, and irrigation systems require to maintain plant materials.

17.41.075 - Alternative mitigation plan.
The community development director may, subject to a Type II procedure, approve an alternative mitigation plan that adequately protects habitat pursuant to the standards for the natural resource overlay district alternative mitigation plan, Section 17.49.190.
Applicant's Response: An alternative mitigation plan is not proposed.

17.41.080 - Tree preservation within subdivisions and partitions—Dedicated tract (Option 2).
A. Applicants for new subdivision and partition plats may delineate and show the regulated trees or groves as either a separate tract or part of a larger tract that meets the requirements of subsection D. of this section.
B. The standards for land divisions subject to this section shall apply in addition to the requirements of the city land division ordinance and zoning ordinance, provided that the minimum lot area, minimum average lot width, and minimum average lot depth standards of the base zone may be superseded in order to allow for a reduction of dimensional standards pursuant to Section 17.41100 below.
C. Prior to preliminary plat approval, the regulated tree or grove area shall be shown either as a separate tract or part of a larger tract that meets the requirements of subsection D. of this section, which shall not be a part of any parcel used for construction of a structure. The size of the tract shall be the minimum necessary as recommended by a consulting arborist to adequately encompass the dripline of the tree, protect the critical root zone and ensure long term survival of the tree or grove.
D. Prior to final plat approval, ownership of the regulated tree or grove tract shall be identified to distinguish it from lots intended for sale. The tract may be identified as any one of the following:
1. Private open space held by the owner or a homeowners association; or
2. For residential land divisions, private open space subject to an easement conveying stormwater and surface water management rights to the city and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document; or
3. At the owners option, public open space where the tract has been dedicated to the city or other governmental unit; or
4. Any other ownership proposed by the owner and approved by the community development director.
Applicant's Response: Proposed development is not a subdivision or partition, therefore this section is not applicable.

17.41.090 - Density transfers incentive for tree protection tracts (Option 2).
A. The purpose of this section is to allow dimensional adjustments within a regulated tree protection tract to be transferred outside said tract to the remainder of the site. This provision applies on-site and density shall not be transferred beyond the boundaries of the development site.
B. Development applications for subdivisions and minor partitions that request a density transfer shall:
1. Provide a map showing the net buildable area of the tree protection tract;
2. Provide calculations justifying the requested dimensional adjustments;
3. Demonstrate that the minimum lot size requirements can be met based on an average of all lots created, including the tree protection tract created pursuant to Section 17.41.080;

4. Demonstrate that, with the exception of the tree protection tract created pursuant to Section 17.41.080, no parcels have been created which would be unbuildable in terms of minimum yard setbacks;
5. Meet all other standards of the base zone except as modified in section 17.41.100.
C. The area of land contained in a tree protection tract may be excluded from the calculations for determining compliance with minimum density requirements of the zoning code.
Applicant's Response: Proposed project is not seeking a density transfer for tree protection.

17.41.100 - Permitted modifications to dimensional standards (Option 2 only).
A. An applicant proposing to protect trees in a dedicated tract pursuant to Section 17.41.080 may request, and the community development director, pursuant to a Type II procedure, may grant a reduction to, the lot size, width, depth, and setbacks of the underlying zone district in approving a subdivision or partition if necessary to retain a regulated tree or grove in a tract, as long as the calculation of average lot size, including tree protection tracts, meet the minimum lot size for the zone. The applicant may choose to make the adjustments over as many lots as required. For example, the lot reduction could be spread across all the remaining lots in the proposed subdivision or partition or could be applied to only those needed to incorporate the area of the tree tract.

Table 17.41.100 A
Lot Size Reduction

ZONE	*Min. Lot Size [sq. feet]*	*Min. Lot Width*	*Min. Lot Depth*
R-10	*5,000 sq. feet*	*50'*	*65'*
R-8	*4,000 sq. feet*	*45'*	*60'*
R-6	*3,500 sq. feet*	*35'*	*55'*
R-5	*3,000 sq. feet*	*30'*	*50'*
R-3.5	*1,800 sq. feet*	*20'*	*45'*

Table 17.41.100 B
Reduced Dimensional Standards for Detached Single-Family Residential Units

Size of Reduced Lot	*Front Yard Setback*	*Rear Yard Setback*	*Side yard Setback*	*Corner Side*	*Lot Coverage*
8,000—9,999 square feet	*15 feet*	*20 feet*	*7/9 feet*	*15 feet*	*40%*
6,000—7,999 square feet	*10 feet*	*15 feet*	*5/7 feet*	*15 feet*	*40%*
4,000—5,999 square feet	*10 feet*	*15 feet*	*5/5 feet*	*10 feet*	*40%*
1,800—3,999 square feet	*5 feet*	*15 feet*	*5/5 feet*	*10 feet*	*55%*

Table 17.41.100 C
Reduced Dimensional Standards for Single-Family Attached or Two-Family Residential Units

Size of Reduced Lot	*Front Yard Setback*	*Rear Yard Setback*	*Side yard Setback*	*Corner Side*	*Lot Coverage*
3,500—7,000 square feet	*10 feet*	*15 feet*	*5/0* feet*	*10 feet*	*40%*
1,800—3,499 square feet	*5 feet*	*15 feet*	*5/0* feet*	*10 feet*	*55%*

**0 foot setback is only allowed on single-family attached units*

Applicant's Response: This is not applicable as the no single family or two family residential units are proposed.

17.41.110 - Tree protection by restrictive covenant (Option 3).
Any regulated tree or grove which cannot be protected in a tract pursuant to Section 17.41.080 above shall be protected with a restrictive covenant in a format to be approved by the community development director. Such covenant shall be recorded against the property deed and shall contain provisions to permanently protect the regulated tree or grove unless such tree or grove, as determined by a certified arborist and approved by the community development director, are determined to be diseased or hazardous.

Applicant's Response: Does Not Apply.

17.41.120 - Permitted adjustments (Option 3 Only).
A. The community development director, pursuant to a Type II procedure, may grant an adjustment to the side, front and rear yard setback standards by up to 50 percent if necessary to retain a Regulated Tree or Grove through a restrictive covenant pursuant to this section. In no case may the side yard setback be reduce less than three feet. The adjustment shall be the minimum necessary to accomplish preservation of trees on the lot and shall not conflict with other conditions imposed on the property.
B. The community development director, pursuant to a Type II procedure, may grant an adjustment to street standards, pursuant to adopted public works standards, in order to preserve a tree. This may include flexibility to redesign sidewalk and planter strip sizes and locations and allow placement of sidewalks and planter strips in an easement within private lots.
C. The community development director, pursuant to a Type II procedure, may allow other adjustments in order to preserve any healthy tree that cannot be moved due to its size, but will contribute to the landscape character of the area and will not present a foreseeable hazard if retained.

Applicant's Response: Does Not Apply.

17.41.1[25] - Cash-in-lieu of planting (tree bank/fund) (Option 4).
The applicant may choose this option in-lieu-of or in addition to Compliance Options 1 through 3. In this case, the community development director may approve the payment of cash-in-lieu into a dedicated fund for the remainder of trees that cannot be replanted in the manner described above.
A. The cash-in-lieu payment per tree shall be as listed on the adopted fee schedule and shall be adjusted annually based on the Consumer Price Index (Index). The price shall include the cost of materials, transportation and planting.
B. The amount of the cash-in-lieu payment into the tree bank shall be calculated as the difference between the value of the total number of trees an applicant is required to plant, including cost of installation and adjusted for Consumer Price Index, minus the value of the trees actually planted. The value of the trees shall be based on the adopted fee schedule.

Applicant's Response: The proposed project is not seeking the tree bank/fund option.

17.41.130 - Regulated tree protection procedures during construction.

A. No permit for any grading or construction of public or private improvements may be released prior to verification by the community development director that regulated trees designated for protection or conservation have been protected according to the following standards. No trees designated for removal shall be removed without prior written approval from the community development director.

Applicant's Response: Duly Noted.

B. Tree protection shall be as recommended by a qualified arborist or, as a minimum, to include the following protective measures:

1. Except as otherwise determined by the community development director, all required tree protection measures set forth in this section shall be instituted prior to any development activities, including, but not limited to clearing, grading, excavation or demolition work, and such measures shall be removed only after completion of all construction activity, including necessary landscaping and irrigation installation, and any required plat, tract, conservation easement or restrictive covenant has been recorded.

2. Approved construction fencing, a minimum of four feet tall with steel posts placed no farther than ten feet apart, shall be installed at the edge of the tree protection zone or dripline, whichever is greater. An alternative may be used with the approval of the community development director.

3. Approved signs shall be attached to the fencing stating that inside the fencing is a tree protection zone, not to be disturbed unless prior approval has been obtained from the community development director.

4. No construction activity shall occur within the tree protection zone, including, but not limited to; dumping or storage of materials such as building supplies, soil, waste items; nor passage or parking of vehicles or equipment.

5. The tree protection zone shall remain free of chemically injurious materials and liquids such as paints, thinners, cleaning solutions, petroleum products, and concrete or dry wall excess, construction debris, or run-off.

6. No excavation, trenching, grading, root pruning or other activity shall occur within the tree protection zone unless directed by an arborist present on site and approved by the community development director.

7. No machinery repair or cleaning shall be performed within ten feet of the dripline of any trees identified for protection.

8. Digging a trench for placement of public or private utilities or other structure within the critical root zone of a tree to be protected is prohibited. Boring under or through the tree protection zone may be permitted if approved by the community development director and pursuant to the approved written recommendations and on-site guidance and supervision of a certified arborist.

9. The city may require that a certified arborist be present during any construction or grading activities that may affect the dripline of trees to be protected.

10. The community development director may impose conditions to avoid disturbance to tree roots from grading activities and to protect trees and other significant vegetation identified for retention from harm. Such conditions may include, if necessary, the advisory expertise of a qualified consulting arborist or horticulturist both during and after site preparation, and a special maintenance/management program to provide protection to the resource as recommended by the arborist or horticulturist.

Applicant's Response: See "Arborist Report", Exhibit F included with this submittal.

C. Changes in soil hydrology due to soil compaction and site drainage within tree protection areas shall be avoided. Drainage and grading plans shall include provision to ensure that drainage of the site does not conflict with the standards of this section. Excessive site run-off shall be directed to appropriate storm drainage facilities and away from trees designated for conservation or protection.

Applicant's Response: Civil drainage and grading plans plans will include coordination with arborists recommendations for tree protection.

CHAPTER 17.44 - GEOLOGIC HAZARDS

17.44.035 *- Exemptions.*

The following activities, and persons engaging in same, are EXEMPT from the provisions of this chapter.

A. An excavation which is less than two feet in depth, or which involves less than twenty-five cubic yards of volume;

B. A fill which does not exceed two feet in depth or twenty-five cubic yards of volume;
C. Structural alteration of any structure of less than five hundred square feet that does not involve grading as defined in this chapter;
D. Installation, construction, reconstruction, or replacement of utility lines in city right-of-way, or public easement, not including electric substations;
E. The removal or control of noxious vegetation;
F. Emergency actions which must be undertaken immediately to prevent an imminent threat to public health or safety, or prevent imminent danger to public or private property. The person undertaking emergency action shall notify the building official on all regulated activities associated with any building permit or city engineer/public works director on all others within one working day following the commencement of the emergency activity. If the city engineer/public works director or building official determine that the action or part of the action taken is beyond the scope of allowed emergency action, enforcement action may be taken.

Applicant's Response: Geologic hazards are identified on the project property along 17th Street at the south edge of lot 1200 and 1301. Proposed development in this area is limited to utilities, sidewalks, parking, landscaping, and public street improvements. With the possible exception of excavations for utilities anticipated work within the geologic hazard area would be exempt from the provisions of this chapter. A "Geologic hazard Evaluation Report" is included with this submittal as Exhibit F.

17.44.050 *Development - Application Requirements and Review Procedures and Approvals.*
Except as provided by subsection B of this section, the following requirements apply to all development proposals subject to this chapter:
A. A geological assessment and geotechnical report that specifically includes, but is not limited to:
1) Comprehensive information and data regarding the nature and distribution of underlying geology, the physical and chemical properties of existing soils and groundwater; an opinion of site geologic stability, and conclusions regarding the effect of geologic conditions on the proposed development. In addition to any field reconnaissance or subsurface investigation performed for the site, the following resources, as a minimum, shall be reviewed to obtain this information and data:
a) The State of Oregon Department of Geology and Mineral Industries (DOGAMI) in Bulletin 99, Geology and Geological Hazards of North Clackamas County, Oregon (1979), or in any subsequent DOGAMI mapping for the Oregon City area;
b) Portland State University study entitled "Environmental Assessment of Newell Creek Canyon, Oregon City, Oregon" (1992);
c) Portland State University study, "Landslides in the Portland, Oregon, Metropolitan Area Resulting from the Storm of February 1996: Inventory Map, Database and Evaluation" (Burns and others, 1998);
d) DOGAMI Open File Report O-06-27, "Map of Landslide Geomorphology of Oregon City, Oregon, and Vicinity Interpreted from LIDAR Imagery and Aerial Photographs" (Madin and Burns, 2006);
e) "Preliminary Geologic Map of the Oregon City Quadrangle, Clackamas County, Oregon" (Madin, in press);

Applicant's Response: A preliminary geologic hazard evaluation report is included with this submittal.

2) Information and recommendations regarding existing local drainage, proposed permit activity impacts on local drainage, and mitigation to address adverse impacts;

Applicant's Response: See included preliminary geologic hazard evaluation report for information and recommendations for existing local drainage.

3) Comprehensive information about site topography;

Applicant's Response: See included preliminary geologic hazard evaluation report and civil drawings for information about site topography.

4) Opinion as to the adequacy of the proposed development from an engineering standpoint;

Applicant's Response: See included preliminary geologic hazard evaluation report for opinion as to the adequacy of the proposed development from an engineering standpoint.

5) Opinion as to the extent that instability on adjacent properties may adversely affect the project;

Applicant's Response: See included preliminary geologic hazard evaluation report for opinion concerning stability assessments.

6) *Description of the field investigation and findings, including logs of subsurface conditions and laboratory testing results;*

Applicant's Response: See included preliminary geologic hazard evaluation report for investigations, findings and lab reports.

7) *Conclusions regarding the effect of geologic conditions on the proposed development, tree removal, or grading activity;*

Applicant's Response: See included preliminary geologic hazard evaluation report for conclusory statements.

8) *Specific requirements and recommendations for plan modification, corrective grading, and special techniques and systems to facilitate a safe and stable site;*

Applicant's Response: A geotechnical report addressing requirements of this section will be provided with building permit submittals.

9) *Recommendations and types of considerations as appropriate for the type of proposed development:*
   a. *General earthwork considerations, including recommendations for temporary and permanent cut and fill slopes and placement of structural fill,*
   b. *Location of residence on lot,*
   c. *Building setbacks from slopes,*
   d. *Erosion control techniques applicable to the site,*
   e. *Surface drainage control to mitigate existing and potential geologic hazards,*
   f. *Subdrainage and/or management of groundwater seepage,*
   g. *Foundations,*
   h. *Embedded/retaining walls,*
   i. *Management of surface water and irrigation water, and*
   j. *Impact of the development on the slope stability of the lot and the adjacent properties.*

Applicant's Response: A geotechnical report addressing requirements of this section will be provided with building permit submittals.

Scaled drawings that describe topography and proposed site work, including:
   a. *Natural physical features, topography at two or ten-foot contour intervals locations of all test excavations or borings, watercourses both perennial and intermittent, ravines and all existing and manmade structures or features all fully dimensioned, trees six- inch caliper or greater measured four feet from ground level, rock outcroppings and drainage facilities;*
   b. *All of the features and detail required for the site plan above, but reflecting preliminary finished grades and indicating in cubic yards whether and to what extent there will be a net increase or loss of soil.*
   c. *A cross-section diagram, indicating depth, extent and approximate volume of all excavation and fills.*

Applicant's Response: See "Topographic Survey" for existing conditions and features. Civil drawings showing preliminary grading are included with GDP. Detailed Civil drawings addressing the remainder of this section will be provided with DDP submittals. A geotechnical report showing boring locations will be provided with building permit submittals.

11) *For properties greater than 1 acre, a preliminary hydrology report, prepared by a suitably qualified and experienced hydrology expert, addressing the effect upon the watershed in which the proposed development is located; the effect upon the immediate area's stormwater drainage pattern of flow, the impact of the proposed development upon downstream areas and upon wetlands and water resources; and the effect upon the groundwater supply.*

Applicant's Response: See Exhibit H included in this submittal.

17.44.050.B. *Review Procedures and Approvals require the following:*

1) *Examination to ensure that:*
    a) *Required application requirements are completed;*
    b) *Geologic assessment and geotechnical report procedures and assumptions are generally accepted; and*
    c) *All conclusions and recommendations are supported and reasonable.*

Applicant's Response: Duly Noted.

17.44.050.B.2 *Conclusions and recommendations stated in an approved assessment or report shall then be directly incorporated as permit conditions or provide the basis for conditions of approval for the regulated activity.*
Applicant's Response: Duly Noted.

17.44.050.B.3 *All geologic assessments and geotechnical reports shall be reviewed by an engineer certified for expertise in geology or geologic engineering and geotechnical engineering, respectively, as determined by the City. The City will prepare a list of prequalified consultants for this purpose. The cost of review by independent review shall be paid by the applicant.*
Applicant's Response: Duly Noted.

17.44.050.C*. The city engineer may waive one or more requirements of subsections A and B of this section if the city engineer determines that site conditions, size or type or development of grading requirements do not warrant such detailed information. If one or more requirements are waived, the city engineer shall, in the staff report or decision, identify the waived provision(s), explain the reasons for the waiver, and state that the waiver may be challenged on appeal and may be denied by a subsequent review authority.*
Applicant's Response: Duly Noted

17.44.060 *Development Standards.*
Notwithstanding any contrary dimensional or density requirements of the underlying zone, the following standards shall apply to the review of any development proposal subject to this chapter. Requirements of this chapter are in addition to other provision of the Oregon City Municipal Code. Where provision of this chapter conflict with other provision of the Oregon City Municipal Code, the provisions that are more restrictive of regulated development activity shall govern.
17.44.060.A *All developments shall be designed to avoid unnecessary disturbance of natural topography, vegetation and soils. To the maximum extent practicable as determined by the review authority, tree and ground cover removal and fill and grading for residential development on individual lots shall be confined to building footprints and driveways, to areas required for utility easements and for slope easements for road construction, and to areas of geotechnical remediation.*
Applicant's Response: The proposed development has been designed so as to minimize unnecessary disturbances as applicable.

17.44.060B *All grading, drainage improvements, or other land disturbances shall only occur from May 1 to October 31. Erosion control measures shall be installed and functional prior to any disturbances. The City Engineer may allow grading, drainage improvements or other land disturbances to begin before May 1 (but no earlier than March 16) and end after October 31 (but no later than November 30), based upon weather conditions and in consultation with the project geotechnical engineer. The modification of dates shall be the minimum necessary, based upon the evidence provided by the applicant, to accomplish the necessary project goals. Temporary protective fencing shall be established around all trees and vegetation designed for protection prior to the commencement of grading or other soil disturbance.*
Applicant's Response: Erosion control measures will be in place for construction activities between October 31 to May 1.

17.44.060.C *Designs shall minimize the number and size of cuts and fills.*
Applicant's Response: Proposed project design minimizes the use of cuts and fills while also providing for a site that is most efficient for its intended use.

17.44.060.D *Cut and fill slopes, such as those for a street, driveway accesses, or yard area, greater than seven feet in height (as measured vertically) shall be terraced. Faces on a terraced section shall not exceed five feet. Terrace widths shall be a minimum of three feet and shall be vegetated. Total cut and fill slopes shall not exceed a vertical height of fifteen feet. Except in connection with geotechnical remediation plans approved in accordance with the chapter, cuts shall not remove the toe of any slope that contains a known landslide or is greater than twenty-five percent slope. The top of cut or fill slopes not utilizing structural retaining walls shall be located a minimum of one-half the height of the cut slope from the nearest property line.*

Applicant's Response: Proposed development includes cut and fill slopes exceeding seven feet in parking area north of the hotel, however this area is not within the Geologic Hazard area.

17.44.060.E *Any structural fill shall be designed by a suitably qualified and experienced civil or geotechnical engineer licensed in Oregon in accordance with standard engineering practice. The applicant's engineer shall certify that the fill has been constructed as designed in accordance with the provisions of this chapter.*

Applicant's Response: The above requirement is Duly Noted.

17.44.060.F *Retaining walls shall be constructed in accordance with the Oregon Structural Specialty Code adopted by the State of Oregon.*

Applicant's Response: Retaining walls will be engineered with accordance with all applicable codes and regulations.

17.44.060.G *Roads shall be the minimum width necessary to provide safe vehicle and emergency access, minimize cut and fill and provide positive drainage control. The review authority may grant a variance from the City's required road standards upon findings that the variance would provide safe vehicle and emergency access and is necessary to comply with the purpose and policy of this chapter.*

Applicant's Response: There are no new roads proposed for the proposed project, therefore this Does Not Apply.

17.44.060.H *Density shall be determined as follows*

1) *For those areas with slopes less than twenty-five percent between grade breaks, the allowed density shall be that permitted by the underlying zoning district;*
2) *For those areas with slopes of twenty-five to thirty-five percent between grade breaks, the density shall not exceed two dwelling units per acre except as otherwise provided in subsection I of this section;*
3) *For those areas with slopes over thirty-five percent between grade breaks, development shall be prohibited except as otherwise provided in subsection I 4 of this section.*

Applicant's Response: The Density calculations for the proposed project are in accordance with 17.00.060.H.1, following the allowed density permitted by the zoning district.

17.44.060.I *For properties with slopes of twenty-five to thirty-five percent between grade breaks:*

1) *For those portions of the property with slopes of twenty-five to thirty-five percent, the maximum residential density shall be limited to two dwelling units per acre; provided, however, that where the entire site is less than one-half acre in size, a single dwelling shall be allowed on a lot or parcel existing as of January 1, 1994 and meeting the minimum lot size requirements of the underlying zone;*
2) *An individual lot or parcel with slopes between twenty-five and thirty-five percent shall have no more than fifty percent or four thousand square feet of the surface area, whichever is smaller, graded or stripped of vegetation or covered with structures or impermeable surfaces.*
3) *No cut into a slope of twenty-five to thirty-five percent for the placement of a housing unit shall exceed a maximum vertical height of 15 feet for the individual lot or parcel.*
4) *For those portions of the property with slopes over thirty-five percent between grade breaks:*

a. *Notwithstanding any other City land use regulation, development other than roads, utilities, public facilities and geotechnical remediation shall be prohibited; provided, however, that the review authority may allow development upon such portions of land upon demonstration by an applicant that failure to permit development would deprive the property owner of all economically beneficial use of the property. This*

determination shall be made considering the entire parcel in question and contiguous parcels in common ownership on or after January 1, 1994, not just the portion where development is otherwise prohibited by this chapter. Where this showing can be made on residentially zoned land, development shall be allowed and limited to one single-family residence. Any development approved under this chapter shall be subject to compliance with all other applicable City requirements as well as any applicable State, Federal or other requirements;

b. To the maximum extent practicable as determined by the review authority, the applicant shall avoid locating roads, utilities, and public facilities on or across slopes exceeding thirty-five percent.

Applicant's Response: **Not applicable as individual dwelling units are not proposed.**

17.44.060.J *The geotechnical engineer of record shall review final grading, drainage, and foundation plans and specifications and confirm in writing that they are in conformance with the recommendations provided in their report.*

Applicant's Response: **The proposed project has a Geotechnical Engineer on the team, for review of final grading, drainage, and foundation plans and specifications, and they will provide written reports, confirming compliance with their recommendations.**

17.44.060.K *At the City's discretion, peer review shall be required for the geotechnical evaluation/investigation report submitted for the development and/or lot plans. The peer reviewer shall be selected by the City. The applicant's geotechnical engineer shall respond to written comments provided by the City's peer reviewer prior to issuance of building permit.*

Applicant's Response: **The above discretionary requirement is understood.**

17.44.060.L *The review authority shall determine whether the proposed methods of rendering a known or potential hazard site safe for construction, including proposed geotechnical remediation methods, are feasible and adequate to prevent landslides or damage to property and safety. The review authority shall consult with the City's geotechnical engineer in making this determination. Costs for such consultation shall be paid by the applicant. The review authority may allow development in a known or potential hazard area as provided in this chapter if specific findings are made that the specific provisions in the design of the proposed development will prevent landslides or damage. The review authority may impose any conditions, including limits on type or intensity of land use, which it determines are necessary to assure that landslides or property damage will not occur.*

Applicant's Response: **The above requirement is duly noted.**

17.44.070 *Access to Property.*

A. Shared private driveways may be required if the city engineer or principal planner determines that their use will result in safer location of the driveway and lesser amounts of land coverage than would result if separate private driveways are used.

B. Innovations in driveway design and road construction shall be permitted in order to keep grading and cuts or fills to a minimum and to achieve the purpose and policy of this chapter.

C. Points of access to arterials and collectors shall be minimized.

D. The city engineer or principal planner shall verify that adequate emergency services can be provided to the site.

Applicant's Response: **Shared access drives are included in the proposed design for this project.**

17.44.080 *Utilities.*

All new service utilities, both on-site and off-site, shall be placed underground and under roadbeds where practicable. Every effort shall be made to minimize the impact of utility construction. Underground utilities require the geologic hazards permitting and review prescribed herein.

Applicant's Response: **Proposed project includes the implementation of underground utilities.**

17.44.090 *Stormwater Drainage.*

The applicant shall submit a permanent and complete stormwater control plan. The program shall include, but not be limited to the following items as appropriate: curbs, gutters, inlets, catch basins, detention facilities and

stabilized outfalls. Detention facilities shall be designed to City standards as set out in the City's drainage master plan and design standards. The review authority may impose conditions to ensure that waters are drained from the development so as to limit degradation of water quality consistent with Oregon City's Title III section of the Oregon City Municipal Code Chapter 17.49 and the Oregon City Public Works Stormwater Management Design Manual and Standards Plan or other adopted standards subsequently adopted by the City Commission. Drainage design shall be approved by the city engineer before construction, including grading or other soil disturbance, has begun.
Applicant's Response: The proposed project includes preliminary Stormwater plans; final plans will be submitted for review at a future date.

17.44.100. *Construction Standards.*
During construction on land subject to this chapter, the following standards shall be implemented by the developer:
17.44.100.A *All development activity shall minimize vegetation removal and soil disturbance and shall provide positive erosion prevention measures in conformance with OCMC Chapter 17.47 – Erosion and Sediment Control.*
Applicant's Response: Development activity shall minimize vegetation removal where such practices are prudent and erosion prevention measures will be in place as required.

17.44.100.B *No grading, clearing or excavation of any land shall be initiated prior to approval of the grading plan, except that the city engineer shall authorize the site access, brush to be cleared and the location of the test pit digging prior to approval of such plan to the extent needed to complete preliminary and final engineering and surveying. The grading plan shall be approved by the city engineer as part of the city's review under this chapter. The developer shall be responsible for the proper execution of the approved grading plan.*
Applicant's Response: It is understood that work shall not commence prior to approvals.

17.44.100.C *Measures shall be taken to protect against landslides, mudflows, soil slump and erosion. Such measures shall include sediment fences, straw bales, erosion blankets, temporary sedimentation ponds, interceptor dikes and swales, undisturbed buffers, grooving and stair stepping, check dams, etc. The applicant shall comply with the measures described in the Oregon City Public Works Standards for Erosion and Sedimentation Control (Ordinance 99-1013).*
Applicant's Response: Measures for prevention of landslides, mudflows, soil slump and erosion shall be implemented by the Contractor where prudent, in accordance with the Oregon City Public Works Standards for Erosion and Sedimentation Control.

17.44.100.D *All disturbed vegetation shall be replanted with suitable vegetation upon completion of the grading of the steep slope area.*
Applicant's Response: Preliminary Landscape plans are included with this submittal.

17.44.100.E *Existing vegetative cover shall be maintained to the maximum extent practicable. No grading, compaction or change in ground elevation, soil hydrology and/or site drainage shall be permitted within the drip line of trees designated for protection, unless approved by the City.*
Applicant's Response: Where possible, we have strived to keep existing trees intact, with little or no change in grade, soil hydrology, or site drainage about the drip line of existing trees to remain. An Arborists Report and Tree Removal plan are included with this submittal.

17.44.100.F *Existing perennial and intermittent watercourses shall not be disturbed unless specifically authorized by the review authority. This includes physical impacts to the stream course as well as siltation and erosion impacts.*
Applicant's Response: If it is determined that there are watercourses onsite, then they will be protected from impacts of construction.

17.44.100.G *All soil erosion and sediment control measures shall be maintained during construction and for one year after development is completed, or until soils are stabilized by revegetation or other measures to the satisfaction of the city engineer. Such maintenance shall be the responsibility of the developer. If erosion or*

sediment control measures are not being properly maintained or are not functioning properly due to faulty installation or neglect, the City may order work to be stopped.
Applicant's Response: Contractor will provide soil and sediment control measures during construction.

17.44.100.H *All newly created lots, either by subdivision or partition, shall contain building envelopes with a slope of 35% or less.*
Applicant's Response: Proposed project is on existing lots, therefore this does not apply.

17.44.100.I *The applicant's geotechnical engineer shall provide special inspection during construction to confirm that the subsurface conditions and assumptions made as part of their geotechnical evaluation/investigation are appropriate. This will allow for timely design changes if site conditions are encountered that are different from those anticipated.*
Applicant's Response: Geotechical Engineer of record will be contracted to provide inspection services.

17.44.100.J *Prior to issuing an occupancy permit, the geotechnical engineer shall prepare a summary letter stating that the soils- and foundation-related project elements were accomplished in substantial conformance with their recommendations.*
Applicant's Response: Soils report for this proposed project will be submitted prior to foundation design and will be submitted along with construction permit documents.

CHAPTER 17.47 - EROSION AND SEDIMENT CONTROL

17.47.070 Erosion and sediment control plans.
A. An application for an erosion and sediment control permit shall include an erosion and sediment control plan, which contains methods and interim measures to be used during and following construction to prevent or control erosion prepared in compliance with City of Oregon City public works standards for erosion and sediment control. These standards are incorporated herein and made a part of this title and are on file in the office of the city recorder.
Applicant's Response: See erosion control plan, drawing C402. As the disturbance area will exceed one acre a DEQ 1200-C permit will be required.

CHAPTER 17.49 - NATURAL RESOURCE OVERLAY DISTRICT

Applicant's Response: Not applicable. See GDP for:

1. **Concurrence that no wetlands, waterways, other protected features exist on the subject properties.**
2. **Concurrence that NROD buffers do not project onto the subject properties. In the case of Abernethy Creek, 17th Street constitutes a physical barrier. In the case of the wetland area to the North, the wetland buffers per table 17.49.110 fall about 150FT from the project.**

CHAPTER 17.50 - ADMINISTRATION AND PROCEDURES

17.50.050 Preapplication Conference
A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a

preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.
B.A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

Applicant's Response: Pre Application conferences were attended on:

- **February 8, 2017 (PA 17-02)**
- **July 6, 2016 (PA 16-30)**
- **August 18, 2015 (PA 15-25)**

17.50.055 Neighborhood Association Meeting

- *The purpose of the meeting with the recognized neighborhood association is to inform the affected neighborhood association about the proposed development and to receive the preliminary responses and suggestions from the neighborhood association and the member residents.*

1. Applicants applying for annexations, zone change, comprehensive plan amendments, conditional use, planning commission variances, subdivision, or site plan and design review (excluding minor site plan and design review), general development master plans or detailed development plans applications shall schedule and attend a meeting with the city-recognized neighborhood association in whose territory the application is proposed. Although not required for other projects than those identified above, a meeting with the neighborhood association is highly recommended.
2. The applicant shall send, by certified mail, return receipt requested letter to the chairperson of the neighborhood association and the citizen involvement committee describing the proposed project. Other communication methods may be used if approved by the neighborhood association.
3. A meeting shall be scheduled within thirty days of the notice. A meeting may be scheduled later than thirty days if by mutual agreement of the applicant and the neighborhood association. If the neighborhood association does not want to, or cannot meet within thirty days, the applicant shall hold their own meeting after six p.m. or on the weekend, with notice to the neighborhood association, citizen involvement committee, and all property owners within three hundred feet. If the applicant holds their own meeting, a copy of the certified letter requesting a neighborhood association meeting shall be required for a complete application. The meeting held by the applicant shall be held within the boundaries of the neighborhood association or in a city facility.
4. If the neighborhood association is not currently recognized by the city, is inactive, or does not exist, the applicant shall request a meeting with the citizen involvement committee.
5. To show compliance with this section, the applicant shall submit a sign-in sheet of meeting attendees, a summary of issues discussed, and letter from the neighborhood association or citizen involvement committee indicating that a neighborhood meeting was held. If the applicant held a separately noticed meeting, the applicant shall submit a copy of the meeting flyer, a sign in sheet of attendees and a summary of issues discussed.

Applicant's Response: A neighborhood meeting with the Two Rivers Home Owners Association Occurred on January 25th, 2017. Additionally, as a courtesy, another meeting was held with the McLoughlin Home Owners association, a neighboring community, on February 2, 2017.

CHAPTER 17.52 - OFF-STREET PARKING AND LOADING

17.52.010 *- Applicability.*
The construction of a new structure or parking lot, or alterations to the size or use of an existing structure, parking lot or property use shall require site plan review approval and compliance with this chapter. This chapter does not apply to single- and two-family residential dwellings.

Applicant's Response: Proposed project includes parking lots. Site plan review is requested as part of DDP review.

17.52.015 *- Planning commission adjustment of parking standards.*

A. Purpose: The purpose of permitting a planning commission adjustment to parking standards is to provide for flexibility in modifying parking standards in all zoning districts, without permitting an adjustment that would adversely impact the surrounding or planned neighborhood. The purpose of an adjustment is to provide flexibility to those uses which may be extraordinary, unique or to provide greater flexibility for areas that can accommodate a denser development pattern based on existing infrastructure and ability to access the site by means of walking, biking or transit. An adjustment to a minimum or maximum parking standard may be approved based on a determination by the planning commission that the adjustment is consistent with the purpose of this Code, and the approval criteria can be met.

B. Procedure: A request for a planning commission parking adjustment shall be initiated by a property owner or authorized agent by filing a land use application. The application shall be accompanied by a site plan, drawn to scale, showing the dimensions and arrangement of the proposed development and parking plan, the extent of the adjustment requested along with findings for each applicable approval criteria. A request for a parking adjustment shall be processed as a Type III application as set forth in Chapter 17.50.

C. Approval criteria for the adjustment are as follows:

1. Documentation: The applicant shall document that the individual project will require an amount of parking that is different from that required after all applicable reductions have been taken.

2. Parking analysis for surrounding uses and on-street parking availability: The applicant must show that there is a continued fifteen percent parking vacancy in the area adjacent to the use during peak parking periods and that the applicant has permission to occupy this area to serve the use pursuant to the procedures set forth by the community development director.

a. For the purposes of demonstrating the availability of on street parking as defined in [Section] 17.52.020.B.3., the applicant shall undertake a parking study during time periods specified by the community development director. The time periods shall include those during which the highest parking demand is anticipated by the proposed use. Multiple observations during multiple days shall be required. Distances are to be calculated as traversed by a pedestrian that utilizes sidewalks and legal crosswalks or an alternative manner as accepted by the community development director.

b. The onsite parking requirements may be reduced based on the parking vacancy identified in the parking study. The amount of the reduction in onsite parking shall be calculated as follows:

i. Vacant on-street parking spaces within three hundred feet of the site will reduce onsite parking requirements by 0.5 parking spaces; and

ii. Vacant on-street parking spaces between three hundred and six hundred feet of the [site] will reduce onsite parking requirements by 0.2 parking spaces.

3. Function and Use of Site: The applicant shall demonstrate that modifying the amount of required parking spaces will not significantly impact the use or function of the site and/or adjacent sites.

4. Compatibility: The proposal is compatible with the character, scale and existing or planned uses of the surrounding neighborhood.

5. Safety: The proposal does not significantly impact the safety of adjacent properties and rights-of-way.

6. Services: The proposal will not create a significant impact to public services, including fire and emergency services.

Applicant's Response: The proposed site design is intended to meet the parking standards applicable to the zone and intended uses.

***17.52.020** - Number of automobile spaces required.*

A. The number of parking spaces shall comply with the minimum and maximum standards listed in Table 17.52.020. The parking requirements are based on spaces per one thousand square feet net leasable area unless otherwise stated.

Table 17.52.020		
LAND USE	*PARKING REQUIREMENTS*	
	MINIMUM	*MAXIMUM*
	MINIMUM	*MAXIMUM*

Multi-Family: Studio	*1.00 per unit*	*1.5 per unit*
Multi-Family: 1 bedroom	*1.25 per unit*	*2.00 per unit*
Multi-Family: 2 bedroom	*1.5 per unit*	*2.00 per unit*
Multi-Family: 3 bedroom	*1.75 per unit*	*2.50 per unit*
Hotel, Motel	*1.0 per guest room*	*1.25 per guest room*
Correctional Institution	*1 per 7 beds*	*1 per 5 beds*
Senior housing, including congregate care, residential care and assisted living facilities; nursing homes and other types of group homes	*1 per 7 beds*	*1 per 5 beds*
Hospital	*2.00*	*4.00*
Preschool Nursery/Kindergarten	*2.00*	*3.00*
Elementary/Middle School	*1 per classroom*	*1 per classroom + 1 per administrative employee + 0.25 per seat in auditorium/assembly room/stadium*
High School, College, Commercial School for Adults	*0.20 per # staff and students*	*0.30 per # staff and students*
Auditorium, Meeting Room, Stadium, Religious Assembly Building, movie theater,	*.25 per seat*	*0.5 per seat*
Retail Store, Shopping Center, Restaurants	*4.10*	*5.00*
Office	*2.70*	*3.33*
Medical or Dental Clinic	*2.70*	*3.33*
Sports Club, Recreation Facilities	*Case Specific*	*5.40*
Storage Warehouse, Freight Terminal	*0.30*	*0.40*
Manufacturing, Wholesale Establishment	*1.60*	*1.67*
Light Industrial, Industrial Park	*1.3*	*1.60*

Applicant's Response: Required parking spaces per table 17.52.020:

- **Hackett House (2,110 net SF offices) 5.69 spaces min 7.02 spaces max**
- **Hotel (99 rooms) 99 123.75**
- **TOTAL 105 spaces min 131 spaces max**

See also response to 17.52.020C for reduced parking requirement and summary of proposed parking.

1. Multiple Uses. In the event several uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of the several uses computed separately.
Applicant's Response: Required parking spaces have been calculated as the sum of required spaces for all uses.

2. Requirements for types of buildings and uses not specifically listed herein shall be determined by the community development director, based upon the requirements of comparable uses listed.
Applicant's Response: Proposed design does not include uses not listed in the table.

3. Where calculation in accordance with the above list results in a fractional space, any fraction less than one-half shall be disregarded and any fraction of one-half or more shall require one space.
Applicant's Response: Total required parking spaces have been adjusted to whole numbers as required by this section.

4. The minimum required parking spaces shall be available for the parking of operable passenger automobiles of residents, customers, patrons and employees only, and shall not be used for storage of vehicles or materials or for the parking of vehicles used in conducting the business or use.
Applicant's Response: The minimum required parking spaces will be available for the parking of operable passenger automobiles of residents, customers, patrons and employees only.

5. A change in use within an existing habitable building located in the MUD Design District or the Willamette Falls Downtown District is exempt from additional parking requirements. Additions to an existing building and new construction are required to meet the minimum parking requirements for the areas as specified in Table 17.52.020 for the increased square footage.
Applicant's Response: Project includes existing Hackett House office building and new hotel building. Parking requirements have been calculated using the sum of the requirements for each as required by Table 17.52.020 and Section 17.52.020.C.

B. Parking requirements can be met either onsite, or offsite by meeting the following conditions:
1. Mixed Uses. If more than one type of land use occupies a single structure or parcel of land, the total requirements for off-street automobile parking shall be the sum of the requirements for all uses, unless it can be shown that the peak parking demands are actually less (e.g. the uses operate on different days or at different times of the day). In that case, the total requirements shall be reduced accordingly, up to a maximum reduction of fifty percent, as determined by the community development director.
Applicant's Response: Required parking spaces have been calculated as the sum of required spaces for all uses.

2. Shared Parking. Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that the owners or operators show that the need for parking facilities does not materially overlay (e.g., uses primarily of a daytime versus nighttime nature), that the shared parking facility is within one thousand feet of the potential uses, and provided that the right of joint use is evidenced by a recorded deed, lease, contract, or similar written instrument authorizing the joint use.
Applicant's Response: Shared parking is not proposed to meet the required parking.

3. On-Street Parking. On-street parking may be counted toward the minimum standards when it is on the street face abutting the subject land use. An on-street parking space must not obstruct a required clear vision area and it shall not violate any law or street standard. On-street parking for commercial uses shall conform to the following standards:
a. Dimensions. The following constitutes one on-street parking space:
1. Parallel parking, each [twenty-two] feet of uninterrupted and available curb;
2. [Forty-five/sixty] degree diagonal, each with [fifteen] feet of curb;
3. Ninety degree (perpendicular) parking, each with [twelve] feet of curb.

4. Public Use Required for Credit. On-street parking spaces counted toward meeting the parking requirements of a specific use may not be used exclusively by that use, but shall be available for general public use at all times. Signs or other actions that limit general public use of on-street spaces are prohibited.

Applicant's Response: Two 22' parallel on-street parking spaces are proposed on Washington Street abutting the project site.

C. Reduction of the Number of Automobile Spaces Required. The required number of parking stalls may be reduced in the Downtown Parking Overlay District: Fifty percent reduction in the minimum number of spaces required is allowed prior to seeking further reductions in [sub]sections 2. and 3. below:

1. Transit Oriented Development. For projects not located within the Downtown Parking Overlay District, the community development director may reduce the required number of parking stalls up to twenty-five percent when it is determined that a project in a commercial center (sixty thousand square feet or greater of retail or office use measured cumulatively within a five hundred-foot radius) or multi-family development with over eighty units, is adjacent to or within one thousand three hundred twenty feet of an existing or planned public transit street and is within one thousand three hundred twenty feet of the opposite use (commercial center or multi-family development with over eighty units).

2. Reduction in Parking for Tree Preservation. The community development director may grant an adjustment to any standard of this requirement provided that the adjustment preserves a regulated tree or grove so that the reduction in the amount of required pavement can help preserve existing healthy trees in an undisturbed, natural condition. The amount of reduction must take into consideration any unique site conditions and the impact of the reduction on parking needs for the use, and must be approved by the community development director. This reduction is discretionary.

3. Transportation Demand Management. The community development director may reduce the required number of parking stalls up to twenty-five percent when a parking-traffic study prepared by a traffic engineer demonstrates:

a. Alternative modes of transportation, including transit, bicycles, and walking, and/or special characteristics of the customer, client, employee or resident population will reduce expected vehicle use and parking space demand for this development, as compared to standard Institute of Transportation Engineers vehicle trip generation rates and further that the transportation demand management program promotes or achieves parking utilization lower than minimum city parking requirements.

b. Transportation demand management (TDM) program has been developed for approval by, and is approved by the city engineer. The plan will contain strategies for reducing vehicle use and parking demand generated by the development and will be measured annually. If, at the annual assessment, the city determines the plan is not successful, the plan may be revised. If the city determines that no good-faith effort has been made to implement the plan, the city may take enforcement actions.

Applicant's Response: Project is within the Downtown Parking Overlay District and qualifies for a 50% reduction in required parking spaces. Application of this reduction reduces the minimum required parking spaces from 105 to 53 spaces. As designed, the project includes 101 on-site spaces and 2 on-street spaces for a total of 103 spaces. The 103 proposed spaces are less than the maxiumum allowable 131 spaces, therefore the project meets the parking space requirements.

***17.52.030** - Standards for automobile parking.*

A. Access. Ingress and egress locations on public thoroughfares shall be located in the interests of public traffic safety. Groups of more than four parking spaces shall be so located and served by driveways so that their use will require no backing movements or other maneuvering within a street right-of-way other than an alley. No driveway with a slope of greater than fifteen percent shall be permitted without approval of the city engineer.

Applicant's Response: All parking stalls will be served by driveways that will not require backing movements into public rights-of-way. No driveway will exceed 15% grade. A temporary access, approximately 12% slope, will be developed between the upper parking areas around the hotel and the lower parking area to the north of the primary hotel grounds. When the Phase 2 portion of the Abernethy Place site is redevelopment, a flatter access, suitable for ADA access will be constructed.

B. Surfacing. Required off-street parking spaces and access aisles shall have paved surfaces adequately maintained. The use of pervious asphalt/concrete and alternative designs that reduce storm water runoff and improve water quality pursuant to the city's stormwater and low impact development design standards are encouraged.

Applicant's Response: All off-street parking spaces and drive aisles will have paved surfacing. Low impact development design is intended for the majority of the hotel parking and access area. This facility will be in a landscape strip between rows of parking in the lower parking area and will be extended in the next phase is developed to accommodate the additional parking developed at that time. A portion of the hotel site will require draining through a filter system near the driveway entrance onto Washington Street.

C. Drainage. Drainage shall be designed in accordance with the requirements of Chapter 13.12 and the city public works stormwater and grading design standards.

Applicant's Response: Drainage will be designed in accordance of Chapter 13.12 and the City's public works stormwater and grading standards. A public storm water extension in Washington St. will be constructed as well as on-site storm drain facilities as noted on application plan sheets.

D. Dimensional Standards.

1. Requirements for parking developed at varying angles are according to the table included in this section. A parking space shall not be less than seven feet in height when within a building or structure, and shall have access by an all-weather surface to a street or alley. Parking stalls in compliance with the American with Disabilities Act may vary in size in order to comply with the building division requirements. Up to thirty-five percent of the minimum required parking may be compact, while the remaining required parking stalls are designed to standard dimensions. The community development director may approve alternative dimensions for parking stalls in excess of the minimum requirement which comply with the intent of this chapter.

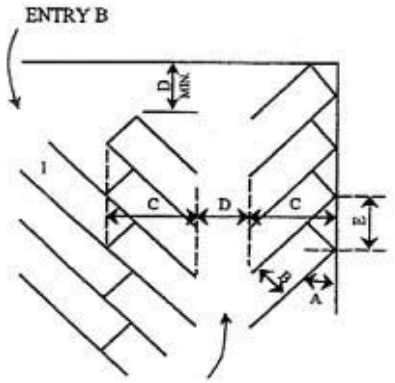
2. Alternative parking/plan. Any applicant may propose an alternative parking plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. In such situations, the community development director may approve an alternative parking lot plan with variations to parking dimensions of this section. The alternative shall be consistent with the intent of this chapter and shall create a safe space for automobiles and pedestrians while providing landscaping to the quantity and quality found within parking lot landscaping requirements.

PARKING STANDARD

PARKING ANGLE SPACE DIMENSIONS

A Parking Angle		*B Stall Width*	*C Stall to Curb*	*D Aisle Width*	*E Curb Length*	*F Overhang*
0 degrees		*8.5*	*9.0*	*12*	*20*	*0*
30 degrees	*Standard* *Compact*	*9'* *8'*	*17.3'* *14.9'*	*11'* *11'*	*18'* *16'*	
45 degrees	*Standard* *Compact*	*8.5* *8.5*	*19.8'* *17.0'*	*13'* *13'*	*12.7'* *11.3'*	*1.4*
60 degrees	*Standard* *Compact*	*9'* *8'*	*21'* *17.9'*	*18'* *16'*	*10.4'* *9.2'*	*1.7*
90 degrees	*Standard* *Compact*	*9'* *8'*	*19.0'* *16.0'*	*24'* *22'*	*9'* *8'*	*1.5*

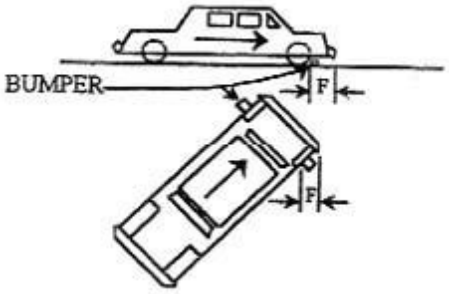
All dimensions are to the nearest tenth of a foot.



L. TYPICAL PARKING LAYOUT

M. ENTRY

A



NOTE: SPACE 1 CONTINGENT UPON ENTRY B

OVERHANG

NOTE: Overhang dimensions are intended to indicate possible location from parking area edge for location of bumpers.

Applicant's Response: All parking stalls will meet the dimensional standards of either the City's standard or compact stall dimensions. See Site Plan, drawing A100 for dimensioned parking. 23 compact spaces are required, 22% of the parking spaces provided.

E. Carpool and Vanpool Parking. New developments with seventy-five or more parking spaces, and new hospitals, government offices, group homes, nursing and retirement homes, schools and transit park-and-ride facilities with fifty or more parking spaces, shall identify the spaces available for employee, student and commuter parking and designate at least five percent, but not fewer than two, of those spaces for exclusive carpool and vanpool parking. Carpool and vanpool parking spaces shall be located closer to the main employee, student or commuter entrance than all other employee, student or commuter parking spaces with the exception of ADA accessible parking spaces. The carpool/vanpool spaces shall be clearly marked "Reserved - Carpool/Vanpool Only."

Applicant's Response: 5% of 40 employee spaces would result in 2 carpool/vanpool spaces. The proposed project will have less than 40 employees, therefore, two carpool/vanpool spaces are required. These spaces are marked on the Site Plan, drawing A100 as "CARPOOL" and are located near the south side of the hotel, in close proximity to the hotel entrance and Hackett House.

17.52.040 *- Bicycle parking standards.*

A. Purpose-Applicability. To encourage bicycle transportation to help reduce principal reliance on the automobile, and to ensure bicycle safety and security, bicycle parking shall be provided in conjunction with all uses other than single-family dwellings or duplexes.

Applicant's Response: Bicycle parking is provided adjacent to the South side of the hotel, in close proximity to the Hackett House, See Site Plan, drawing A100.

B. Number of Bicycle Spaces Required. For any use not specifically mentioned in Table A, the bicycle parking requirements shall be the same as the use which, as determined by the community development director, is most similar to the use not specifically mentioned. Calculation of the number of bicycle parking spaces required shall be

determined in the manner established in Section 17.52.020 for determining automobile parking space requirements. Modifications to bicycle parking requirements may be made through the site plan and design, conditional use, or master plan review process.

*TABLE A Required Bicycle Parking Spaces**

Where two options for a requirement are provided, the option resulting in more bicycle parking applies. Where a calculation results in a fraction, the result is rounded up to the nearest whole number.

USE	*MINIMUM BICYCLE PARKING*	*MINIMUM BICYCLE PARKING - COVERED - The following percentage of bicycle parking is required to be covered*
Multi-family (three or more units)	*1 per 10 units (minimum of 2)*	*50% (minimum of 1)*
Institutional		
Correctional institution	*1 per 15 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Nursing home or care facility	*1 per 30 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Hospital	*1 per 20 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Park-and-ride lot	*1 per 5 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Transit center	*1 per 5 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Parks and open space	*1 per 10 auto spaces (minimum of 2)*	*0%*
Public parking lots	*1 per 10 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Automobile parking structures	*1 per 10 auto spaces (minimum of 4)*	*80% (minimum of 2)*
Religious institutions, movie theater, auditorium or meeting room	*1 per 10 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Libraries, museums	*1 per 5 auto spaces (minimum of 2)*	*30% (minimum of 1)*

Preschool, nursery, kindergarten	*2 per classroom (minimum of 2)*	*50% (minimum of 1)*
Elementary	*4 per classroom (minimum of 2)*	*50% (minimum of 1)*
Junior high and High school	*2 per classroom (minimum of 2)*	*50% (minimum of 2)*
College, business/commercial schools	*2 per classroom (minimum of 2)*	*50% (minimum of 1)*
Swimming pools, gymnasiums, ball courts	*1 per 10 auto spaces (minimum of 2)*	*30% (minimum of 1)*
Retail stores and shopping centers	*1 per 20 auto spaces (minimum of 2)*	*50% (minimum of 2)*
Retail stores handling exclusively bulky merchandise such as automobile, boat or trailer sales or rental	*1 per 40 auto spaces (minimum of 2)*	*0%*
Bank, office	*1 per 20 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Medical and dental clinic	*1 per 20 auto spaces (minimum of 2)*	*50% (minimum of 1)*
Eating and drinking establishment	*1 per 20 auto spaces (minimum of 2)*	*0%*
Gasoline service station	*1 per 10 auto spaces (minimum of 2)*	*0%*

* *Covered bicycle parking is not required for developments with two or fewer stalls.*

Applicant's Response: 10 bicycle spaces are provided. All spaces are covered.

C. Security of Bicycle Parking. Bicycle parking facilities shall be secured. Acceptable secured bicycle parking area shall be in the form of a lockable enclosure onsite, secure room in a building onsite, a covered or uncovered rack onsite, bicycle parking within the adjacent right-of-way or another form of secure parking where the bicycle can be stored, as approved by the decision maker. All bicycle racks and lockers shall be securely anchored to the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience and, when in the right-of-way shall comply with clearance and ADA requirements.

Applicant's Response: All Bicycle spaces will include stationary steel pipe bicycle racks secured to concrete paving. No bicycle parking is located within the right-of-way.

D. Bicycle parking facilities shall offer security in the form of either a lockable enclosure or a stationary rack to which the bicycle can be locked. All bicycle racks and lockers shall be securely anchored to the ground or to a structure. Bicycle racks shall be designed so that bicycles may be securely locked to them without undue inconvenience.

Location of Bicycle Parking:

1. Bicycle parking shall be located on-site, in one or more convenient, secure and accessible location. The city engineer and the community development Director may permit the bicycle parking to be provided within the right-of-way provided adequate clear zone and ADA requirements are met. If sites have more than one building, bicycle parking shall be distributed as appropriate to serve all buildings. If a building has two or more main building entrances, the review authority may require bicycle parking to be distributed to serve all main building entrances, as it deems appropriate.

Applicant's Response: Bicycle parking is located adjacent to the South entrance of the hotel, in close proximity to the Hackett House, convenient to both buildings, easily accessible by walkway, and in a location visible from both buildings for security.

2. Bicycle parking areas shall be clearly marked or visible from on-site buildings or the street. If a bicycle parking area is not plainly visible from the street or main building entrance, a sign must be posted indicating the location of the bicycle parking area. Indoor bicycle parking areas shall not require stairs to access the space unless approved by the community development director.

Applicant's Response: Bicycle parking is clearly visible from both the South entry to the Hotel and the Hackett House.

3. All bicycle parking areas shall be located to avoid conflicts with pedestrian and motor vehicle movement.

a. Bicycle parking areas shall be separated from motor vehicle parking and maneuvering areas and from arterial streets by a barrier or a minimum of five feet.

b. Bicycle parking areas shall not obstruct pedestrian walkways; provided, however, that the review authority may allow bicycle parking in the right-of-way where this does not conflict with pedestrian accessibility.

Applicant's Response: The bicycle parking area is separated from motor vehicle areas by more than 5' located where it will not obstruct pedestrian walkways.

4. Accessibility.

a. Outdoor bicycle areas shall be connected to main building entrances by pedestrian accessible walkways.

b. Outdoor bicycle parking areas shall have direct access to a right-of-way.

c. Outdoor bicycle parking should be no farther from the main building entrance than the distance to the closest vehicle space, or fifty feet, whichever is less, unless otherwise determined by the community development director, city engineer, or planning commission.

Applicant's Response: The bicycle parking area is connected to the hotel and Hackett House entries by pedestrian accessible walkways. Direct access to 17th street is provided by pedestrian walkway or parking drive aisle. Bicycle parking is located closer to the Hotel entry than the closest vehicle space.

***17.52.060** - Parking lot landscaping.*

Purpose. The purpose of this code section includes the following:

1. To enhance and soften the appearance of parking lots;

2. To limit the visual impact of parking lots from sidewalks, streets and particularly from residential areas;

3. To shade and cool parking areas;

4. To reduce air and water pollution;

5. To reduce storm water impacts and improve water quality; and

6. To establish parking lots that are more inviting to pedestrians and bicyclists.

Applicant's Response: Parking lot perimeter and interior landscaping treatments are paramount to the user's and public enjoyment of this site. Priority is given to maintaining any existing native plantings that have significant ecological value and to proposing native and naturalized species to promote the reparation, reestablish and sustain local and regional ecology. The landscape design will provide alternative species when site conditions warrant to fulfill required public safety and enjoyment goals.

Stormwater mitigation plantings will be addressed in an integrated manner to supply the required water quality mitigation.

A. Development Standards.
1. The landscaping shall be located in defined landscaped areas that are uniformly distributed throughout the parking or loading area.
Applicant's Response: Parking lot landscaping are located in defined landscape areas and uniformly distributed throughout the parking area.

2. All areas in a parking lot not used for parking, maneuvering, or circulation shall be landscaped.
Applicant's Response: All areas in a parking lot not used for parking, maneuvering, or circulation are landscaped.

3. Parking lot trees shall be a mix of deciduous shade trees and coniferous trees. The trees shall be evenly distributed throughout the parking lot as both interior and perimeter landscaping to provide shade.
Applicant's Response: Proposed Landscape design includes a mixture of deciduous shade trees and coniferous trees, see Planting Plan, drawing L1.0.

4. Required landscaping trees shall be of a minimum two-inch minimum caliper size (though it may not be standard for some tree types to be distinguished by caliper), planted according to American Nurseryman Standards, and selected from the Oregon City Street Tree List;
Applicant's Response: See Planting Plan, drawing L1.0, showing tree species and 2" minimum caliper size of trees.

5. Landscaped areas shall include irrigation systems unless an alternate plan is submitted, and approved by the community development director, that can demonstrate adequate maintenance;
Applicant's Response: All landscaped areas will include irrigation systems.

6. All plant materials, including trees, shrubbery and ground cover should be selected for their appropriateness to the site, drought tolerance, year-round greenery and coverage and staggered flowering periods. Species found on the Oregon City Native Plant List are strongly encouraged and species found on the Oregon City Nuisance Plant List are prohibited.
Applicant's Response: See Planting Plan, drawing L1.0, showing proposed plant materials.

7. The landscaping in parking areas shall not obstruct lines of sight for safe traffic operation and shall comply with all requirements of Chapter 10.32, Traffic Sight Obstructions.
Applicant's Response: See Planting Plan, drawing L1.0.

8. Landscaping shall incorporate design standards in accordance with Chapter 13.12, Stormwater Management.
Applicant's Response: All Landscape areas, in the lower parking area, will incorporate the design standards for water quality in accordance with Chapter 13.12.

B. Perimeter Parking Lot Landscaping and Parking Lot Entryway/Right-of-Way Screening. Parking lots shall include a five-foot wide landscaped buffer where the parking lot abuts the right-of-way and/or adjoining properties. In order to provide connectivity between non-single-family sites, the community development director may approve an interruption in the perimeter parking lot landscaping for a single driveway where the parking lot abuts property designated as multi-family, commercial or industrial. Shared driveways and parking aisles that straddle a lot line do not need to meet perimeter landscaping requirements.
1. The perimeter parking lot are[a] shall include:
a. Trees spaced a maximum of thirty-five feet apart (minimum of one tree on either side of the entryway is required). When the parking lot is adjacent to a public right-of-way, the parking lot trees shall be offset from the street trees;
Applicant's Response: See Planting Plan, drawing L1.0, showing perimeter parking lot landscaping.

b. Ground cover, such as wild flowers, spaced a maximum of 16-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and

Applicant's Response: See Planting Plan, drawing L1.0, showing perimeter parking lot landscaping.

c. An evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than four feet apart on average. The hedge/shrubs shall be parallel to and not nearer than two feet from the right-of-way line. The required screening shall be designed to allow for free access to the site and sidewalk by pedestrians. Visual breaks, no more than five feet in width, shall be provided every thirty feet within evergreen hedges abutting public right-of-ways.

Applicant's Response: See Planting Plan, drawing L1.0, showing perimeter parking lot landscaping.

C. Parking Area/Building Buffer. Parking areas shall be separated from the exterior wall of a structure, exclusive of pedestrian entranceways or loading areas, by one of the following:

1. Minimum five-foot wide landscaped planter strip (excluding areas for pedestrian connection) abutting either side of a parking lot sidewalk with:

Applicant's Response: See Planting Plan, drawing L1.0, showing perimeter parking area/building buffer.

a. Trees spaced a maximum of thirty-five feet apart;

Applicant's Response: See Planting Plan, drawing L1.0, showing perimeter parking area/building buffer.

b. Ground cover such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and

Applicant's Response: See Planting Plan, drawing L1.0, showing perimeter parking area/building buffer.

c. An evergreen hedge of thirty to forty-two inches or shrubs placed no more than four feet apart on average; or

Applicant's Response: See Planting Plan, drawing L1.0, showing perimeter parking area/building buffer.

2. Seven-foot sidewalks with shade trees spaced a maximum of thirty-five feet apart in three-foot by five-foot tree wells.

Applicant's Response: See Planting Plan, drawing L1.0, showing perimeter parking area/building buffer.

D. Interior Parking Lot Landscaping. Surface parking lots shall have a minimum ten percent of the interior of the gross area of the parking lot devoted to landscaping to improve the water quality, reduce storm water runoff, and provide pavement shade. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum total site landscaping required by Section 17.62.050(1) unless otherwise permitted by the dimensional standards of the underlying zone district. Pedestrian walkways or any impervious surface in the landscaped areas are not to be counted in the percentage. Interior parking lot landscaping shall include:

a. A minimum of one tree per six parking spaces.

Applicant's Response: Proposed project is within the MUD zone. As required by 17.34.060.I the minimum landscape requirement including parking area is 10 percent of the lot area. See Planting Plan, drawing L1.0, showing interior parking lot landscaping.

b. Ground cover, such as wild flowers, spaced a maximum of sixteen-inches on center covering one hundred percent of the exposed ground within three years. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.

Applicant's Response: See Planting Plan, drawing L1.0, showing interior parking lot landscaping.

c. Shrubs spaced no more than four feet apart on average.

Applicant's Response: See Planting Plan, drawing L1.0, showing interior parking lot landscaping.

d. No more than eight contiguous parking spaces shall be created without providing an interior landscape strip between them. Landscape strips shall be provided between rows of parking shall be a minimum of six feet in width and a minimum of ten feet in length.

Applicant's Response: See "Site Plan", drawing A100 for parking space layout. Plan includes no more than 8 contiguous parking spaces without an interior landscape strip between them. Landscape strips are at least 6 feet wide x 10 feet long.

e. Pedestrian walkways shall have shade trees spaced a maximum of every thirty-five feet in a minimum three-foot by five-foot tree wells; or trees spaced every thirty-five feet, shrubs spaced no more than four feet apart on average, and ground cover covering one hundred percent of the exposed ground. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees.

Applicant's Response: See Planting Plan, drawing L1.0, showing landscaping at pedestrian walkways.

E. Installation.

1. All landscaping shall be installed according to accepted planting procedures, according to American Nurseryman Standards.

2. The site, soils and proposed irrigation systems shall be appropriate for the healthy and long-term maintenance of the proposed plant species.

3. Certificates of occupancy shall not be issued unless the landscaping requirements have been met or other arrangements have been made and approved by the city, such as the posting of a surety.

Applicant's Response: Landscaping and irrigation will comply with the requirements of this section.

17.52.070 - Alternative landscaping plan.

Any applicant may propose an alternative landscaping plan. Such plans are often proposed to address physically constrained or smaller sites, however innovative designs for larger sites may also be considered. Alternative plans may include the use of low impact development techniques and minimized landscaping requirements. In such situations, the community development director may approve variations to the landscaping standards of section 17.52.060.

A. General Review Standard. The alternative shall be meet or exceed the intent of this chapter and shall create a safe space for automobiles and pedestrians. The alternative landscaping plan shall be prepared by a licensed landscape architect.

B. Credit for Pervious/Low Impact Development. The community development director may count up to fifty percent of the square footage of any pervious hardscaped landscape material within a parking lot that is designed and approved pursuant to the city's adopted stormwater and low impact development design standards toward minimum landscaping requirements for the site. (This includes porous pavement detention, open celled block pavers, porous asphalt, porous concrete pavement, porous turf, porous gravel, etc).

Applicant's Response: At this time there is no request or need for alternative landscape plan review.

17.52.080 - Maintenance.

The owner, tenant and their agent, if any, shall be jointly and severally responsible for the maintenance of the site including but not limited to the off-street parking and loading spaces, bicycle parking and all landscaping which shall be maintained in good condition so as to present a healthy, neat and orderly appearance and shall be kept free from refuse and debris.

All plant growth in interior landscaped areas shall be controlled by pruning, trimming, or otherwise so that:

a. It will not interfere with the maintenance or repair of any public utility;

b. It will not restrict pedestrian or vehicular access; and

c. It will not constitute a traffic hazard due to reduced visibility.

Applicant's Response: The owners and/or operators of properties within the proposed site will provide maintenance in accordance with this code.

17.52.090 - Loading areas.

A. Purpose.

1. The purpose of this section is to provide adequate loading areas for commercial, office, retail and industrial uses that do not interfere with the operation of adjacent streets.

Applicant's Response: The proposed hotel brand typically has minimal loading area needs. Passenger shuttle vans providing guest transit connections to airport, car rental, and other tourist destinations may make daytime stops at the lobby entry under the porte cochere. Regular deliveries are anticipated for food supplies, and would be received at the porte cochere as well. The hotel does not include a full service restaurant, and as the food service is of a limited nature, the required deliveries are of a nature more limited than a typical restaurant. These deliveries typically occur at night or early morning, when they would not likely conflict with shuttle services. No interference with the operation of adjacent streets is anticipated.

B. Applicability.

1. Section 17.52.090 applies to uses that are expected to have service or delivery truck visits with a forty-foot or longer wheelbase, at a frequency of one or more vehicles per week. The city engineer and decision maker shall determine through site plan and design review the number, size, and location of required loading areas, if any.

Applicant's Response: The proposed hotel uses does not expect 40 foot or longer wheelbase vehicles at a frequency of one or more vehicles per week.

C. Standards.

1. The off-street loading space shall be large enough to accommodate the largest vehicle that is expected to serve the use without obstructing vehicles or pedestrian traffic on adjacent streets and driveways. Applicants are advised to provide complete and accurate information about the potential need for loading spaces because the city engineer or decision maker may restrict the use of other public right-of-way to ensure efficient loading areas and reduce interference with other uses.

Applicant's Response: Vehicles for hotel needs vary in size from 20 feet to about 30 feet but all should be accommodated within the dedicated porte cochere drop-off area which provides width for two side-by-side vehicles. The porte cochere includes a 24' drive aisle separate from normal on-site vehicle circulation, and is set back from the street to eliminate interference with other uses.

2. Where parking areas are prohibited between a building and the street, loading areas are also prohibited.

Applicant's Response: No loading areas are proposed between the building and the street.

3. The city engineer and decision maker, through site plan and design review, may approve a loading area adjacent to or within a street right-of-way when all of the following loading and unloading operations conditions are met:

a. Short in duration (i.e., less than one hour);

b. Infrequent (less than three operations daily between 5:00 a.m. and 12:00 a.m. or all operations between 12:00 a.m. and 5:00 a.m. at a location that is not adjacent to a residential zone);

c. Does not obstruct traffic during peak traffic hours;

d. Does not interfere with emergency response services; and

e. Is acceptable to the applicable roadway authority.

Applicant's Response: No loading areas adjacent to or within a street right-of-way are proposed.

CHAPTER 17.54.100 – FENCES, HEDGES AND WALLS

A. Generally. Fence, hedge, or wall.

1. Fences and walls—Fences and walls over forty-two inches shall not be located in front of the front façade or within forty feet of the public right-of-way, whichever is less. All other fences (including fences along the side and rear of a property) shall not exceed six feet in total height unless as permitted [in] Section 17.54.100.B.

2. Hedges shall not be more than forty-two inches in the underlying front yard setback. Individual plants and trees taller than forty-two inches tall may be permitted provided there is at least one foot clearance between each plant.

3. Property owners shall ensure compliance with the traffic sight obstruction requirements in Chapter 10.32 of the Oregon City Municipal Code.

4. It is unlawful for any person to erect any electric fence or any fence constructed in whole or in part of barbed wire or to use barbed wire, except as erected in connection with security installations at a minimum height of six feet, providing further that prior written approval has been granted by the city manager.

Applicant's Response: In response to ODOT pre-app comments an 8 foot tall metal picket fence is proposed along the west property line abutting the railroad right-of-way. An adjustment is requested in the GDP.

B. Exception. Fence, hedge, wall, or other obstructing vegetation on retaining wall. When a fence, hedge, wall, or other obstructing vegetation is built on a retaining wall or an artificial berm that is not adjacent to or abutting a public right-of-way, the following standards shall apply:

1. When the retaining wall or artificial berm is thirty inches or less in height from the finished grade, the maximum fence or wall height on top of the retaining wall shall be six feet.

2. When the retaining wall or earth berm is greater than thirty inches in height, the combined height of the retaining wall and fence or, wall from finished grade shall not exceed eight and one-half feet.

3. Fences, hedges or walls located on top of retaining walls or earth berms in excess of eight and one-half feet in height shall be set back a minimum of two feet from the edge of the retaining wall or earth berm below and shall not exceed a combined height of eight and one-half feet.

4. An alternative height or location requirement may be approved within a land use process for all non-single-family and two-family residential properties. The fence, hedge or wall shall be compatible with the adjacent neighborhood and achieve the same intent of the zoning designation and applicable site plan and design review process. In no case may the fence, hedge or wall exceed eight feet in height without approval of a variance.

Applicant's Response: A combined guardrail + retaining wall height of 15 feet is proposed. An adjustment is requested in the GDP.

CHAPTER 17.56 - CONDITIONAL USES

Applicant's Response: The currently proposed uses are a permitted uses, therefore this section does not apply.

CHAPTER 17.58 - LAWFUL NONCONFORMING USES, STRUCTURES AND LOTS

17.58.015 Applicability.

The regulations of this chapter apply only to those nonconforming situations that were lawfully established or that were approved through a land use decision. All nonconforming structures, uses or lots shall have been maintained over time. These situations have lawful nonconforming status. Nonconforming situations that were not allowed when established or have not been maintained over time have no lawful right to continue.

Applicant's Response: The historic Hackett House office building is the only existing use to remain under the proposed design. The Hackett House is not a nonconforming use or lot, However the structure is nonforming in the following areas:

- **17.34.060.A - Minimum FAR of 0.30 as required in the MUD zone.**
- **17.34.060.C - Minimum building height two-stories. (Rear portion is one-story).**
- **17,62,055,D.1 – Five foot maximum setback from front property line.**

Note that the Hackett House predates existing codes and is therefore a lawful nonconforming structure.

A structure that was lawfully established but no longer conforms to all development standards of this land use code (such as setbacks) shall be considered a lawful nonconforming structure. Notwithstanding development standard requirements in this Code, minor repairs and routing maintenance of a lawful nonconforming structure are permitted. The continuation of a lawful nonconforming structure is subject to the following:

A. Accidental Destruction. When a nonconforming structure is damaged by fire or other causes, the structure may be rebuilt using the same structure footprint.

B. Intentional Destruction. When a nonconforming structure is removed or intentionally damaged by fire or other causes within the control of the owner, the replacement structure shall comply with the development standards of this title.

C. Expansion. An expansion of a lawful nonconforming structure may be approved, conditionally approved or denied in accordance with the standards and procedures of this section.

1. In making a determination on such applications, the decision maker shall weigh the proposal's positive and negative features and the public convenience or necessity to be served against any adverse conditions that would result from authorizing the particular development at the location proposed, and, to approve such expansion, it must be found that the criteria identified in Section 17.58.060have either been met, can be met by observance of conditions, or are not applicable.

2. An expansion of a nonconforming structure with alterations that exceed the threshold of subparagraph C.2.a. below shall comply with the development standards listed in subparagraph C.2.b. The value of the alterations and improvements is based on the entire project and not individual building permits.

a. Thresholds triggering compliance. The standards of subparagraph C.2.b. below shall be met when the value of the proposed exterior alterations or additions to the site, as determined by the community development director, is more then seventy-five thousand dollars. The following alterations and improvements shall not be included in the threshold calculation:

1. Proposed alterations to meet approved fire and life safety agreements;

2. Alterations related to the removal of existing architectural barriers, as required by the Americans with Disabilities Act, or as specified in Section 1113 of the Oregon Structural Specialty Code;

3. Alterations required to meet Seismic Design Requirements; and

4. Improvements to on-site stormwater management facilities in conformance with Oregon City Stormwater Design Standards.

b. Standards that shall be met. Developments not complying with the development standards listed below shall be brought into conformance.

1. Pedestrian circulation systems, as set out in the pedestrian standards that apply to the sites;

2. Minimum perimeter parking lot landscaping;

3. Minimum interior parking lot landscaping;

4. Minimum site landscaping requirements;

5. Bicycle parking by upgrading existing racks and providing additional spaces in order to comply with Chapter 17.52—Off-Street Parking and Loading;

6. Screening; and

7. Paving of surface parking and exterior storage and display areas.

c. Area of required improvements.

1. Generally. Except as provided in C.2.c.2. below, required improvements shall be made for the entire site.

2. Exception for sites with ground leases. Required improvements may be limited to a smaller area if there is a ground lease for the portion of the site where the alterations are proposed. If all of the following are met, the area of the ground lease will be considered as a separate site for purposes of required improvements. The applicant shall meet the following:

i. The signed ground lease — or excerpts from the lease document satisfactory to the city attorney — shall be submitted to the community development director. The portions of the lease shall include the following:

•The term of the lease. In all cases, there must be at least one year remaining on the ground lease; and

•A legal description of the boundaries of the lease.

ii. The boundaries of the ground lease shall be shown on the site plan submitted with the application. The area of the lease shall include all existing and any proposed development that is required for, or is used exclusively by, those uses within the area of the lease; and

iii. Screening shall not be required along the boundaries of ground leases that are interior to the site.

d. Timing and cost of required improvements. The applicant may choose one of the two following options for making the required improvements:

1. Option 1. Required improvements may be made as part of the alteration that triggers the required improvements. The cost of the standards that shall be met, identified in subparagraph C.2.b. above, is limited to ten percent of the value of the proposed alterations. It is the responsibility of the applicant to document to the community development director the value of the required improvements. Additional costs may be required to comply with other applicable

requirements associated with the proposal. When all required improvements are not being made, the priority for the improvements shall be as listed in subparagraph C.2.b. above.
2. Option 2. Required improvements may be made over several years, based on the compliance period identified in Table 17.58—1 below. However, by the end of the compliance period, the site shall be brought fully into compliance with the standards listed in subparagraph C.2.b. Where this option is chosen, the following must be met:
i. Before a building permit is issued, the applicant shall submit the following to the community development director:
•A Nonconforming Development Assessment, which identifies in writing and on a site plan, all development that does not meet the standards listed in Subparagraph C.2.b.
•A covenant, in a form approved by the city attorney, executed by the property owner that meets the requirements of 17.50.150. The covenant shall identify development on the site that does not meet the standards listed in Subparagraph C.2.b., and require the owner to bring that development fully into compliance with this title. The covenant shall also specify the date by which the owner will be in conformance. The date must be within the compliance periods set out in Table17.58 — 1.
ii. The nonconforming development identified in the Nonconforming Development Assessment shall be brought into full compliance with the requirements of this Title within the following compliance periods. The compliance period begins when a building permit is issued for alterations to the site of more than seventy-five thousand dollars. The compliance periods are based on the size of the site (see Table 17.58—1 below).
iii. By the end of the compliance period, the applicant or owner shall request that the site by certified by the community development director as in compliance. If the request is not received within that time, or if the site is not fully in conformance, no additional building permits will be issued.
iv. If the regulations referred to by subparagraph C.2.b. are amended after the Nonconforming Development Assessment is received by the community development director, and those amendments result in development on the site that was not addressed by the Assessment becoming nonconforming, the applicant shall address the new nonconforming development using Option 1 or 2. If the applicant chooses Option 2, a separate Nonconforming Development Assessment, covenant and compliance period will be required for the new nonconforming development.
Table 17.58—1
Compliance Periods for Option 2

Square footage of site	*Compliance Period*
Less than 150,000 sq. ft.	*2 years*
150,000 sq. ft. or more, up to 300,000 sq. ft.	*3 years*
300,000 sq. ft. or more, up to 500,000 sq. ft.	*4 years*
More than 500,000 sq. ft.	*5 years*

Applicant's Response: The proposed design will result in an FAR greater than 0.30, bringing the overall project site into conformance with the FAR requirement of the MUD zone. No modifications to the Hackett House are proposed.

CHAPTER 17.60 - VARIANCE

17.60.030 – Variance - Grounds.

A variance may be granted only in the event that all of the following conditions exist:
A. That the variance from the requirements is not likely to cause substantial damage to adjacent properties by reducing light, air, safe access or other desirable or necessary qualities otherwise protected by this title;
Applicant's Response: The proposed project is not seeking any variances, therefore this chapter does not apply.

CHAPTER 17.62 - SITE PLAN AND DESIGN REVIEW

17.62.015 - Modifications that will better meet design review requirements.

The review body may consider modification of site-related development standards. These modifications are done as part of design review and are not required to go through the Variance process pursuant to section 17.60.020. Adjustments to use-related development standards (such as floor area ratios, intensity of use, size of the use, number of units, or concentration of uses) are required to go through the Variance process pursuant to section 17.60.020. Modifications that are denied through design review may be requested as Variance through the Variance process pursuant to section 17.60.020. The review body may approve requested modifications if it finds that the applicant has shown that the following approval criteria are met:
A. The modification will result in a development that better meets design guidelines; and
B. The modification meets the intent of the standard. On balance, the proposal will be consistent with the purpose of the standard for which a modification is requested.
Applicant's Response: The proposed project seeks adjustments as part of the DDP. See response under Section 17.65.070.

17.62.020 - Preapplication conference.
Prior to filing for site plan and design review approval, the applicant shall confer with the community development director pursuant to Section 17.50.030. The community development director shall identify and explain the relevant review procedures and standards.
Applicant's Response: Pre Application conferences were attended on:

- **February 8, 2017 (PA 17-02)**
- **July 6, 2016 (PA 16-30)**
- **August 18, 2015 (PA 15-25)**

17.62.030 - When required.
Site plan and design review shall be required for all development of real property in all zones except the R-10, R-8, R-6, R-5 and R-3.5 zoning districts, unless otherwise provided for by this title or as a condition of approval of a permit. Site plan and design review shall also apply to all conditional uses, cottage housing development, multi-family and non-residential uses in all zones. No building permit or other permit authorization for development shall be issued prior to site plan and design review approval. Parking lots and parking areas accessory to uses regulated by this chapter also shall require site plan and design review approval. Site plan and design review shall not alter the type and category of uses permitted in zoning districts.
Applicant's Response: The proposed project is non-residential. The requirements of 17.62 are applicable to this project.

***17.62.035** - Minor site plan and design review.*
Applicant's Response: Does Not Apply.

17.62.040 - Plans required.
A complete application for site plan and design review shall be submitted. Except as otherwise in subsection I of this section, the application shall include the following plans and information:
A. A site plan or plans, to scale, containing the following:
1. Vicinity information showing streets and access points, pedestrian and bicycle pathways, transit stops and utility locations;
2. The site size, dimensions, and zoning, including dimensions and gross area of each lot or parcel and tax lot and assessor map designations for the proposed site and immediately adjoining properties;
3. Contour lines at two-foot contour intervals for grades zero to ten percent, and five-foot intervals for grades over ten percent;
4. The location of natural hazard areas on and within one hundred feet of the boundaries of the site, including:
a. Areas indicated on floodplain maps as being within the one hundred-year floodplain,
b. Unstable slopes, as defined in Section 17.44.020,
c. Areas identified on the seismic conditions map in the comprehensive plan as subject to earthquake and seismic conditions;

5. The location of natural resource areas on and within one hundred feet of the boundaries of the site, including fish and wildlife habitat, existing trees (six inches or greater in caliper measured four feet above ground level), wetlands, streams, natural areas, wooded areas, areas of significant trees or vegetation, and areas designated as being within the natural resources overlay district;
6. The location of inventoried historic or cultural resources on and within one hundred feet of the boundaries of the site;
7. The location, dimensions, and setback distances of all existing permanent structures, improvements and utilities on or within twenty-five feet of the site, and the current or proposed uses of the structures;
8. The location, dimensions, square footage, building orientation and setback distances of proposed structures, improvements and utilities, and the proposed uses of the structures by square footage;
9. The location, dimension and names, as appropriate, of all existing and platted streets, other public ways, sidewalks, bike routes and bikeways, pedestrian/bicycle accessways and other pedestrian and bicycle ways, transit street and facilities, neighborhood activity centers, and easements on and within two hundred fifty feet of the boundaries of the site;
10. The location, dimension and names, as appropriate, of all proposed streets, other public ways, sidewalks, bike routes and bikeways, pedestrian/bicycle accessways and other pedestrian and bicycle ways, transit streets and facilities, neighborhood activity centers, and easements on and within two hundred fifty feet of the boundaries of the site;
11. All parking, circulation, loading and servicing areas, including the locations of all carpool, vanpool and bicycle parking spaces as required in Chapter 52 of this title;
12. Site access points for automobiles, pedestrians, bicycles and transit;
13. On-site pedestrian and bicycle circulation;
14. Outdoor common areas proposed as open space;
15. Total impervious surface created (including buildings and hard ground surfaces).
16. The proposed location, dimensions and materials of fences and walls.
B. A landscaping plan, drawn to scale, showing the location and types of existing trees (six inches or greater in caliper measured four feet above ground level) and vegetation proposed to be removed and to be retained on the site, the location and design of landscaped areas, the varieties, sizes and spacings of trees and plant materials to be planted on the site, other pertinent landscape features, and irrigation systems required to maintain plant materials.
C. Architectural drawings or sketches, drawn to scale and showing floor plans, elevations accurately reflected to grade, and exterior materials of all proposed structures and other improvements as they will appear on completion of construction.
D. A materials board, no larger size than eleven inches by seventeen inches clearly depicting all building materials with specifications as to type, color and texture of exterior materials of proposed structures. An electronic version may be accepted as an alternative if approved by the community development director.
E. An erosion/sedimentation control plan, in accordance with the requirements of Chapter 17.47 and the Public Works Erosion and Sediment Control Standards, and a drainage plan developed in accordance with city drainage master plan requirements, Chapter 13.12 and the Public Works Stormwater and Grading Design Standards. The drainage plan shall identify the location of drainage patterns and drainage courses on and within one hundred feet of the boundaries of the site. Where development is proposed within an identified hazard area, these plans shall reflect concerns identified in the hydrological/geological/geotechnical development impact statement.
F. The legal description of the site.
G. An exterior lighting plan, drawn to scale, showing type, height, and area of illumination.
H. Archeological Monitoring Recommendation. For all projects that will involve ground disturbance, the applicant shall provide:
1. A letter or email from the Oregon State Historic Preservation Office Archaeological Division indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the Oregon State Historic Preservation Office and that the Oregon State Historic Preservation Office had not commented within forty-five days of notification by the applicant; and
2. A letter or email from the applicable tribal cultural resource representative of the Confederated Tribes of the Grand Ronde, Confederated Tribes of the Siletz, Confederated Tribes of the Umatilla, Confederated Tribes of the Warm Springs and the Confederated Tribes of the Yakama Nation indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the applicable tribal cultural

resource representative and that the applicable tribal cultural resource representative had not commented within forty-five days of notification by the applicant.
If, after forty-five days notice from the applicant, the Oregon State Historic Preservation Office or the applicable tribal cultural resource representative fails to provide comment, the city will not require the letter or email as part of the completeness review. For the purpose of this section, ground disturbance is defined as the movement of native soils.
I. Such special studies or reports as the community development director may require to obtain information to ensure that the proposed development does not adversely affect the surrounding community or identified natural resource areas or create hazardous conditions for persons or improvements on the site. The community development director shall require an applicant to submit one or more development impact statements, as described in Section 16.12.050, upon determination that (1) there is a reasonable likelihood that traffic safety or capacity improvements may be required; (2) the proposal could have significant adverse impacts on identified natural resource areas, including areas designated as being within the natural resources overlay district; or (3) the proposal would be located on or could have significant adverse impacts on natural hazard areas, including the geologic hazard and flood plain overlay districts. The community development director shall determine which types of development impact statements are necessary and provide written reasons for requiring the statement(s). The development impact statements shall include the information described in Sections 16.12.070, 16.12.080, and 16.12.120 [and this Section] 17.62.040.
J. The community development director may waive the submission of information for specific requirements of this section or may require information in addition to that required by a specific provision of this section, as follows:
1. The community development director may waive the submission of information for a specific requirement upon determination either that specific information is not necessary to evaluate the application properly, or that a specific approval standard is not applicable to the application. If submission of information is waived, the community development director shall, in the decision, identify the waived requirements, explain the reasons for the waiver, and state that the waiver may be challenged on appeal and may be denied by a subsequent review authority. If the matter is forwarded to the planning commission for initial review, the information required by this paragraph shall be included in the staff report;
2. The community development director may require information in addition to that required by a specific provision of this section upon determination that the information is needed to evaluate the application properly and that the need can be justified on the basis of a special or unforeseen circumstance. If additional information is required, the community development director shall, in the decision, explain the reasons for requiring the additional information.
K. If the applicant has not already done so as some other part of the land use review process, the applicant shall submit an erosion control plan that complies with the applicable requirements of Chapter 17.74 of this code.
Applicant's Response: See Exhibits & Drawings provided with this submittal.

17.62.050 - Standards.
A. All development shall comply with the following standards:
1. Landscaping, A minimum of fifteen percent of the lot shall be landscaped. Existing native vegetation shall be retained to the maximum extent practicable. All plants listed on the Oregon City Nuisance Plant List shall be removed from the site prior to issuance of a final occupancy permit for the building.
Applicant's Response: Project is in the MUD zone. Chapter 17.34.060.I requires landscaping to a minimum of 10% of the site area including parking. See "Planting Plan", L1.0 showing required landscaping.

a. Except as allowed elsewhere in the zoning and land division chapters of this Code, all areas to be credited towards landscaping must be installed with growing plant materials. A reduction of up to twenty-five percent of the overall required landscaping may be approved by the community development director if the same or greater amount of pervious material is incorporated in the non-parking lot portion of the site plan (pervious material within parking lots are regulated in OCMC 17.52.070).
Applicant's Response: See "Planting Plan", L1.0 showing required landscaping.

b. Pursuant to Chapter 17.49, landscaping requirements within the Natural Resource Overlay District, other than landscaping required for parking lots, may be met by preserving, restoring and permanently protecting native vegetation and habitat on development sites.
Applicant's Response: Not applicable. See response under 17.49 Natural Resources Overlay District.

c. The landscaping plan shall be prepared by a registered landscape architect and include a mix of vertical (trees and shrubs) and horizontal elements (grass, groundcover, etc.) that within three years will cover one hundred percent of the Landscape area. No mulch, bark chips, or similar materials shall be allowed at the time of landscape installation except under the canopy of shrubs and within two feet of the base of trees. The community development department shall maintain a list of trees, shrubs and vegetation acceptable for landscaping.
Applicant's Response: See "Planting Plan", L1.0 prepared by a registered landscape architect showing landscaping as required by this section.

d. For properties within the Downtown Design District, or for major remodeling in all zones subject to this chapter, landscaping shall be required to the extent practicable up to the ten percent requirement.
Project is located outside of the downtown design district; therefore, this section does not apply.

e. Landscaping shall be visible from public thoroughfares to the extent practicable.
Applicant's Response: Proposed landscaping is visible to public thoroughfares to the extent practicable.

f. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum, unless otherwise permitted by the dimensional standards of the underlying zone district.
Project is in the MUD zone. Chapter 17.34.060.I requires landscaping to a minimum of 10% of the site area including parking.

2. Vehicular Access and Connectivity.
a. Parking areas shall be located behind buildings, below buildings, or on one or both sides of buildings.
Applicant's Response: Parking areas are located behind existing buildings on Washington Street, on the north side of the hotel, and west side of the Hackett House.

b. Ingress and egress locations on thoroughfares shall be located in the interest of public safety. Access for emergency services (fire and police) shall be provided.
Applicant's Response: Three vehicular access locations are planned. An ingress and egress point on 17th St. approximately 30 feet east of the western property line, as well as an ingress only point approximately 75 feet east of the western property line is planned. Also an ingress and egress point is planned approximately 230 feet north of the 17th/Washington Street intersection. A fire lane through the hotel development site, connecting the entrance on Washington Street to the entrances on 17th Street is a part of the plan.

c. Alleys or vehicular access easements shall be provided in the following Districts: R-2, MUC-1, MUC-2, MUD and NC zones unless other permanent provisions for access to off-street parking and loading facilities are approved by the decision-maker. The corners of alley intersections shall have a radius of not less than ten feet.
Applicant's Response: No alley is proposed, but a vehicular connection between the hotel site and the future Phase 2 development is provided.

d. Sites abutting an alley shall be required to gain vehicular access from the alley unless deemed impracticable by the community development director.
Applicant's Response: No alley abuts the site.

e. Where no alley access is available, the development shall be configured to allow only one driveway per frontage. On corner lots, the driveway(s) shall be located off of the side street (unless the side street is an arterial) and away from the street intersection. Shared driveways shall be required as needed to accomplish the requirements of this section. The location and design of pedestrian access from the sidewalk shall be emphasized so as to be clearly

visible and distinguishable from the vehicular access to the site. Special landscaping, paving, lighting, and architectural treatments may be required to accomplish this requirement.
Applicant's Response: There will be 2 parcels across hotel development site. Parcel 1, which includes the Hackett House will include the ingress only access from 17th St. Parcel 2 which will include the Hotel site will have both an ingress and egress access to both 17th St. and Washington St. Parcel 2 while it has accesses on to two existing streets, is not defined as a "Corner Lot" per the definition of 17.04.665 which defines a corner lot as abutting two streets as their intersection. Parcel 2 does not abut the two streets at their intersection.

f. Driveways that are at least twenty-four feet wide shall align with existing or planned streets on adjacent sites.
Applicant's Response: No existing or proposed planned streets align with any of the new proposed driveway locations.

g. Development shall be required to provide existing or future connections to adjacent sites through the use of vehicular and pedestrian access easements where applicable. Such easements shall be required in addition to applicable street dedications as required in Chapter 12.04.
Applicant's Response: A vehicular and pedestrian connection between the hotel site and the future Phase 2 site is planned.

h. Vehicle and pedestrian access easements may serve in lieu of streets when approved by the decision maker only where dedication of a street is deemed impracticable by the city.
Applicant's Response: No vehicular or pedestrian easements are proposed as the hotel site will have direct access to Washington St. and 17th Street. No additional street connections are required either due to connection limitations caused by the adjoining railroad right-of-way paralleling Washington Street.

i. Vehicular and pedestrian easements shall allow for public access and shall comply with all applicable pedestrian access requirements.
Applicant's Response: No vehicular or pedestrian easements are necessary to serve the intended development.

j. In the case of dead-end stub streets that will connect to streets on adjacent sites in the future, notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future.
Applicant's Response: No new street extensions are proposed. 17th Street, which is an existing street, cannot be extended due to railroad right-of-way requirements.

k. Parcels larger than three acres shall provide streets as required in Chapter 12.04. The streets shall connect with existing or planned streets adjacent to the site.
Applicant's Response: It does not serve the City any purpose to provide street connections as shallow depth of the parcel between Washington St. and the railroad right-of-way, would prevent any meaningful connection to be made as a connection across the railroad right-of-way will not be allowed at grade.

l. Parking garage entries shall not dominate the streetscape. They shall be designed and situated to be ancillary to the use and architecture of the ground floor. This standard applies to both public garages and any individual private garages, whether they front on a street or private interior access road.
Applicant's Response: No garages are proposed for this project.

m. Buildings containing above-grade structured parking shall screen such parking areas with landscaping or landscaped berms, or incorporate contextual architectural elements that complement adjacent buildings or buildings in the area. Upper level parking garages shall use articulation or fenestration treatments that break up the massing of the garage and/or add visual interest.

Applicant's Response: No structured parking is proposed for this project.

3. Building structures shall be complimentary to the surrounding area. All exterior surfaces shall present a finished appearance. All sides of the building shall include materials and design characteristics consistent with those on the front. Use of inferior or lesser quality materials for side or rear facades or decking shall be prohibited.
a. Alterations, additions and new construction located within the McLoughlin Conservation District, Canemah National Register District, and the Downtown Design District and when abutting a designated Historic Landmark shall utilize materials and a design that incorporates the architecture of the subject building as well as the surrounding district or abutting Historic Landmark. Historic materials such as doors, windows and siding shall be retained or replaced with in kind materials unless the community development director determines that the materials cannot be retained and the new design and materials are compatible with the subject building, and District or Landmark. The community development director may utilize the Historic Review Board's Guidelines for New Constriction (2006) to develop findings to show compliance with this section.
b. In historic areas and where development could have a significant visual impact, the review authority may request the advisory opinions of appropriate experts designated by the community development director from the design fields of architecture, landscaping and urban planning. The applicant shall pay the costs associated with obtaining such independent professional advice; provided, however, that the review authority shall seek to minimize those costs to the extent practicable.
Applicant's Response: The Hackett House is a two-story Queen Anne style house, currently in use as an office building. The Hackett House is located on the project site, south of the proposed hotel. The End of the Oregon Trail Interpretive Center is located east of the project site directly across Washington Street from the project site. The project was reviewed on February 28, 2017 by the Historic Review Board. Of several alternatives discussed, the design submitted with this application was the design solution preferred by the Board. See "Historic Review Board", Exhibit G for additional information. Vertically oriented windows and wood look siding treatments on the hotel are complementary to the Hackett House design. Significant landscape screening between the Hackett House and the hotel was complemented by the board.

4. Grading shall be in accordance with the requirements of Chapter 15.48 and the public works stormwater and grading design standards.
Applicant's Response: See "Grading Plan", drawing C401 for grading in accordance with the applicable sections and requirements of the City's public works stormwater and grading manual.

5. Development subject to the requirements of the Geologic Hazard overlay district shall comply with the requirements of that district.
Applicant's Response: Only the most southerly portion of the site abutting 17th Street lies within the Geologic Hazard overlay zone, and no development other than sidewalk and parking area improvements are planned for that area. See "Geologic Hazard Evaluation", Exhibit F, included with the GDP submittal for additional information regarding geologic hazards. A geotechnical report including recommendations as required in 17.44 will be provided with building permit submittal.

6.Drainage shall be provided in accordance with city's drainage master plan, Chapter 13.12, and the public works stormwater and grading design standards.
Applicant's Response: Drainage improvements will be done in accordance with the city's master plan and the public works stormwater and grading design requirements. Public storm drain extension in Washington St. will be constructed to serve the Hotel site and its Washington St. frontage. Onsite water quality features will be developed in the lower parking area that will be able to be extended when Phase 2 is developed. A portion of the Hotel site nearest Washington St. will need to go into through filters to be able to meet the water quality requirements. Storm detention is not required as the site lies within the 100 year floodplain

7. Parking, including carpool, vanpool and bicycle parking, shall comply with city off-street parking standards, Chapter 17.52.

Applicant's Response: All parking requirements of Chapter 17.52, including carpool, vanpool and bicycle parking will comply with the City's off street parking standards. See responses to under chapter 17.52 for detailed information.

8. Sidewalks and curbs shall be provided in accordance with the city's transportation master plan and street design standards. Upon application, the community development director may waive this requirement in whole or in part in those locations where there is no probable need, or comparable alternative location provisions for pedestrians are made.
Applicant's Response: Sidewalk and curbs will be provided in accordance the City's transportation master plan and street design standards, except were specific design modifications, variances or deviations from the standards are requested and accepted by the City's public works staff.

9. A well-marked, continuous and protected on-site pedestrian circulation system meeting the following standards shall be provided:
a. Pathways between all building entrances and the street are required. Pathways between the street and buildings fronting on the street shall be direct. Exceptions may be allowed by the director where steep slopes or protected natural resources prevent a direct connection or where an indirect route would enhance the design and/or use of a common open space.
Applicant's Response: Proposed project has a system of interconnecting sidewalks and pathways that provide for continuous and protected on-site pedestrian circulation. Pathways between all building entrances and the street provide with direct access to both 17th and Washinton Street.

b. The pedestrian circulation system shall connect all main entrances on the site. For buildings fronting on the street, the sidewalk may be used to meet this standard. Pedestrian connections to other areas of the site, such as parking areas, recreational areas, common outdoor areas, and any pedestrian amenities shall be required.
Applicant's Response: The on-site pedestrian circulation system connects all main entrances on the site. Additional pedestrian connections are provided to parking areas.

c. Elevated external stairways or walkways, that provide pedestrian access to multiple dwelling units located above the ground floor of any building are prohibited. The community development director may allow exceptions for external stairways or walkways located in, or facing interior courtyard areas provided they do not compromise visual access from dwelling units into the courtyard.
Applicant's Response: Proposed project does not dwelling units, therefore this section is not applicable.

d. The pedestrian circulation system shall connect the main entrances of adjacent buildings on the same site.
Applicant's Response: The pedestrian circulation system show on "Site Plan", drawing A100, connects the main entrances of the Hackett House and the hotel.

e. The pedestrian circulation system shall connect the principal building entrance to those of buildings on adjacent commercial and residential sites where practicable. Walkway linkages to adjacent developments shall not be required within industrial developments or to industrial developments or to vacant industrially-zoned land.
Applicant's Response: Proposed pedestrian circulation system connects the Hackett House, the hotel and the future mixed-use building. Street sidewalks provide additional connectivity to adjoining properties. Future pedestrian connectivity to the Oregon City Trail Station will be provided under phase 2 development of the GDP. No pedestrian connections are available to the west due to the railroad right-of-way.

f. On-site pedestrian walkways shall be hard surfaced, well drained and at least five feet wide. Surface material shall contrast visually to adjoining surfaces. When bordering parking spaces other than spaces for parallel parking, pedestrian walkways shall be a minimum of seven feet in width unless curb stops are provided. When the pedestrian circulation system is parallel and adjacent to an auto travel lane, the walkway shall be raised or separated from the auto travel lane by a raised curb, bollards, landscaping or other physical barrier. If a raised walkway is used, the ends of the raised portions shall be equipped with curb ramps for each direction of travel.

Pedestrian walkways that cross drive isles or other vehicular circulation areas shall utilize a change in textual material or height to alert the driver of the pedestrian crossing area.
Applicant's Response: On-site pedestrian walkways will meet the requirements of as noted above.

10. There shall be provided adequate means to ensure continued maintenance and necessary normal replacement of private common facilities and areas, drainage ditches, streets and other ways, structures, recreational facilities, landscaping, fill and excavation areas, screening and fencing, groundcover, garbage storage areas and other facilities not subject to periodic maintenance by the city or other public agency.
Applicant's Response: There will be adequate means to for continued maintenance of private facilities as required.

11. Site planning shall conform to the requirements of OCMC Chapter 17.41 Tree Protection.
Applicant's Response: Proposed project site plan design conforms to the OCMC 17.41 Tree Protection. See "Arborist Report", Exhibit F for tree protection measures.

12. Development shall be planned, designed, constructed and maintained to protect water resources and habitat conservation areas in accordance with the requirements of the city's Natural Resources Overlay District, Chapter 17.49, as applicable.
Applicant's Response: The development will be designed, constructed and maintained to protect water resources, although there is no identified natural resource on the site that requires protection under the City's Natural Resources Overlay District requirements.

13. All development shall maintain continuous compliance with applicable federal, state, and city standards pertaining to air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference. Prior to issuance of a building permit, the community development director or building official may require submission of evidence demonstrating compliance with such standards and receipt of necessary permits. The review authority may regulate the hours of construction or operation to minimize adverse impacts on adjoining residences, businesses or neighborhoods. The emission of odorous gases or other matter in such quantity as to be readily detectable at any point beyond the property line of the use creating the odors or matter is prohibited.
Applicant's Response: Development will maintain continuous compliance with applicable federal, state and city standards as they pertain to air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference.

14. Adequate public water and sanitary sewer facilities sufficient to serve the proposed or permitted level of development shall be provided. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development. Service providers shall be presumed correct in the evidence, which they submit. All facilities shall be designated to city standards as set out in the city's facility master plans and public works design standards. A development may be required to modify or replace existing offsite systems if necessary to provide adequate public facilities. The city may require over sizing of facilities where necessary to meet standards in the city's facility master plan or to allow for the orderly and efficient provision of public facilities and services. Where over sizing is required, the developer may request reimbursement from the city for over sizing based on the city's reimbursement policy and fund availability, or provide for recovery of costs from intervening properties as they develop.
Applicant's Response: There is adequate sanitary sewer and public water facilities adjacent to the site to serve the proposed developments. An existing 48 inch gravity truck sewer line maintained by Clackamas County's Water Environmental Services that crosses the northerly portion of hotel site and a sanitary sewer service connection has been previously provided for such. The City of Oregon City has 10 inch waterline main in Washington Street that can adequately serve the development.

15. Adequate right-of-way and improvements to streets, pedestrian ways, bike routes and bikeways, and transit facilities shall be provided and be consistent with the city's transportation master plan and design standards and this title. Consideration shall be given to the need for street widening and other improvements in the area of the

proposed development impacted by traffic generated by the proposed development. This shall include, but not be limited to, improvements to the right-of-way, such as installation of lighting, signalization, turn lanes, median and parking strips, traffic islands, paving, curbs and gutters, sidewalks, bikeways, street drainage facilities and other facilities needed because of anticipated vehicular and pedestrian traffic generation. Compliance with [Chapter] 12.04, Streets, Sidewalks and Public Places shall be sufficient to achieve right-of-way and improvement adequacy.

Applicant's Response: Improvements to public rights-of-way in accordance with the City's Transportation Master plan and design standards will be made, except where specific adjustments, variance or deviations from City standards are permitted by City Public Works staff. A twelve-foot dedication along the Washington St. frontage is proposed. On 17th Street a public sidewalk easement is proposed to allow for the public sidewalk beyond the paved surface of 17th St.

16. If a transit agency, upon review of an application for an industrial, institutional, retail or office development, recommends that a bus stop, bus turnout lane, bus shelter, accessible bus landing pad, lighting, or transit stop connection be constructed, or that an easement or dedication be provided for one of these uses, consistent with an agency adopted or approved plan at the time of development, the review authority shall require such improvement, using designs supportive of transit use. Improvements at a major transit stop may include intersection or mid-block traffic management improvements to allow for crossings at major transit stops, as identified in the transportation system plan.

Applicant's Response: We are not aware of transit improvements needed as a part of the proposed developments, but if such were found to be an appropriate improvement for public street improvements, such would be included as a part of the public improvements.

17. All utility lines shall be placed underground.

Applicant's Response: All existing and proposed utility lines along the site's frontage or on-site will be placed underground.

18. Access and facilities for physically handicapped people shall be incorporated into the site and building design consistent with applicable federal and state requirements, with particular attention to providing continuous, uninterrupted access routes.

Applicant's Response: Accessibility improvements will be a part of the site and building design to serve physically handicapped people. See "Site Plan", drawing A100 and building floor plans, drawings A201 thru A203 for detailed information. Improvements will include:

- **Accessible route to the public street sidewalk at 17th Street.**
- **Accessible route from public street northward to the Hackett House and the hotel.**
- **Accessible route extension to northerly edge phase 1 development to allow future accessible path connection to phase 2 building(s) and existing Oregon City Train Station.**
- **Accessible hotel including accessible hotel rooms as required by code.**

19. For a residential development, site layout shall achieve at least eighty percent of the maximum density of the base zone for the net developable area. Net developable area excludes all areas for required right-of-way dedication, land protected from development through Natural Resource or Geologic Hazards protection, and required open space or park dedication.

Applicant's Response: Project is not a residential development, therefore this section is not applicable.

20. Screening of Mechanical Equipment:

a. Rooftop mechanical equipment, including HVAC equipment and utility equipment that serves the structure, shall be screened. Screening shall be accomplished through the use of parapet walls or a sight-obscuring enclosure around the equipment constructed of one of the primary materials used on the primary facades of the structure, and that is an integral part of the building's architectural design. The parapet or screen shall completely surround the rooftop mechanical equipment to an elevation equal to or greater than the highest portion of the rooftop mechanical equipment being screened. In the event such parapet wall does not fully screen all rooftop equipment,

then the rooftop equipment shall be enclosed by a screen constructed of one of the primary materials used on the primary facade of the building so as to achieve complete screening.
Applicant's Response: Rooftop mechanical equipment will be located in the center portion of the hotel and screened by parapets using materials used on the primary building façade. The stepped parapet configuration is designed as an integral part of the building's architectural design.

b. Wall-mounted mechanical equipment shall not be placed on the front facade of a building or on a facade that faces a right-of-way. Wall-mounted mechanical equipment, including air conditioning or HVAC equipment and groups of multiple utility meters, that extends six inches or more from the outer building wall shall be screened from view from streets; from residential, public, and institutional properties; and from public areas of the site or adjacent sites through the use of (a) sight-obscuring enclosures constructed of one of the primary materials used on the primary facade of the structure, (b) sight-obscuring fences, or (c) trees or shrubs that block at least eighty percent of the equipment from view or (d) painting the units to match the building. Wall-mounted mechanical equipment that extends six inches or less from the outer building wall shall be designed to blend in with the color and architectural design of the subject building.
Applicant's Response: Wall-mounted mechanical equipment will not be placed on the front facade of a building or on a facade that faces a right-of-way. Wall-mounted mechanical equipment or meters are not proposed. Hotel rooms are equipped with individual PTAC units. These units are located entirely within each room behind louvers below windows. The PTAC louvers are integrated into the window unit, matching window frame style and color, to be as unobtrusive as possible.

c. Ground-mounted above-grade mechanical equipment shall be screened by ornamental fences, screening enclosures, trees, or shrubs that block at least eighty percent of the view. Placement and type of screening shall be determined by the community development director.
Applicant's Response: A ground-mounted backup generator within a screening enclosure is proposed adjacent to the south side of the hotel.

d. All mechanical equipment shall comply with the standards in this section. If mechanical equipment is installed outside of the site plan and design review process, planning staff shall review the plans to determine if additional screening is required. If the proposed screening meets this section, no additional planning review is required.
Applicant's Response: Mechanical equipment will be installed in compliance with the standards in this section.

e. This section shall not apply to the installation of solar energy panels, photovoltaic equipment or wind power generating equipment.
Applicant's Response: Alternative energy systems are not included in the proposed design of this project.

21. Building Materials.
a. Preferred building materials. Building exteriors shall be constructed from high quality, durable materials. Preferred exterior building materials that reflect the city's desired traditional character are as follows:
i. Brick.
Ii. Basalt stone or basalt veneer.
iii. Narrow horizontal wood or composite siding (generally five inches wide or less); wider siding will be considered where there is a historic precedent.
iv. Board and baton siding.
v. Other materials subject to approval by the community development director.
vi. Plywood with battens or fiber/composite panels with concealed fasteners and contagious aluminum sections at each joint that are either horizontally or vertically aligned.
vii. Stucco shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.
Applicant's Response: Proposed project consists of a range of high quality, durable materials, including stone veneer base, wood or composite siding with concealed fasteners, etc., including a troweled finish of either Stucco or EIFS in a clean modern application for the Hotel, existing traditional materials and finishes for the

historical Hackett House (with little or no change), and appropriate high quality, durable materials for the Mixed Use residential over commercial building. Where Stucco or EIFS is implemented, it shall be detailed is such a way as to be trimmed and protected in compliance with manufacturers requirements, any applicable brand requirements, and the requirements of this code.

b. Prohibited materials. The following materials shall be prohibited in visible locations unless an exception is granted by the community development director based on the integration of the material into the overall design of the structure.
i. Vinyl or plywood siding (including T-111 or similar plywood).
Ii. Glass block or highly tinted, reflected, translucent or mirrored glass (except stained glass) as more than ten percent of the building facade.
iii. Corrugated fiberglass.
iv. Chain link fencing (except for temporary purposes such as a construction site or as a gate for a refuse enclosure).
[v.] Crushed colored rock/crushed tumbled glass.
[vi.] Non-corrugated and highly reflective sheet metal.
Applicant's Response: Materials prohibited by this section are not proposed.

c. Special material standards: The following materials are allowed if they comply with the requirements found below:
1. Concrete block. When used for the front facade of any building, concrete blocks shall be split, rock- or ground-faced and shall not be the prominent material of the elevation. Plain concrete block or plain concrete may be used as foundation material if the foundation material is not revealed more than three feet above the finished grade level adjacent to the foundation wall.
2. Metal siding. Metal siding shall have visible corner moldings and trim and incorporate masonry or other similar durable/permanent material near the ground level (first two feet above ground level).
3. Exterior Insulation and Finish System (EIFS) and similar toweled finishes shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.
4. Building surfaces shall be maintained in a clean condition and painted surfaces shall be maintained to prevent or repair peeling, blistered or cracking paint.
Applicant's Response: Project consists of a range of high quality, durable materials, including stone veneer base, wood or composite siding with concealed fasteners, etc., including a troweled finish of either Stucco or EIFS in a clean modern application for the Hotel, existing traditional materials and finishes for the historical Hackett House (with little or no change), and appropriate high quality, durable materials for the Mixed Use residential over commercial building. Where Stucco or EIFS is implemented, it shall be detailed is such a way as to be trimmed and protected in compliance with manufacturers requirements, any applicable brand requirements, and the requirements of this code.

22. Conditions of Approval. The review authority may impose such conditions as it deems necessary to ensure compliance with these standards and other applicable review criteria, including standards set out in city overlay districts, the city's master plans, and city public works design standards. Such conditions shall apply as described in Sections 17.50.310, 17.50.320 and 17.50.330. The review authority may require a property owner to sign a waiver of remonstrance against the formation of and participation in a local improvement district where it deems such a waiver necessary to provide needed improvements reasonably related to the impacts created by the proposed development. To ensure compliance with this chapter, the review authority may require an applicant to sign or accept a legal and enforceable covenant, contract, dedication, easement, performance guarantee, or other document, which shall be approved in form by the city attorney.
Applicant's Response: It is the owner's intent to comply with Conditions of Approval as required by this section.

***17.62.055** - Institutional and commercial building standards.*
A. Purpose. The primary objective of the regulations contained in this section is to provide a range of design choices that promote creative, functional, and cohesive development that is compatible with surrounding areas. Buildings approved through this process are intended to serve multiple tenants over the life of the building, and are not

intended for a one-time occupant. The standards encourage people to spend time in the area, which also provides safety though informal surveillance. Finally, this section is intended to promote the design of an urban environment that is built to human scale by creating buildings and streets that are attractive to pedestrians, create a sense of enclosure, provide activity and interest at the intersection of the public and private spaces, while also accommodating vehicular movement.

Applicant's Response: It is the design intent that the commercial buildings proposed to be located on this site will be in compliance with this code as mentioned above.

B. Applicability. In addition to Section 17.62.050 requirements, institutional and commercial buildings shall comply with design standards contained in this section.

Applicant's Response: It is the design intent that the commercial buildings proposed to included in this development will be in compliance with this code as it applies.

C. Relationship between zoning district design standards and requirements of this section.

1. Building design shall contribute to the uniqueness of the underlying zoning district by applying appropriate materials, elements, features, color range and activity areas tailored specifically to the site and its context.

Applicant's Response: Buildings designed for this project have unique qualities that are tailored to the site and its context while striving to contribute to the uniqueness of the MUD zoning district. Qualities such as materials, elements, features and color range are all items that are intended to meet the requirements of this code.

2. A standardized prototype or franchise design shall be modified if necessary to meet the provisions of this section.

Applicant's Response: We have taken special care to make modifications to the prototypical Hilton brand hotel standards in the design of the hotel for this site, while keeping within the guidelines for the Franchise, striking a medium between franchise standards and local city/government standards.

3. In the case of a multiple building development, each individual building shall include predominant characteristics, architectural vocabulary and massing shared by all buildings in the development so that the development forms a cohesive place within the underlying zoning district or community.

Applicant's Response: For this multi-building development, the buildings have been designed with some common architectural vocabulary. In the part of the hotel and the mixed-use building, the massing is also similar, providing additional cohesiveness while also including unique elements that help to identify the nature of each.

4. With the exception of standards for building orientation and building front setbacks, in the event of a conflict between a design standard in this section and a standard or requirement contained in the underlying zoning district, the standard in the zoning district shall prevail.

Applicant's Response: Requirements of the underlying MUD zone, outside the Downtown Design District would apply in the event of conflicts with requirements of this section with the exception of standards for building orientation and building front setbacks.

5. On sites with one hundred feet or more of frontage at least sixty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line, unless a greater setback is accepted under the provisions of Section 17.62.055D. For sites with less than one hundred feet of street frontage, at least fifty percent of the site frontage width shall be occupied by buildings placed within five feet of the property line unless a greater setback is accepted under the provisions of Section 17.62.055D.

Applicant's Response: Frontage along Washington Street has buildings located within five feet of the property line exceeding the sixty percent.

D. Relationship of Buildings to Streets and Parking.

1. Buildings shall be placed no farther than five feet from the front property line. A larger front yard setback may be approved through site plan and design review if the setback area incorporates at least one element from the following list for every five feet of increased setback requested:

a. Tables, benches or other approved seating area.
b. Cobbled, patterned or paved stone or enhanced concrete.
c. Pedestrian scale lighting.
d. Sculpture/public art.
e. Fountains/Water feature.
f. At least twenty square feet of landscaping or planter boxes for each tenant facade fronting on the activity area.
g. Outdoor café.
h. Enhanced landscaping or additional landscaping.
i. Other elements, as approved by the community development director, that can meet the intent of this section.
Applicant's Response: Buildings are located within five feet of the property line along Washington Street. In addition, located within five feet of the property line, there is a stair serving the hotel that connects the hotel to the street frontage along Washington Street.

2. The front most architecturally significant facade shall be oriented toward the street and shall be accessed from a public sidewalk. Primary building entrances shall be clearly defined and recessed or framed by a sheltering element such as an awning, arcade or portico in order to provide shelter from the summer sun and winter weather.
Applicant's Response:

3. Entryways. The primary entranceway for each commercial or retail establishment shall face the major street. The entrance may be recessed behind the property line a maximum of five feet unless a larger setback is approved pursuant to Section 17.62.055.D.1 and shall be accessed from a public sidewalk. Primary building entrances shall be clearly defined, highly visible and recessed or framed by a sheltering element including at least four of the following elements, listed below.
a. Canopies or porticos;
b. Overhangs;
c. Recesses/projections;
d. Arcades;
e. Raised corniced parapets over the door;
f. Peaked roof forms;
g. Arches;
h. Outdoor patios;
i. Display windows;
j. Architectural details such as tile work and moldings which are integrated into the building structure and design;
k. Integral planters or wing walls that incorporate landscaped areas and/or places for sitting.
l. Planter boxes and street furniture placed in the right-of-way shall be approved for use according to materials, scale and type.
Applicant's Response: Primary pedestrian entranceway for the hotel faces Washington Street.

4. Where additional stores will be located in the large retail establishment, each such store shall have at least one exterior customer entrance, which shall conform to the same requirements. (Ord. 01-1002 §2, 2001)
Applicant's Response: Project does not include multiple retail stores, therefore this requirement is not applicable.

5. Trellises, canopies and fabric awnings may project up to five feet into front setbacks and public rights-of-way, provided that the base is not less than eight feet at the lowest point and no higher than ten feet above the sidewalk. Awnings shall be no longer than a single storefront.
Applicant's Response: Project does not include projections into the public right-of-way.

E. Corner Lots.
For buildings located at the corner of intersections, the primary entrance of the building shall be located at the corner of the building or within twenty-five feet of the corner of the building. Additionally, one of the following treatments shall be required:

1. Incorporate prominent architectural elements, such as increased building height or massing, cupola, turrets, or pitched roof, at the corner of the building or within twenty-five feet of the corner of the building.
2. Chamfer the corner of the building (i.e. cut the corner at a forty-five-degree angle and a minimum of ten feet from the corner) and incorporate extended weather protection (arcade or awning), special paving materials, street furnishings, or plantings in the chamfered area.
Applicant's Response: Project is not a corner lot, therefore this requirement is not applicable.

F. Commercial First Floor Frontage.
In order to ensure that the ground floor of structures have adequate height to function efficiently for retail uses, the first floor height to finished ceiling of new infill buildings in the mixed use and neighborhood commercial districts shall be no lower than fourteen feet floor to floor. Where appropriate, the exterior facade at the ceiling level of new structures shall include banding, a change of materials or relief which responds to the cornice lines and window location of existing buildings that abut new structures.
Applicant's Response: An adjustment is requested in the GDP to the ground floor to second floor height requirement. The existing Hackett House office building has less than 14 foot ground floor to second floor height. The new hotel building is designed to franchise standard 12 foot ground floor to second floor height.

G. Variation in Massing.
1. A single, large, dominant building mass shall be avoided in new buildings and, to the extent reasonably feasible, in development projects involving changes to the mass of existing buildings.
Applicant's Response: To the extent reasonably feasible, given the programmatic requirements of the intended hotel use, a single dominant building mass has been avoided. In order to create visual interest and appropriate scale, the building mass has been articulated horizontally and vertically with offsets in wall planes and parapet heights as well as changes in materials.
2. Horizontal masses shall not exceed a height: width ratio of one-to-three without substantial variation in massing that includes a change in height and projecting or recessed elements.
Applicant's Response: Substantial variation in hotel building massing provided to reduce horizontal building mass includes projecting elements (porte cochere, Washington Street stair tower, south building entry), recessed Washington Street entry, and variation in building parapet heights.

3. Changes in mass shall be related to entrances, the integral structure and/or the organization of interior spaces and activities and not merely for cosmetic effect.
Applicant's Response: Changes in hotel building mass occur at building entries and are directly related to the organization of the interior spaces. Massing changes have been incorporated to reduce building mass and scale in locations most frequented by pedestrians.

H. Minimum Wall Articulation.
1. Facades shall add architectural interest and variety and avoid the effect of a single, long or massive wall with no relation to human size. No wall that faces a street or connecting walkway shall have a blank, uninterrupted length exceeding thirty feet without including, but not be limited to, at least two of the following:
i. Change in plane,
ii Change in texture or masonry pattern or color,
iii. Windows, treillage with landscaping appropriate for establishment on a trellis.
iv. An equivalent element that subdivides the wall into human scale proportions.
Applicant's Response: The hotel building facades are designed with architectural interest, utilizing strategies of changes in plane, textures, material variety, windows, and landscaping, in order to address the human scale and meet the minimum wall articulation requirement.

2. Facades greater than one hundred feet in length, measured horizontally, shall incorporate wall plane projections or recesses having a depth of at least three percent of the length of the facade and extending at least twenty percent of the length of the facade. No uninterrupted length of any facade shall exceed one hundred horizontal feet.

Applicant's Response: Design of buildings are such that wall planes will not be continuous for lengths greater than one hundred feet.

3. Ground floor facades that face public streets shall have arcades, display windows, entry areas, awnings or other such features along no less than sixty percent of their horizontal length.
Applicant's Response: Design of hotel building façade along Washington Street includes recessed entry, entry stairway, and windows exceeding 60 percent of the horizontal length.

4. Building facades must include a repeating pattern that includes any one or more of the following elements:
a. Color change;
b. Texture change;
c. Material module change.
Applicant's Response: Hotel building facades include repeating patterns of color and material changes.

5. Facades shall have an expression of architectural or structural bays through a change in plane no less than twelve inches in width, such as an offset, reveal or projecting rib.
Applicant's Response: Hotel building facades include architectural expressions and indications of structural bays with changes in plane that are not less than twelve inches in width. Pilasters projecting beyond the wall plane occur at structural column locations throughout the ground floor.

6. Facades shall have at least one of elements subsections H.4. or H.5. of this section repeat horizontally. All elements shall repeat at intervals of no more than thirty feet, either horizontally or vertically.
Applicant's Response: Hotel building facades include repeated color and material changes as well as structural bay expression.

I. Facade Transparency.
1. Transparent windows or doors facing the street are required. The main front elevation shall provide at least sixty percent windows or transparency at the pedestrian level. Facades on corner lots shall provide at least sixty percent windows or transparency on all corner-side facades. All other side elevations shall provide at least thirty percent transparency. The transparency is measured in lineal fashion. For example, a one hundred-foot long building elevation shall have at least sixty feet (sixty percent of one hundred feet) of transparency in length. Reflective, glazed, mirrored or tinted glass is limited to ten percent of the lineal footage of windows on the street facing facade. Highly reflective or glare-producing glass with a reflective factor of one-quarter or greater is prohibited on all building facades. Any glazing materials shall have a maximum fifteen percent outside visual light reflectivity value. No exception shall be made for reflective glass styles that appear transparent when internally illuminated.
Applicant's Response: Ground level hotel building facades include at least 60 percent transparency facing Washington Street and 30 percent transparency on other facades. Glazing will have a maximum 15 percent outside visual light reflectivity value. Proposed glazing is dual-glazed, clear, low-E glass.

2. Side or rear walls that face walkways may include false windows and door openings only when actual doors and windows are not feasible because of the nature of the use of the interior use of the building. False windows located within twenty feet of a right-of-way shall be utilized as display windows with a minimum display depth of thirty-six inches.
Applicant's Response: False windows are not proposed. In order to maintain design continuity, spandrel glass is proposed at storefront glazing where storefront extends above the interior ceiling line or **passes in front of structural columns. In no case will spandrel glass be used to obscure interior spaces.**

J. Roof Treatments.
1. All facades shall have a recognizable "top" consisting of, but not limited to:
a. Cornice treatments, other than just colored "stripes" or "bands," with integrally textured materials such as stone or other masonry or differently colored materials; or
b. Sloping roof with overhangs and brackets; or

c. Stepped parapets;
d. Special architectural features, such as bay windows, decorative roofs and entry features may project up to three feet into street rights-of-way, provided that they are not less than nine feet above the sidewalk.
Applicant's Response: Hotel facades feature a stepped parapet design, including material change and/or contemporary cornice projection.

2. Mixed use buildings: For flat roofs or facades with a horizontal eave, fascia, or parapet, the minimum vertical dimension of roofline modulation is the greater of two feet or 0.1 multiplied by the wall height (finish grade to top of wall). The maximum length of any continuous roofline shall be seventy-five feet.
Applicant's Response: Hotel is not a mixed-use building, therefore this requirement is not applicable.

3. Other roof forms consistent with the design standards herein may satisfy this standard if the individual segments of the roof with no change in slope or discontinuity are less than forty feet in width (measured horizontally).
Applicant's Response: Hotel facades feature a stepped parapet design, including material change and/or contemporary cornice projection.

K. Drive-through facilities shall:
1. Be located at the side or rear of the building.
2. Be designed to maximize queue storage on site.
Applicant's Response: Hotel incudes a porte cochere for guest and service drop off and loading. The porte cochere is located on the north side of the hotel, outside the parking drive aisle, with 24 foot paving width providing for adequate queue storage on site.

17.62.056 - Additional standards for large retail establishments.
Applicant's Response: Proposed project does not include large retail establishments, therefore this section is not applicable.

17.62.057 - Multi-family standards.
Applicant's Response: Proposed project does not include multi-family housing, therefore this section is not applicable.

17.62.059 - Cottage housing.
Applicant's Response: Proposed project does not include cottage housing, therefore this section is not applicable.

17.62.065 - Outdoor lighting.

B. Applicability.
1. General.
a. All exterior lighting for any type of commercial, mixed-use, industrial or multi-family development shall comply with the standards of this section, unless excepted in subsection B.3.
b. The city engineer/public works director shall have the authority to enforce these regulations on private property if any outdoor illumination is determined to present an immediate threat to the public health, safety and welfare.
Applicant's Response: Applicant recognizes the city's authority to enforce these regulations.

2. Lighting Plan Requirement.
All commercial, industrial, mixed-use, cottage housing and multi-family developments shall submit a proposed exterior lighting plan. The plan must be submitted concurrently with the site plan. The exterior lighting plan shall include plans and specifications for streetlights, parking lot lights, and exterior building lights. The specifications shall include details of the pole, fixture height and design, lamp type, wattage, and spacing of lights.
Applicant's Response: See "Site Photometrics Plan", drawings E004 & E005 for exterior lighting information required by this section.

3. Excepted Lighting.
The following types of lighting are excepted from the requirements of this section.
a. Residential lighting for single-family attached and detached homes, and duplexes.
b. Public street and right-of-way lighting.
c. Temporary decorative seasonal lighting provided that individual lamps have a light output of sixty watts or less.
d. Temporary lighting for emergency or nighttime work and construction.
e. Temporary lighting for theatrical, television, and performance areas, or for special public events.
f. Lighting for a special district, street, or building that, according to an adopted municipal plan or ordinance, is determined to require special lighting aesthetics as part of its physical character.
g. Lighting required and regulated by the Federal Aviation Administration.
Applicant's Response: Proposed project does not include lighting excepted in this section.

C. General Review Standard. If installed, all exterior lighting shall meet the functional security needs of the proposed land use without adversely affecting adjacent properties or the community. For purposes of this section, properties that comply with the design standards of subsection D. below shall be deemed to not adversely affect adjacent properties or the community.
Applicant's Response: The proposed exterior lighting is intended to meet the functional security needs of the proposed project site while also complying with the design standards.

D. Design and Illumination Standards.
General Outdoor Lighting Standard and Glare Prohibition.
1. Outdoor lighting, if provided, shall be provided in a manner that enhances security, is appropriate for the use, avoids adverse impacts on surrounding properties, and the night sky through appropriate shielding as defined in this section. Glare shall not cause illumination on other properties in excess of a measurement of 0.5 footcandles of light as measured at the property line. In no case shall exterior lighting add more than 0.5 footcandle to illumination levels at any point off-site. Exterior lighting is not required except for purposes of public safety. However, if installed, all exterior lighting shall meet the following design standards:
Applicant's Response: See "Site Photometrics Plan", drawings E004 & E005 for exterior lighting information required by this section.

2. Any light source or lamp that emits more than nine hundred lumens (thirteen watt compact fluorescent or sixty watt incandescent) shall be concealed or shielded with a full cut-off style fixture in order to minimize the potential for glare and unnecessary diffusion on adjacent property. All fixtures shall utilize one of the following bulb types: metal halide, induction lamp, compact fluorescent, incandescent (including tungsten-halogen), or high pressure sodium with a color rendering index above seventy.
Applicant's Response: See "Site Photometrics Plan", drawings E004 & E005 for exterior lighting information required by this section.

3. The maximum height of any lighting pole serving a multi-family residential use shall be twenty feet. The maximum height serving any other type of use shall be twenty-five feet, except in parking lots larger than five acres, the maximum height shall be thirty-five feet if the pole is located at least one hundred feet from any residential use.
Applicant's Response: See "Site Photometrics Plan", drawings E004 & E005 for exterior lighting information required by this section. Pole mounted lighting fixtures are mounted at 25 feet above ground.

4. Lighting levels:
Table 1-17.62.065. Foot-candle Levels

Location	*Min*	*Max*	*Avg*
Pedestrian Walkways	*0.5*	*7:1 max/min ratio*	*1.5*

Pedestrian Walkways in Parking Lots		*10:1 max/min ratio*	*0.5*
Pedestrian Accessways	*0.5*	*7:1 max/min ratio*	*1.5*
Building Entrances	*3*		
Bicycle Parking Areas	*3*		
Abutting property	*N/A*	*.05*	

Applicant's Response: See "Site Photometrics Plan", drawings E004 & E005 for exterior lighting information required by this section.

5. Parking lots and other background spaces shall be illuminated as unobtrusively as possible while meeting the functional needs of safe circulation and protection of people and property. Foreground spaces, such as building entrances and outside seating areas, shall utilize pedestrian scale lighting that defines the space without glare.
Applicant's Response: Pedestrian scale lighting, such as bollards, will be used to help provide adequate lighting levels and define spaces while also not causing unwanted glare.

6. Any on-site pedestrian circulation system shall be lighted to enhance pedestrian safety and allow employees, residents, customers or the public to use the walkways at night. Pedestrian walkway lighting through parking lots shall be lighted to light the walkway and enhance pedestrian safety pursuant to Table 1.
Applicant's Response: See "Site Photometrics Plan", drawings E004 & E005 for exterior lighting information required by this section. Proposed pedestrian circulation systems will be lighted to levels that will enhance pedestrian safety and allow safe use of the walkways after hours and will comply with the above Table 1- 17.62.065. Foot-candle Levels.

7. Pedestrian Accessways. To enhance pedestrian and bicycle safety, pedestrian accessways required pursuant to OCMC 12.28 shall be lighted with pedestrian-scale lighting. Accessway lighting shall be to a minimum level of one-half foot-candles, a one and one-half foot-candle average, and a maximum to minimum ratio of seven-to-one and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances. Lamps shall include a high-pressure sodium bulb with an unbreakable lens.
Applicant's Response: Proposed design does not include pedestrian accessways, therefore this section does not apply.

8. Floodlights shall not be utilized to light all or any portion of a building facade between ten p.m. and six a.m.
Applicant's Response: Proposed lighting does not include floodlights.

9. Lighting on automobile service station, convenience store, and other outdoor canopies shall be fully recessed into the canopy and shall not protrude downward beyond the ceiling of the canopy.
Applicant's Response: Canopy lighting will be fully recessed lighting as required by this section.

10. The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site.
Applicant's Response: Proposed light standards and fixtures chosen for this site have a character consistent with the architecture of the proposed structures on this site.

11. In no case shall exterior lighting add more than one foot-candle to illumination levels at any point off-site.
Applicant's Response: See "Site Photometrics Plan", drawings E004 & E005 for exterior lighting information required by this section. Exterior lighting proposed for this site will not exceed 1 fc of illumination level to any offsite areas.

12. All outdoor light not necessary for security purposes shall be reduced, activated by motion sensor detectors, or turned off during non-operating hours.
Applicant's Response: Hotel operations are 24 hours per day, therefore no sensor operated outdoor lighting is possible.

13. Light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform shall use a narrow cone beam of light that will not extend beyond the illuminated object.
Applicant's Response: The proposed outdoor lighting used for illumination of flags or other pole-mounted objects will comply with the requirement of this code by use of narrow cone beam lighting that is set so as not to extend beyond the object of illumination.

14. For upward-directed architectural, landscape, and decorative lighting, direct light emissions shall not be visible above the building roofline.
Applicant's Response: Any upward directed lighting will be directed so as to not be visible above the building roofline.

15. No flickering or flashing lights shall be permitted, except for temporary decorative seasonal lighting.
Applicant's Response: No flickering or flashing lights are proposed.

16. Wireless Sites. Unless required by the Federal Aviation Administration or the Oregon Aeronautics Division, artificial lighting of wireless communication towers and antennas shall be prohibited. Strobe lighting of wireless communication facilities is prohibited unless required by the Federal Aviation Administration. Security lighting for equipment shelters or cabinets and other on-the-ground auxiliary equipment on wireless communication facilities shall be initiated by motion detecting lighting.
Applicant's Response: This section is not applicable.

17. Lighting for outdoor recreational uses such as ball fields, playing fields, tennis courts, and similar uses, provided that such uses comply with the following standards:
i. Maximum permitted light post height: eighty feet.
ii. Maximum permitted illumination at the property line: 0.5 foot-candles.
Applicant's Response: This section is not applicable.

17.62.080 - Special development standards along transit streets.
A. Purpose. This section is intended to provide direct and convenient pedestrian access to retail, office and institutional buildings from public sidewalks and transit facilities and to promote pedestrian and transit travel to commercial and institutional facilities.
Applicant's Response: Proposed project does not front a transit street, therefore this section is not applicable.

17.62.085 - Refuse and recycling standards for commercial, industrial, and multi-family developments.
The purpose and intent of these provisions is to provide an efficient, safe and convenient refuse and recycling enclosure for the public as well as the local collection firm. All new development, change in property use, expansions or exterior alterations to uses other than single-family or duplex residences shall include a refuse and recycling enclosure. The area(s) shall be:
A. Sized appropriately to meet the needs of current and expected tenants, including an expansion area if necessary;
B. Designed with sturdy materials, which are compatible to the primary structure(s);
C. Fully enclosed and visually screened;
D. Located in a manner easily and safely accessible by collection vehicles;
E. Located in a manner so as not to hinder travel lanes, walkways, streets or adjacent properties;
F. On a level, hard surface designed to discharge surface water runoff and avoid ponding;
G. Maintained by the property owner;
H. Used only for purposes of storing solid waste and recyclable materials;

I. Designed in accordance with applicable sections of the Oregon City Municipal Code (including Chapter 8.20—Solid Waste Collection and Disposal) and city adopted policies.

Applicant's Response: Proposed project design allows for appropriately located, sized and screened refuse and recycling enclosures. These proposed enclosures are intended to meet the requirements in this code.

CHAPTER 17.65.60 - DETAILED DEVELOPMENT PLAN

A. Submittal Requirements.

1. A transportation impact study documenting the on- and off-site transportation impacts, as specified in 17.65.050.B.1.h(1). If such an analysis was submitted as part of the General Development Plan process, the scope of the report may be limited to any changes which have occurred during the interim and any information listed below which was not a part of the initial study.

The on-site portion of the analysis shall include the location, dimensions and names of all proposed streets, alleys, other public ways, sidewalks, bike routes and bikeways, pedestrian/bicycle access ways and other pedestrian and bicycle ways, transit streets and facilities, neighborhood activity centers, and easements on and within 250 feet of the boundaries of the site. The map shall identify existing subdivisions and development and un-subdivided or unpartitioned land ownerships adjacent to the proposed development site and show how existing streets, alleys, sidewalks, bike routes, pedestrian/bicycle access ways and utilities within 250 feet may be extended to and/or through the proposed development.

Applicant's Response: See GDP Exhibit G, "Traffic Impact Study".

2. The location within the development and in the adjoining streets of existing and proposed sewers, water mains, culverts, drain pipes, underground electric, cable television and telephone distribution lines, gas lines, and the location of existing aerial electric, telephone and television cable lines, if any, to be relocated within the development.

Applicant's Response: See Existing Topo Survey drawing for existing utilities. See Civil drawings for proposed utilities.

3. A site plan or plans, to scale, containing the required information identified in:

a. Chapter 17.62.040.A.(8), (10), (11), (12), (13), (14), and (15);
b. Chapter 17.62.040.B;
c. Chapter 17.62.040.C;
d. Chapter 17.62.040.D;
e. Chapter 17.62.040.E;
f. Chapter 17.62.040.G;
g. Chapter 17.62.040.H; and
h. Chapter 17.62.040.J

Applicant's Response:

- **16.62.040.A(8) : See "Site Plan", drawing A100 for building information. See Civil drawings for site improvements & utilities.**
- **16.62.040.A(10) : See "Site Plan", drawing A100 for proposed work.**
- **16.62.040.A(11) : See "Site Plan", drawing A100 for locations of required parking.**
- **16.62.040.A(12) : See "Site Plan", drawing A100 for site access points for automobiles, pedestrians, bicycles and transit.**
- **16.62.040.A(13) : See "Site Plan", drawing A100 for on-site pedestrian & bicycle circulation.**
- **16.62.040.A(14) : See "Site Plan", drawing A100.**
- **16.62.040.A(15) : See "Site Plan", drawing A100.**
- **17.62.040.B : See 'Demolition Plan", drawing C102 for trees to be removed. See "Planting Plan", drawing L1.0 for proposed planting.**

4. Any other information the Community Development Director deems necessary to show that the proposed development will comply with all of the applicable Chapter 17 requirements.

Applicant's Response:

B. Approval Criteria. The Community Development Director shall approve an application for detailed development plan approval only upon findings that:

1. All development standards and impact mitigation meet the requirements of the approved General Development Plan, including conditions of approval.

Applicant's Response:

2. Any other applicable zoning regulations that are not addressed in the General Development Plan are met, unless an adjustment to those regulations has been applied for and is approved. The approval standards applicable to adjustments required as part of a master plan are contained in 17.65.070.

Applicant's Response:

3. The detailed development plan conforms with the standards contained in Chapter 17.62, unless adjusted as provided in 17.65.070.

Applicant's Response:

C. Duration of Detailed Development Plan. Unless substantial expenditures have been made to implement the approved detailed development plan, defined as the submittal to the city of engineered plans for approval, a detailed development plan shall expire twenty-four months from the notice of decision date. The date of final approval includes the resolution of all appeals. Upon the receipt from the applicant of a written request and payment of the required fee prior to the expiration dated of the Detailed Development Plan, the Community Development Director may, on a one-time basis, grant a 12-month extension.

Applicant's Response:

CHAPTER 17.65.070 - ADJUSTMENTS TO DEVELOPMENT STANDARDS.

A. Purpose. In order to implement the purpose of the City's master plan process, which is to foster the growth of major institutions and other large-scale development, while identifying and mitigating their impacts on surrounding properties and public infrastructure, an applicant may request one or more adjustments to the applicable development regulations as part of the master planning process. These include, but are not limited to, items such as: dimensional standards of the of the underlying zone, Site Plan and Design Review criteria, residential design standards, and standards for land division approval.

B. Procedure. Requests for adjustments shall be processed concurrently with a General Development Plan. An adjustment request at the detailed development plan review shall cause the detailed development plan to be reviewed as a Type III application.

Applicant's Response: The following adjustments are requested :

1. **17.34.060.D.2 – Maximum building height 45'. Requested adjustment : hotel maximum building height 57 feet as measured from the flood plain elevation, mechanical penthouse 59 feet as measured from the flood plain elevation.**

C. Regulations That May Not be Adjusted. Adjustments are prohibited for the following items:

1. To allow a primary or accessory use that is not allowed by the regulations;

2. To any regulation that contains the word "prohibited";

3. As an exception to a threshold review, such as a Type III review process; and

4. Any exception to allow a use not identified as a permitted or conditional use in the underlying zone.

Applicant's Response: Requested adjustments are not included in the prohibited items listed in this section.

D. Approval Criteria. A request for an adjustment to one or more applicable development regulations under this section shall be approved if the review body finds that the applicant has shown the following criteria to be met.

1. Granting the adjustment will equally or better meet the purpose of the regulation to be modified;

Applicant's Response: The hotel franchise requires a minimum of approximately 100 rooms for this brand. Within the property included in the GDP the southerly portion of the site is the only part that will allow the ground floor to be located above the flood elevation and allow for vehicular

access to the hotel entry. The site is additional constricted by the existing 20' Tri-Cities sewer easement that bisects the property. Numerous development schemes were considered, with three viable plans ultimately presented to neighborhood associations and the Historic Review Board. One scheme was a T shaped plan that would be within the height limit, but require the relocation of the Hackett House. A second scheme was an L shaped plan that would be within the height limit and wrap around the west side of the Hackett House. The preferred scheme is more compact in plan, but requires an additional story and subsequent building height adjustment.

2. If more than one adjustment is being requested, the cumulative effect of the adjustments results in a project that is still consistent with the overall purpose of the zone;
Applicant's Response: The cumulative effect of the requested adjustments results in a project consistent with the overall purpose of the MUD zone. The adjustments enhance security, increase buildability, and promote project feasibility, allowing for a mixed use project appropriate to the MUD zone.

3. City-designated Goal 5 resources are protected to the extent otherwise required by Title 17;
Applicant's Response: The historic Hackett House will remain in its original site location without modification. Development of a hotel serving the needs of visitors to the End of the Oregon Trail Interpretive Center across the street supports an important Oregon City resource. Redevelopment of underutilized property within the MUD zone relieves development pressure on existing open space, while protecting natural resources, conserving scenic and historic areas.

4. Any impacts resulting from the adjustment are mitigated; and
Applicant's Response: The proposed design incorporates a series of roof parapets that step down in height as they near Washington Street, reducing the overall building scale. Horizontal banding and material changes reduce the visual impact of the building height.

5. If in an environmental zone, the proposal has as few significant detrimental environmental impacts on the resource and resource values as is practicable. (Ord. 03-1014, Att. B3 (part), 2003)
Applicant's Response: Property is located within the NROD per City maps. See Exhibit E, "NROD Boundary Verification Report" for background data and information supporting the following requested actions:

1. **Concurrence that no wetlands, waterways, other protected features exist on the subject properties.**
2. **Concurrence that NROD buffers do not project onto the subject properties. In the case of Abernethy Creek, 17th Street constitutes a physical barrier. In the case of the wetland area to the North, the wetland buffers per table 17.49.110 fall about 150FT from the project.**

6. The proposed adjustment is consistent with the Oregon City Comprehensive Plan and ancillary documents.
Applicant's Response: The proposed adjustments allow for a project to be developed that supports Comprehensive Plan goal 2.1 - Efficient Use of Land by promoting infill and redevelopment.

17.65.80 *Amendments to Approved Plans*
Applicant's Response: Proposed project does not include amendments to approved plans.

17.65.090 *Regulations that Apply*
An applicant is entitled to rely on land use regulations in effect on the date its General Development Plan application was initially submitted, pursuant to ORS 227.178(3), as that statute may be amended from time to time. After a General Development Plan is approved, and so long as that General Development Plan is in effect, an applicant is entitled to rely on the land use regulations in effect on the date its General Development Plan application was initially submitted, as provided above, when seeking approval of detailed development plans that implement an approved General Development Plan. At its option, an applicant may request that a detailed

development plan be subject to the land use regulations in effect on the date its detailed development plan is initially submitted.

Applicant's Response: Applicant requests this DDP application be subject to the land use regulations in effect on the date the GDP was initially submitted.

III. EXHIBITS :

EXHIBIT A - DDP Application
EXHIBIT B – Narrative Statement & Description
EXHIBIT C – Taxlot Reports
EXHIBIT D – Pre-App Notes
EXHIBIT E – Archaeological Monitoring Report & Recommendations
EXHIBIT F – Arborist Report
EXHIBIT G – Historic Review Board
EXHIBIT H – Preliminary Water Quality Calculations
EXHIBIT I – DDP Drawings

ARCHITECTURAL
--- Illustrative View - Washington St Entry
--- Illustrative View - Washington St From North
--- Illustrative View - Washington St From South
A100 Site Plan
A201 Lobby Floor Plan
A202 Second Floor Plan
A203 Typical Floor Plan
A300 17th Street Elevation
A301 East Elevation
A302 North Elevation
A303 South Elevation
A304 West Elevation
CIVIL
C102 Demolition Plan
C103 Site Plan (Phase 1)
C201 Santiary Sewer & Waterline Plan
C301 Storm Drain Plan
C401 Grading Plan (Phase 1)
C402 Erosion Control Plan
C403 Retaining Wall Profiles & Details
C404 Tree Removal Plan
C602 Washington Street Street/Storm Plan & Profiles
C603 17th Street Plan & Profiles
LANDSCAPE
L1.0 Planting Plan
ELECTRICAL
E004 Site Photometrics (Southwest)
E005 Site Photometrics (Northeast)
SURVEY
1 Existing Topography
2 Existing Topography

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March 21, 2017

Hackett Hospitality Group LLC
C/O Lloyd Hill, President, Hill Architects
1750 Blankenship Road, Suite 400
West Linn, Oregon 97068

PROJECT: Archaeological Monitoring of the Proposed Abernethy Place Development Geotechnical Explorations in Oregon City, Clackamas County, Oregon

Dear Mr. Hill:

At the request of Hill Architects, and under contract to Hackett Hospitality Group LLC, SWCA Environmental Consultants (SWCA) conducted archaeological monitoring of pre-construction geotechnical exploration boreholes in support of a planned development at 17th Street and Washington Street, in Oregon City, Clackamas County, Oregon (Figure 1). The 4.36-acre Abernethy Place project is located in the SW ¼ of Section 29, Township 2 South, Range 2 East, Willamette Meridian. The geotechnical exploration phase of the project consists of mechanized borehole sampling of the subsurface strata.

The proposed development is located on private land that requires a permit from the U.S. Army Corps of Engineers (USACE) for floodplain development. Presently the project area is used by commercial landscaping and industrial supply businesses, with buildings and associated outbuildings and parking lots. The goals of the archaeological monitoring of geotechnical borings included 1) determining the level of previous urban disturbances; 2) determining the presence/absence of buried, in situ, or out of context archaeological resources; and 3) determining the presence/absence of buried soils having a high potential to contain pre-contact and/or historic archaeological resources. This report describes the methods, results, and recommendations of the archaeological monitoring by SWCA, for Hill Architects. The goal of this report is to provide an initial permitting tool for the USACE to use for project permitting, review, and determination of effects the project may have on cultural resources. All field notes, data, and photographs are on file at the Portland office of SWCA under Project Number 42594.

FIELD METHODS

From March 8 to March 10, 2017, SWCA geoarchaeologist Matthew Steinkamp, M.S., Registered Professional Archaeologist, conducted archaeological monitoring of pre-construction geotechnical drill borings for the proposed development project. SWCA field monitored the drilling, sampling, and sediment characterization of mechanized (power) drill core, 3.75-cm-diameter (1.5-inch-diameter), discontinuous split spoon samples obtained by a Central Mine Equipment (CME) 75 drill rig owned and operated by Hardcore Drilling Inc. (Figure 2). The samples were concurrently logged by GeoDesign Inc. geologists and the SWCA geoarchaeologist (Figure 3). The split spoon samplers were mechanically hammer-driven into the soils using a 63.5-kg (140-lb) slide hammer dropping 75 cm (30 inches), prior to mechanized cable retrieval.

Following retrieval of the split spoon samples, the samplers were opened, inspected by the SWCA geoarchaeologist for macro content (artifacts, wood, gravel, etc.), then photographed, described (logged), and then trowel-sorted for micro content (fine artifacts, plant remains, organics, shell, bone, charcoal, inclusions, etc.). Geoarchaeological logging of samples consisted of describing Munsell soil color; structure; consistence (rupture resistance, stickiness, plasticity); grain size (feel and 10x hand lens inspection); presence of redoximorphic features, such as oxidation and reduction mottles, or Liesegang bands (indicative of water table fluctuations and oxygen availability, iron content, gleying, etc.); presence/absence of archaeological materials or paleosols (intact buried soil horizons/sola); and depth of modern fill (Figure 4). Following geoarchaeological logging, the sediments were logged and sampled by GeoDesign for engineering laboratory analysis. SWCA monitored according to Oregon State Historic Preservation Office (SHPO) guidelines for conducting archaeological monitoring in Oregon.

RESULTS

A total of eight drill core locations (Figure 2; Table 1) were monitored and logged for the presence, absence, or indirect evidence of cultural resources. Cultural resource monitoring of CME drill core samples resulted in negative findings for cultural resources. However, the presence of intact, buried soil horizons that have a high potential to contain archaeological resources was recorded. The results indicate that buried, intact floodplain soils are overlain by approximately 2.3 to 2.6 m (7.5–8.5 feet) of fill within the higher (southwest) portion of the project area, approximately 0.8 to 1.1 m (2.5–3.5 feet) of fill within the central and northeast portion of the project area, and approximately 2.3 m (7.5 feet) of fill in the northwest corner of the project area. The fill sediments are a mélange of local soils and sediments, as well as imported soils and sediments of various grain size, and wood fragments.

Within the higher elevation (southwest) portion of the project area, borings B1, B2, and B8 were conducted (Figure 2; Table 1). The deep borings indicate that approximately 2.3 to 2.6 m (7.5–8.5 feet) of fill (Stratum I) has been placed over native soils. The fill consists of asphalt and gravel paving and baserock (Stratum Ia), and a patchy, variable mélange of imported clay to sand and gravel size sediments and soils (A and B horizons), as well as minor wood fragments (Stratum Ib).

The underlying native soils (intact soils) (Stratum II) consist of a 10YR 3/3 dark brown fine sandy loam ACb Horizon (buried AC Horizon) that are locally mapped as Newberg fine sandy loam (Natural Resources Conservation Service 2017). The soils grade into stratified silty sand and sandy silt alluvium (Stratum III) of 10YR 6/3 with minor redoximorphic features (iron/manganese reduction and oxidation) due to ground water fluctuations. Rounded to angular channel lag gravels (Stratum IV) of basalt with minor quartzites underlie the stratified alluvium and were encountered between 13.4 and 17.1 m (44 and 56 feet) below ground surface. The gravels may represent the paleo Abernethy Creek channel (thalweg) deposits, or Missoula glaciofluvial deposits. The borings were terminated within the gravels. Strata breaks are estimated due to discontinuous sampling.

Within the lower elevation (central and northeast) portion of the project area, deep borings B3 and B4, and shallow borings B5 to B7 were placed (Figure 2; Table 1). The borings indicate a more consistent 0.8- to 1.1-m-deep (2.5- to 3.5-foot-deep) fill (Stratum I) deposit over native soils (Stratum II), though B7 in the northwest corner of the project indicated a 7.5-foot-thick fill deposit and soil absence. The fill deposits of B3 through B6 consists of crushed angular construction gravels (baserock for asphalt pavement), and minor pit-run cobbles and gravels up to 6 inches in diameter, that overlie native soils. The fill recorded in B7 consists of a mélange of multicolored sand, silt, clay and wood fragments that overlies stratified fluvial sediments. No native soils were recorded in B7.

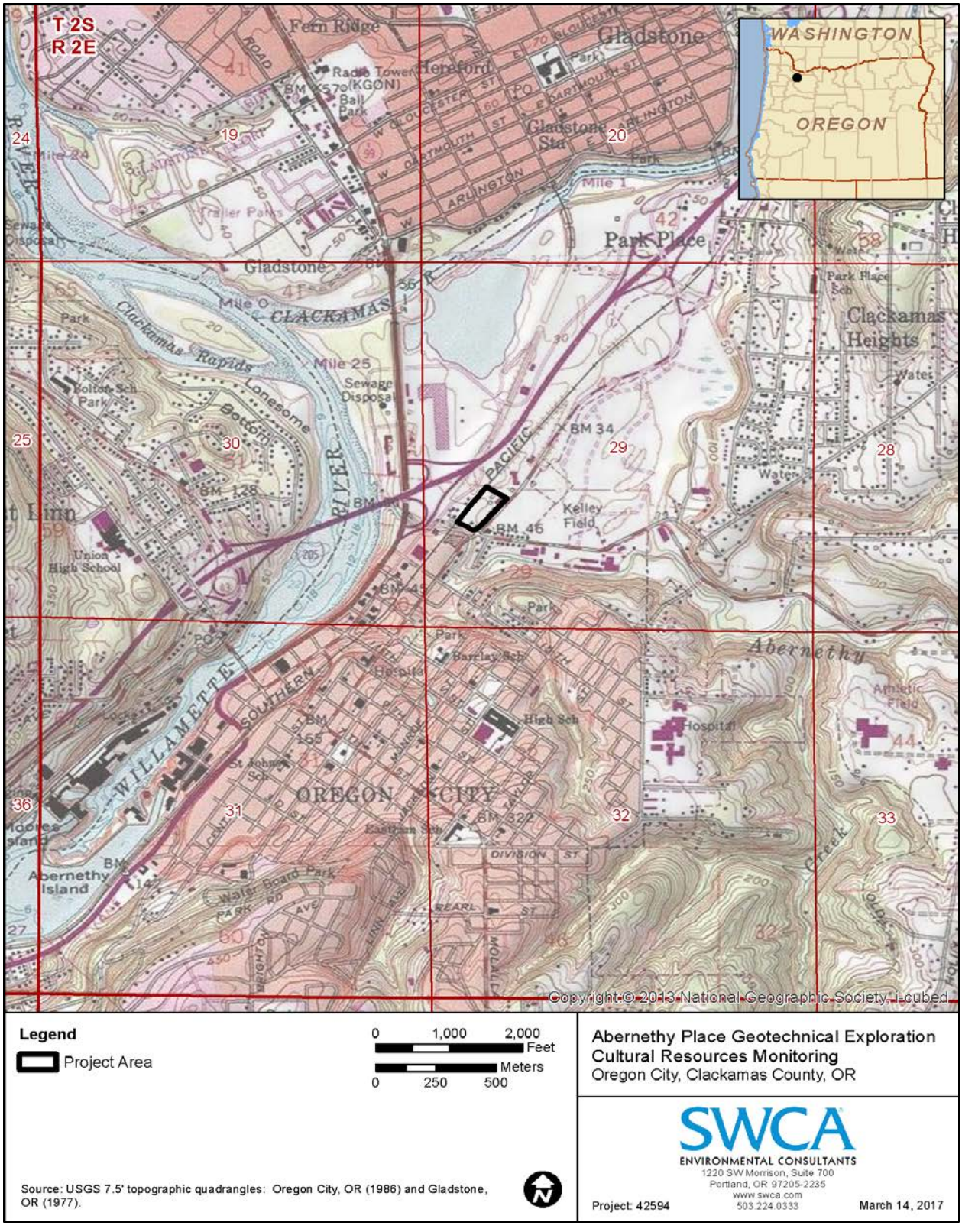
CONCLUSIONS AND RECOMMENDATIONS

SWCA monitored pre-construction geotechnical exploration borings of sediments and soils at the proposed Abernethy Place development in Oregon City, Oregon, from March 8 to March 10, 2017. No pre-contact or historic-period cultural material was discovered during monitoring. However, buried, intact native topsoils were recorded throughout the project area. The native topsoils are underlain by a thick sequence of stratified fluvial silty sand to sandy silts likely associated with Willamette River overflow (flood) events. Also, buildings and associated features of possible historic age (older than 50 years old), were observed within the project area. Given this, the project has the potential to have an adverse effect on aboveground historic resources, and buried pre-contact and historic archaeological deposits.

Based on the results of the monitoring, it is SWCA's professional opinion that the proposed development may have an adverse effect on cultural resources. The presence of intact, buried topsoils on a fluvial terrace indicates a high probability for the presence of in situ, buried, pre-contact and historic archaeological resources. Further, the presence of possible historic-age aboveground structures indicates that a historic resources inventory should be conducted to assess the potential for the project to impact historic structures, features, and sites. Given this, SWCA recommends that a historic resources inventory be completed prior to the ground-disturbing activities of the project, followed by archaeological monitoring of all proposed ground disturbing construction activities associated with the project. Finally, an inadvertent discovery plan (IDP) should be written prior to construction to provide instructions for dealing with inadvertent archaeological discoveries encountered during construction and monitoring.

REFERENCES

Natural Resources Conservation Service
2017 Web Soil Survey. Available at: http://www.websoilsurvey.nrcs.usda.gov. Accessed March 7, 2017.



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Figure 1. Abernethy Place location map. (Provided by Hill Architects, Inc.)



Figure 2. Abernethy Place geotechnical borings locations map. (Provided by Hill Architects, Inc.)



Figure 3. Hardcore Drilling CME 75 drill rig and crew at boring B4 (left). GeoDesign Inc and SWCA logging core samples (right). View northwest.



Figure 4. Boring B1. Opened 1.5-inch-diameter split spoon sample showing Stratum I and Stratum II interface (Fill/ACb horizon interface), at 2.4 m (8 feet) below ground surface. Interface roughly at hammer head, with fill (right/upcore) and ACb (left/downcore).

Table 1. Archaeological Monitoring Boring Log

Boring No. Date Results	**Boring Log: Strata (I, II, III, IV) with Sediment and Soil Descriptions**	**N/W Lat./Long.** UTM 10T NAD83 Coordinates
B1 3/8/17 Negative	**I**: 0-0.8 m (0-2.5 feet); Fill-gray angular basalt gravel baserock overlain by asphalt parking lot. **Ib:** 0.8-2.4 m (2.5-8 feet); Local Fill-greenish gray sandy silt with small wood fragments, oxidized, reduced, soft, mixed, mottled. **II**: 2.4-3.5 m (8-11.5 feet); ACb Horizon (buried AC Horizon), 10YR 3/3-4/2 fine sandy loam with fine roots and minor charcoal fragments. Buried native soils. **III/IV**: 3.5-16.6 m (11.5-54.5 feet); C Horizon-stratified alluvium consisting of alternating silty fine sand and sandy silt, with lenses of clay, channel lag gravels and sand from 44-54.5 feet (paleo Abernethy Creek channel?) Minor charcoal 11.5-15 feet	**N 45.364498,** **W -122.596630** E 531589.51 N 5023521.93
B2 3/8/17 Negative	**I:** 0-1.2 m (0-4 feet); Imported Fill-10YR 3/2,3/3, 4/6, 3/1 soil and sediment fill imported from West Linn (owner). **Ib:** 1.2-2.3 m (4-7.5 feet); Local Fill-greenish gray sandy silt with angular gravels. Low sample recovery in split spoon. **II:**2.3-3.5 m (7.5-11.5 feet); ACb Horizon (buried AC Horizon), 10YR 3/3-4/2 fine sandy loam with fine roots and minor charcoal fragments. Buried native soils. **III/IV**:3.5-16.5 m (11.5-54.5 feet); C Horizon-stratified alluvium consisting of alternating silty fine sand and sandy silt, with lenses of clay, channel lag gravels and sand from 52.5-56.5 feet (paleo Abernethy Creek channel?) Minor charcoal 11.5-15 feet	**N 45.364722,** **W -122.597368** E 531531.59 N 5023546.53
B3 3/9/17 Negative	**I:** 0-1.1 m (0-3.5 feet); Imported Fill-asphalt parking lot and baserock gravel 0-1.5 feet, oxidized, reduced local fill 1.5-3.5 feet. **II:** 1.1-1.5 m (3.5-5 feet); ACb Horizon (buried AC Horizon), 10YR 3/3-4/2 fine sandy loam with fine roots and minor charcoal fragments. Buried native soils. **III/IV:** 1.5-12.8 m (5-42 feet); C Horizon-stratified alluvium consisting of alternating silty fine sand and sandy silt, with lenses of clay, channel lag gravels and sand from 34.5-42 feet (paleo Abernethy Creek channel?) Minor charcoal 11.5-15 feet	**N 45.365467,** **W -122.595360** E 531688.42 N 5023630.08
B4 3/10/17 Negative	**I:** 0-0.8 m (0-2.5 feet); Imported Fill-asphalt parking lot and baserock gravel 0-1.5 feet, oxidized, reduced local fill 1.5-2.5 feet. **II:** 0.8-1.5 m (2.5-5 feet); ACb Horizon (buried AC Horizon), 10YR 3/3-4/2 fine sandy loam with fine roots and minor charcoal fragments. Buried native soils. **III/IV:** 1.5-15.7 m (5-51.5 feet); C Horizon-stratified alluvium consisting of alternating silty fine sand and sandy silt, with lenses of clay, channel lag gravels and sand from 40-51.5 feet (paleo Abernethy Creek channel?) Minor charcoal 11.5-16.5 feet	**N 45.364498,** **W -122.596575** E 531593.81 N 5023521.95
B5 3/10/17 Negative	**I:** 0-0.8 m (0-2.5 feet); Imported Fill-asphalt parking lot and baserock gravel 0-1.5 feet, oxidized, reduced local fill 1.5-2.5 feet **II:** 0.8-1.5 m (2.5-5 feet); ACb Horizon (buried AC Horizon), 10YR 3/3-4/2 fine sandy loam with fine roots and minor charcoal fragments. Buried native soils. **III:** 1.5-3.5 m (5-11.5 feet); C Horizon-stratified alluvium consisting of alternating silty fine sand and sandy silt. 10YR 5/3-6/3	**N 45.365286,** **W -122.596407** E 531606.53 N 5023609.56
B6 3/10/17 Negative	**I:** 0-0.8 m (0-2.5 feet); Imported Fill-asphalt parking lot over coarse rounded gravel (pit run) up to cobble size, fill **II:** 0.8-1.2 m (2.5-4 feet); ACb Horizon (buried AC Horizon), gleyed (due to parking lot seal) fine sandy loam with fine roots and minor charcoal fragments. Buried native soils. **III:** 1.2-3.5 m (4-11.5 feet); C Horizon-stratified alluvium consisting of alternating silty fine sand and sandy silt with minor laminations 7.5-9 feet indicating standing water, likely at inboard portion of floodplain.	**N 45.365199,** **W -122.596934** E 531565.31 N 5023599.69
B7 3/10/17 Negative	**I:** 0-2.3 m (0-7.5 feet); Imported Fill-asphalt parking lot and baserock gravel 0-1.5 feet, mélange of oxidized and reduced local fill of sand, silts, clays, wood fragments from 1.5-7.5 feet. Native soils not recorded at this location (No Stratum II). **III:** 2.3-3.5 m (7.5-11.5 feet); C Horizon-stratified alluvium consisting of alternating silty fine sand and sandy silt and fine sand lenses suggesting individual flood pulses. 10YR 5/3-6/3	**N 45.365668,** **W -122.596428** E 531604.67 N 5023651.99
B8 3/10/17 Negative	**I:** 0-2.6 m (0-8.5 feet); Imported Fill-loose mélange of soils and sediments, likely associated with recent adjacent sewer line placement with deep trench. **II:** 2.6-3.2 m (8.5-10.5 feet); ACb Horizon (buried AC Horizon), 10YR 3/3-4/2 fine sandy loam with fine roots and minor charcoal fragments. Buried native soils. **III:** 10.5-12 feet; C Horizon-stratified alluvium consisting of alternating silty fine sand and sandy silt, 10YR 5/3-6/3	**N 45.364799,** **W -122.597101** E 531552.45 N 5023555.19

Tree Plan for Abernethy Place, Oregon City

This Tree Plan pertains to the development at Abernethy Place, Oregon City. There are forty-one trees that are 6-inches DBH or larger at the site, and twenty-five will be removed. No trees designated for removal shall be removed without prior written approval from the community development director. Trees have been inventoried, numbered on the site plan and listed in the attached Tree Table.

One of the trees to be removed does not require mitigation planting because it is diseased (Section 17.04.1360). The others will be removed from outside the construction area. Section 17.04.230 defines construction area as right-of-way, public utility easements, and within the building footprint of a building site for any mixed-use, commercial or industrial development.

City Code requires that 168 mitigation trees be planted to mitigate the tree removals. The exact species and locations will be determined by the landscape designer, and planting will be done when other construction is finished. It is apparent that that there is insufficient space to plant 168 trees on the development site and I recommend a conference with the community development director to choose one or more off-site planting locations (Chapter 147.41.070). All replacement trees will be either 2-inch caliper deciduous trees or 6-foot high conifers as required by Table 17.41.060-1. All mitigation trees will have installed irrigation, be planted by a licensed landscape company, and guaranteed for a minimum of one year.

Trees being retained will be protected according to the standards of 17.04.1335, which preserves the critical root zone. The critical root zone is broadly defined as the rooting area of a tree, which if injured or otherwise disturbed is likely to affect a tree's chance for survival. The following protective measures will be implemented before construction begins and remain active until all construction activity is completed. Construction includes clearing, grading, excavation, demolition, landscaping and irrigation installation. Tree protection procedures are reproduced below from the City Code.

For item 17.41.103.B.2. we will initially use the RPZs (Root Protection Zones) listed in the Tree Table. RPZs are radii around the tree measured in feet. Exact fence locations may be modified in the field based on root habit and other site factors. The modifications can allow construction to take place while still providing an adequate root protection zone for protected trees. It is also possible that one or more trees designated as protected will be removed due to planning conflicts. In such a case the mitigation table will be revised. The following salient information is copied from City Code.

17.41.130 Regulated tree protection procedures during construction.

A. No permit for any grading or construction of public or private improvements may be released prior to verification by the community development director that regulated trees designated for protection or conservation have been protected according to the following standards. No trees designated for removal shall be removed without prior written approval from the community development director.

B. Tree protection shall be as recommended by a qualified arborist or, as a minimum, to include the following protective measures:

1. Except as otherwise determined by the community development director, all required tree protection measures set forth in this section shall be instituted prior to any development activities, including, but not limited to clearing, grading, excavation or demolition work, and such measures shall be removed only after completion of all construction activity, including necessary landscaping and irrigation installation, and any required plat, tract, conservation easement or restrictive covenant has been recorded.

2. Approved construction fencing, a minimum of four feet tall with steel posts placed no farther than ten feet apart, shall be installed at the edge of the tree protection zone or dripline, whichever is greater. An alternative may be used with the approval of the community development director.

3. Approved signs shall be attached to the fencing stating that inside the fencing is a tree protection zone, not to be disturbed unless prior approval has been obtained from the community development director.

4. No construction activity shall occur within the tree protection zone, including, but not limited to; dumping or storage of materials such as building supplies, soil, waste items; nor passage or parking of vehicles or equipment.

5. The tree protection zone shall remain free of chemically injurious materials and liquids such as paints, thinners, cleaning solutions, petroleum products, and concrete or dry wall excess, construction debris, or run-off.

6. No excavation, trenching, grading, root pruning or other activity shall occur within the tree protection zone unless directed by an arborist present on site and approved by the community development director.

7. No machinery repair or cleaning shall be performed within ten feet of the dripline of any trees identified for protection.

8. Digging a trench for placement of public or private utilities or other structure within the critical root zone of a tree to be protected is prohibited. Boring under or through the tree protection zone may be permitted if approved by the community development director and pursuant to the approved written recommendations and on-site guidance and supervision of a certified arborist.

9. The city may require that a certified arborist be present during any construction or grading activities that may affect the dripline of trees to be protected.

10. The community development director may impose conditions to avoid disturbance to tree roots from grading activities and to protect trees and other significant vegetation identified for retention from harm. Such conditions may include, if necessary, the advisory expertise of a qualified consulting arborist

or horticulturist both during and after site preparation, and a special maintenance/management program to provide protection to the resource as recommended by the arborist or horticulturist.

The goal of this tree plan is to meet the minimum requirements of the tree preservation code and to observe all laws, rules, and regulations. I recommend a preconstruction meeting with the owner, contractors, and the project arborist. All trees to be removed should be verified and marked and all tree protection measures should be inspected and approved before any clearing or grading work begins. It is the owner's responsibility to implement this tree removal and preservation plan fully, and to monitor the construction process to its conclusion. Deviations can result in tree damage, liability, and violations of the City Code.

Tag	Species	DBH	radius	Remarks	Action	RPZ	Location	Mitigation
1	Spanish chestnut	48	26	viable; re-grown tops at 50'	preserve	26	1	0
2	tree of heaven	10	12	invasive	cut	0	1	3
3	juniper sp.	8	8	viable	cut	0	1	3
4	juniper sp.	6	8	viable	cut	0	1	3
5	juniper sp.	7	8	viable	cut	0	1	3
6	juniper sp.	9	8	viable	cut	0	1	3
7	tree of heaven	7	6	invasive; added	cut	0	1	3
8	red maple	21	20	viable; needs pruning	cut	0	1	9
9	red maple	21	20	viable; needs pruning	cut	0	1	9
10	red maple	20	17	viable; needs pruning	cut	0	1	9
11	apple	24	16	topped; re-grown tops; stem decay; size estimated	cut	0	1	0
12	Hinoki cypress	6	6	viable	preserve	6	1	3
13	deodar cedar	37	26	viable; trunk swoop; multiple tops- 14-29	preserve	26	1	0
14	deodar cedar	39	28	viable; co-dominant; multiple tops- 22-28	preserve	28	1	0
15	black cottonwood	36	30	viable	cut	0	1	15
16	black cottonwood	27	26	viable	cut	0	1	12
17	black cottonwood	28	28	viable; two broken leaders	cut	0	1	12
18	black cottonwood	11	14	viable	cut	0	1	3
19	black cottonwood	23	18	viable; ivy	cut	0	1	9
20	black cottonwood	14	10	viable; co-dominant at 3'	cut	0	1	6
21	black cottonwood	12	8	viable	cut	0	1	3
22	black cottonwood	33	33	viable	cut	0	1	15
23	black cottonwood	15	15	viable	cut	0	1	6

24	black cottonwood	10	10	viable; trunk rubs on T23	cut	0	1	3
25	black cottonwood	19	18	viable; leans to south	cut	0	1	9
26	black cottonwood	35	18	viable; multiple stems from base-8-12-14-18	cut	0	1	15
27	red oak	17	14	viable	preserve	14	1	0
28	red oak	15	16	viable	preserve	16	1	0
29	red oak	13	16	viable	preserve	16	1	0
30	western red cedar	10	8	trunk decay; wood borers	preserve	8	1	0
31	western red cedar	12	8	viable	preserve	8	1	0
32	western red cedar	9	8	viable	preserve	8	1	0
33	white birch	8	12	viable; sapsuckers	cut	0	1	3
34	black cottonwood	18	10	viable; co-dominant at 1'	cut	0	1	6
35	black locust	32	26	size estimated due to access; nuisance	preserve	26	1	0
36	black cottonwood	30	24	viable; size estimated due to access; ivy	preserve	24	1	0
37	black cottonwood	26	28	top is dead; size estimated due to access	preserve	28	1	0
38	black locust	46	36	size estimated; 3 co-dominant stems at 4'; ivy; invasive	preserve	36	1	0
39	black cottonwood	21	30	broken top; suppressed; size estimated due to access	preserve	3 0	1	0
40	black cottonwood	49	42	viable; dead branches; size estimated due to access	preserve	42	1	0
41	Hinoki cypress	10	8	viable; multiple tops; lost graft	cut	0	1	3
total								168

DBH is diameter at breast height. Radius is crown radius. RPZ is Root Protection Zone, a radius measured in feet from tree trunk.

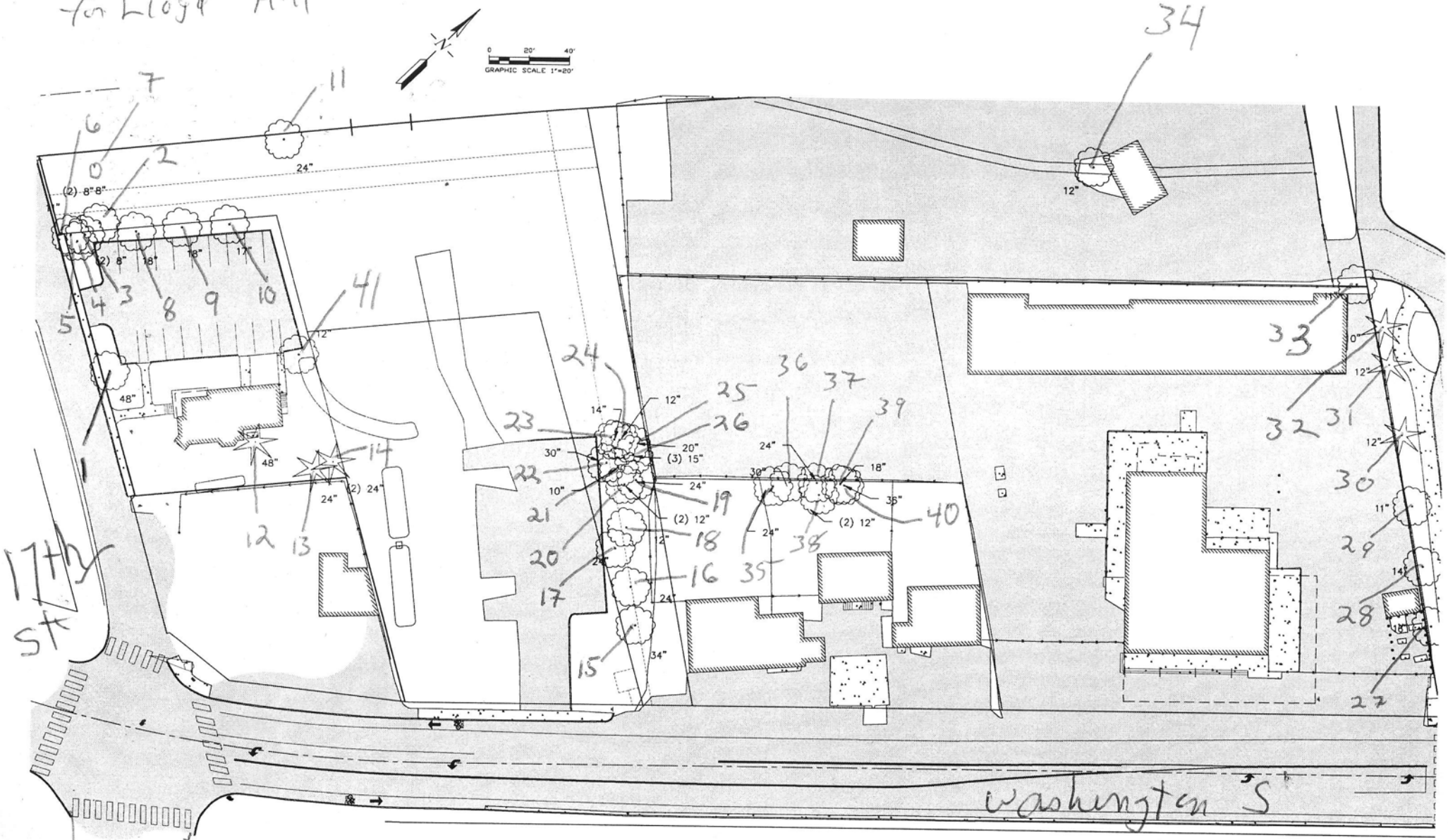
For Location, "1" designates removal outside construction area and "2" designates removal within construction area.

17.04.230 - Construction area is defined as right-of-way, public utility easements, and within the building footprint of a building site for any mixed-use, commercial or industrial development

Species

apple- Malus sp.
black cottonwood- Populus trichocarpa
black locust- Robinia pseudoacacia
deodar cedar- Cedrus deodara
Hinoki cypress- Chamaecyparis obtusa
juniper- Juniperus sp.
red maple- Acer rubrum
red oak- Quercus rubra
Spanish chestnut- Castanea sativa
tree of heaven- Ailanthus altissima
western red cedar- Thuja plicata
white birch- Betula pendula

Abernethy Place Ore. City Tree = 6" dbh
for Lloyd Hill



Assumptions and Limiting Conditions

Multnomah Tree Experts, Ltd. PO Box 80098, Portland, OR 97280
(503) 452-8160 info@multnomahtree.com

1. Client warrants any legal description provided to the Consultant is correct and titles and ownerships to property are good and marketable. Consultant shall not be responsible for incorrect information provided by Client. Client agrees to defend, indemnify, and hold Consultant, its officers, directors, employees, and agents harmless from any claims or damages, including attorney fees, arising out of acts or omissions of Client in connection with work performed pursuant to this Agreement.
2. All data will be verified insofar as feasible; however, the Consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
3. The Consultant shall not be required to give testimony or attend court or hearings by reason of this report unless subsequent contractual arrangements are made, including additional fees.
4. The report and any values expressed therein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
5. Sketches, drawings and photographs in the report are intended as visual aids and may not be to scale. The reproduction of information generated by others will be for coordination and ease of reference. Inclusion of such information does not constitute a representation by the consulting arborist, or by Multnomah Tree Experts, Ltd., as to the sufficiency or accuracy of the information.
6. Unless expressed otherwise, information in the report covers only items that were examined, and reflects the condition of those items at the time of inspection. The inspection is limited to visual examination of accessible items without laboratory analysis, dissection, excavation, probing, or coring, unless otherwise stated.
7. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in the future.
8. The report is the completed work product. Any additional work, including production of a site plan, addenda and revisions, construction of tree protection measures, tree work, or inspection of tree protection measures, for example, must be contracted separately.
9. Loss or alteration of any part of the report invalidates the entire report. Ownership of any documents produced passes to the Client only when all fees have been paid.

Peter Torres, M.F.

CCB# 154349 ASCA RCA #372 ISA Certified Arborist PN-0650B

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

TYPE III –HISTORIC REVIEW BOARD SUBMITTAL
15 March 2017

APPLICANT: **Name** **Hill Architects**
Address **1750 Blankenship Road, Suite 400, West Linn, OR 97068**

OWNER : **Name** **Hackett Hospitality Group LLC**
1419 W. Main St., Suite 100, Battleground, WA

Address
REQUEST: **Description of project**
Hackett House Landscape Renovation

LOCATION: **Address**
415 17th St., Oregon City, Oregon
Map and tax lot number
25-2E-29CA Tax Lot 1301

BACKGROUND:

Hackett house is an historic house built in 1893, and on the National Register of Historic Places for Clackamas County.

1. **Existing Conditions**
   a. ***House and grounds were restored in 1984-85.***

2. **Project Description**
   Project is to landscape the grounds to provide a natural background and screen a proposed hotel on the property to the Northeast, and to repair and renovate the existing parking lot to provide access to the future hotel to the Northwest.
3. **Basic Facts**
   a. ***The Hackett House is an historic artifact that provides a connection to Oregon City's past.***

4. **Proposed Areas**
   a. ***See attached Site Plan.***

5. **Drawings and Site Plan**
   a. ***See attached Survey, Site Plan, Elevation with house, landscaping, and proposed future development.***

6. **Building Elevations, Materials and Designs**

BASIC FACTS:

Site and Context

Response: ***The existing historic house will not be touched. Landscape material will be an indigenous plant palette, with indigenous coniferous trees (e.g. spruce & cedar) used to provide year-round landscape structure and screening of the future planned development to the northwest (see Narrative below). The new landscaping will provide a natural background to the historic house and create continuity with the larger community.***

Narrative of Future Development on Property to the Northeast – Abernethy Place Master Plan – A master plan for the area shows the proposed future hotel will become part of the context of the Hackett House, with the house providing an historic foreground and it's landscaping providing a natural backdrop to screen the future hotel. Several hotel development alternatives were studied. One was a 4 story option that wrapped around the Hackett House, another option involved moving the Hackett House to Washington Street, and then a 5 story option allowing the Hackett House to remain in its original and historic location. The hotel would consist of 99 rooms behind the Hackett House, with a natural landscaping screen, which received compliments by the Historic Review Board.

ANALYSIS AND FINDINGS: The applicant needs to meet OCMC 17.40.010 and the Adopted Design Guidelines for Addition and Alterations.

Regarding Criterion (1) - The purpose of the historic conservation district as set forth in Section 17.40.010;

A. Effect and accomplish the protection, enhancement and perpetuation of such improvements and of districts which represent or reflect elements of the city's cultural, social, economic, political and architectural history;
B. Safeguard the city's historic, aesthetic and cultural heritage as embodied and reflected in such improvements and districts;
C. Complement any National Register Historic districts designated in the city;
D. Stabilize and improve property values in such districts;
E. Foster civic pride in the beauty and noble accomplishments of the past;
F. Protect and enhance the city's attractions to tourists and visitors and the support and stimulus to business and industry thereby provided;
G. Strengthen the economy of the city;
H. Promote the use of historic districts and landmarks for the education, pleasure, energy conservation, housing and public welfare of the city; and
I. Carry out the provisions of LCDC Goal 5.

Response: ***The new landscaping and parking revision will provide visual and functional improvement to the historic asset, the greater community, and to the future, adjacent development.***

Regarding Criterion (2) -The provisions of the city comprehensive plan;

Section 5
Open Spaces, Scenic and Historic Areas, and Natural Resources

Policy 5.3.8
Preserve and accentuate historic resources as part of an urban environment that is being reshaped by new development projects.

Response: ***By improving the look and function of the Hackett house, the future development of the area will be a more desirable destination and community experience.***

Regarding Criterion (3) -The economic effect of the new proposed structure on the historic value of the district or historic site.

Response: ***Not Applicable.***

Regarding Criterion (4) The effect of the proposed new structure on the historic value of the district or historic site;

Response: ***Not Applicable.***

Regarding Criterion (5) - Design Compatibility: The general compatibility of exterior design, arrangement, proportion, detail, scale, color, texture and materials proposed to be used with the historic site;

Response: ***The landscaping will be at a scale that provides a backdrop to the Hackett house, the design will complement the period and indigenous plant material of the area.***

Regarding Criteria (6) -Economic, social, environmental and energy consequences

Response: ***By improving the look and function of the Hackett house, the future development of the area will be a more desirable destination and community experience.***

Design Guidelines: Alterations – Additions

A. Site

1. In addition to the zoning requirements, the relationship of new additions to the street and to the open space between buildings shall be compatible with adjacent historic buildings and with the historic character of the District.

Response: ***The new landscaping will compliment and the visual effect of the Hackett house's massing.***

2. New additions shall be sited so that the impact to the primary facade(s) is kept to a minimum. Additions shall generally be located at the rear portions of the property or in such locations where they have the least visual impact from public ways.

Response: ***Not Applicable.***

B. Landscape

1. Traditional landscape elements evident in the District (grass, trees, shrubs, picket fences, etc.) should be preserved, and are encouraged in site redevelopment.

Response: ***The new landscaping will be primarily along the back of the property. Any historic plant material will be preserved and a period look and palette will be maintained.***

2. Inappropriate landscape treatments such as berms and extensive ground cover are discouraged.

Response:

C. Building Height

1. In addition to the zoning requirements, the height of new additions shall not exceed the height of the historic building, or of historic buildings in the surrounding area.

Response: ***Not Applicable.***

D. Building Bulk

1. New additions smaller than the historic building or the historic buildings in the surrounding area are encouraged.

a. Where new additions must be larger, the new addition shall be articulated in such a manner that no single element is visually larger than the historic building or surrounding historic buildings.

Response: ***Not Applicable.***

E. Proportion and Scale

1. The relationship of height to width of new additions and their sub-elements such as windows and doors and of alterations shall be compatible with related elements of the historic building, and with the historic character of the District.

Response: ***Not Applicable.***

2. The relationship of solids to voids (wall to window) shall be compatible with related elements on the historic building, and with the historic character of the District.

Response: ***Not Applicable.***

F. Exterior Features

1. General

a. To the extent practicable, original historic architectural elements and materials shall be preserved.

b. Architectural elements and materials for new additions shall be compatible with related elements of the historic building and with the historic character of the District.

c. The preservation, cleaning, repair and other treatment of original materials shall be in accord with the Secretary of Interior's Standards of Rehabilitation and Guidelines for Rehabilitating Historic Buildings.

Response: ***Not Applicable.***

<u>Secretary of Interior's Standards for Rehabilitation.</u>

In 2001, the Historic Review Board adopted the Secretary of Interior's Standards for Rehabilitation as part of their Guidelines for Alterations and Additions.

1. **A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.**

   Response: ***The new landscaping and revision to the parking area will have no change to the use or purpose of the Hackett house.***

2. **The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.**

   Response: ***Landscape material that is deemed of a historic value will be preserved***.

3. **Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.**

   Response: ***The proposed, indigenous landscaping backdrop, will give a natural look.***

4. **Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.**

   Response: ***Not Applicable.***

   Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.

   Response: ***Not Applicable.***

5. **Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.**

   Finding: ***Not Applicable.***

6. **Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.**

   Finding: ***Not Applicable.***

7. **Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.**

   Finding: Archaeological monitoring was recently performed during soil borings of the future development to the north. A report will be pending.

8. **New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.**

   Finding: ***Not Applicable.***

9. **New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.**

   Finding: ***Not Applicable as new construction on the adjacent property will be permanent.***

EXHIBITS ***Existing survey, proposed site plan with anticipated development of adjacent property.***

OREGON INVENTORY OF HISTORIC PROPERTIES
HISTORIC RESOURCE INVENTORY FORM

HISTORIC NAME: Erwin Charles Hackett House
COMMON NAME:
ADDRESS: 415 - 17th Street
OWNER: Daniel and Patricia Fowler, Mark and Tricia Foley, 1103 Washington Street, Oregon City
T/R/S: 2-2E-29CA TAX LOT: 1301
ADDITION:
LOT: BLOCK: QUAD: Oregon City

DATE OF CONSTRUCTION: 1893
ORIGINAL USE: Residence
PRESENT USE: Offices
ARCH./BLDR.: Unknown
STYLE: Queen Anne
BLDG. STRUC. DIST. SITE OBJ. (CIRCLE)
THEME: Architecture, 19th Century; Local Politics

PLAN TYPE/SHAPE: Rectangular
FOUNDATION MATERIAL: Concrete block
ROOF FORM & MATERIALS: Moderately-pitched gable roof. Steeply-pitched hip tower roof.
WALL CONSTRUCTION: Wood
PRIMARY WINDOW TYPE: Narrow one-over-one double-hung windows. Some w/ dec. molding.
SURFACING MATERIALS: Shiplap siding. Imbricated shingles in gable end.
DECORATIVE FEATURES: Tower has bracketed eaves, a keyhole opening w/ decorative newel
OTHER: posts and turned balustrade. Decorative rectangular panels in spandrels. Cresting.

NO. OF STORIES: 2
BASEMENT (Y/N): Yes
STRUCTURAL FRAME: Stud

CONDITION: EXCELLENT X GOOD FAIR DETERIORATED MOVED (date)
EXTERIOR ALTERATIONS/ADDITIONS (dated): Back porch is an addition, n.d. House restored in 1984-85.
NOTEWORTHY LANDSCAPE FEATURES: None.
ASSOCIATED STRUCTURES: None.
KNOWN ARCHAEOLOGICAL FEATURES: None.
GEOGRAPHIC SETTING: Occupies an "L"-shaped large lot that fronts on both 17th Street and wraps around to front on Washington Street extension. An area of mostly commercial/industrial uses, including electrical substation, sawmill, radiator shops and garage/auto uses. Near railroad tracks. Only three other residences in the immediate area.
STATEMENT OF SIGNIFICANCE: (Historical and/or architectural importance, dates, events, persons, contexts): Erwin C. Hackett was the son of early Oregon pioneers, and who became an individual of local political prominence, serving as chief deputy of Clackamas County Sheriff's Office in 1915, and as mayor of Oregon City between 1916 and 1919; he later served as Clackamas County Recorder. The house was built by Indiana-born George Gray and his wife Dora (Smith) on land they purchased in 1893. Gray was a local teacher. The house was sold in 1908, and purchased by Erwin C. Hackett. The house is significant for its association with Erwin Hackett, a prominent local citizen and politician, and for its unusual tower.
SOURCES: Galbraith, Catherine: "Erwin Charles Hackett House", National Register of Historic Places Inventory - Nomination Form, 1984.

NEGATIVE NO: Roll H, #21, 22
SLIDE NO:

RECORDED BY: Patricia Erigero
DATE: 1984

SHPO INVENTORY NO.:

OREGON INVENTORY OF HISTORIC PROPERTIES
HISTORIC RESOURCE INVENTORY FORM - TWO

NAME: Erwin Charles Hackett House T/R/S: * TAX LOT *

ADDRESS: 415 - 17th Street QUADRANGLE: Oregon City

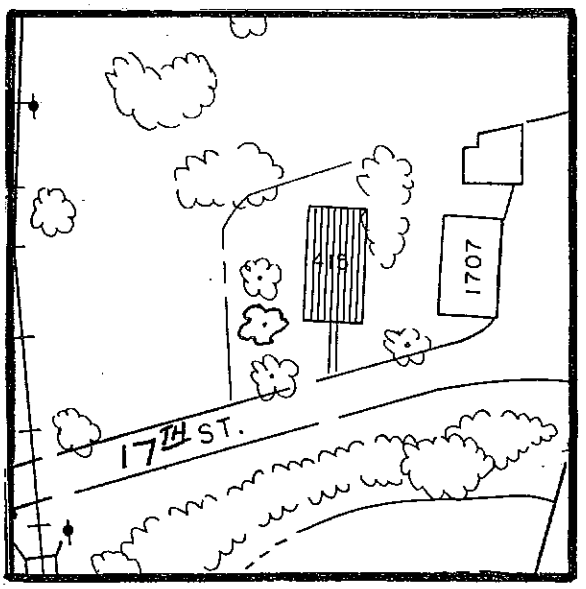
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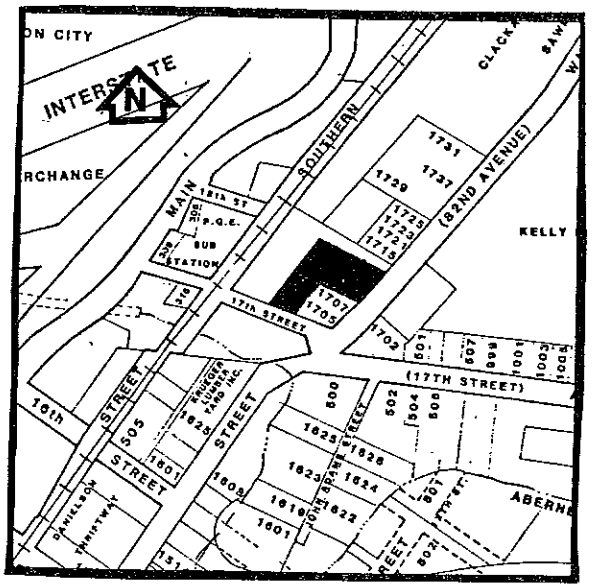


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NEGATIVE NO. Roll H, #21, 22 SLIDE NO.

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GRAPHIC AND PHOTO SOURCES: Base Map of Oregon City, 1987.
Oregon City Planning Department Photograph, 1987.

SHPO INVENTORY NO.:

NPS Form 10-900
(3-82)

OMB No. 1024-0018
Exp. 10-31-84

United States Department of the Interior
National Park Service

National Register of Historic Places Inventory—Nomination Form

For NPS use only
received JAN 17 1985
date entered FEB 14 1985

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic Gray-Hackett House

and/or common Hackett, Erwin Charles, House

2. Location

street & number 415 17th Street ~~N/A~~ not for publication

city, town Oregon City ~~N/A~~vicinity of

state Oregon code 41 county Clackamas code 005

3. Classification

Category	Ownership	Status	Present Use	
___ district	___ public	___ occupied	___ agriculture	___ museum
_X_ building(s)	_X_ private	___ unoccupied	_X_ commercial	___ park
___ structure	___ both	_X_ work in progress	___ educational	_X_ private residence
___ site	**Public Acquisition**	**Accessible**	___ entertainment	___ religious
___ object	~~N/A~~ in process	_X_ yes: restricted	___ government	___ scientific
	~~N/A~~ being considered	___ yes: unrestricted	___ industrial	___ transportation
		___ no	___ military	___ other:

4. Owner of Property

name ~~Daniel & Patricia Fowler, Mark & Tricia Foley~~

street & number 1103 Washington Street

city, town Oregon City ~~N/A~~vicinity of state Oregon 97045

5. Location of Legal Description

courthouse, registry of deeds, etc. Clackamas County Courthouse

street & number 8th & Main Street

city, town Oregon City state Oregon 97045

6. Representation in Existing Surveys

title Oregon City Historic Landmark has this property been determined eligible? ___ yes _X_ no

date March 15, 1980 ___ federal ___ state ___ county _X_ local

depository for survey records Oregon City Planning Department, 320 Warner Milne Road (PO Box 631)

city, town Oregon City state Oregon 97045

7. Description

Condition		Check one	Check one
___ excellent	___ deteriorated	_X_ unaltered	_X_ original site
___ good	___ ruins	___ altered	___ moved date N/A
_X_ fair	___ unexposed		

Describe the present and original (if known) physical appearance

The Erwin Charles Hackett House was built in 1893 on a .33 acre tract immediately adjacent to the easterly boundary of the area platted and known as Green Point, part of the Donation Land Claim of George Abernethy. The designer of the Eastlake style home is unknown.

The Green Point Addition to Oregon City was platted by Richard and Ellen Glasspool and Charles and Kate Califf in 1889. Although the Hackett House property is not part of the official plat, it is part of the area commonly known as Green Point. Green Point and its environs were sparsely developed large tracts, primarily agricultural in use. Immediately north of Abernethy Creek, and 1,200 feet east of the Willamette River, the area sits within the 100 Year Flood Plain. Two blocks north of the northerly boundary of John McLoughlin's plat of Oregon City, the area was a natural addition to the city in the late 1880s, as the city expanded to the north.

Green Point's fertile soil was used for truck gardening primarily undertaken by the Chinese laborers who had built Ben Holladay's railroad. Hop raising occupied the largest tracts and continued there until the 1940s.

The "Abernethy Green," which was the end of the Oregon Trail for pioneers traveling the Barlow Road, is 250 feet to the east of the Hackett House. In 1917, the End of the Oregon Trail marker was placed on property owned by Hackett and dedicated by him as Oregon City's mayor.

In 1913, the Southern Pacific Railway line was built 125 feet to the west of the Hackett property. In the mid-1930s, construction of McLoughlin Boulevard Highway 99E (then called "Super Highway") was built to the west of Green Point, beginning an irreversible trend toward commercial development of the area. The Oregon City Shopping Center, built in 1970, was followed by a sand and gravel mining operation that created Clackamette Lake, where the hop yards had long flourished. In the early 1970s, Rossman's Landfill operation began to fill in the wetland portion of Abernethy Green. The construction of Interstate 205 removed the remainder of Green Point north of the Hackett property.

Today, the E. C. Hackett House is one of only four historic houses remaining in the Green Point Addition to Oregon City. It is a well-known landmark in the primarily commercial and industrial area.

The Hackett House is a two-story wood frame structure with a full basement and cement block foundation. The house sits on a .33 acre lot, facing south, and fronting 17th Street, which becomes Abernethy Road at Old 82nd/Washington Street 150 feet to the east. Abernethy Creek borders 17th Street to the south. The house and 20,299 square foot lot to be listed in the National Register was partitioned from the larger Hackett property by heirs of the estate, and sold to the present owners in mid-1984.

The Hackett House is a two-story, Eastlake style, gabled, rectangular structure with a one-story gable roof kitchen wing to the north. All walls (see continuation sheets).

are of stud construction and are clad with wide shiplap siding with imbricated shingles found above a string course in the frontal gable peak. Imbricated shingles are also found on a diagonally set two-story rectangular bay window which is on the southeast corner of the main body of the house. Most windows are a long one-over-one double-hung sash type. Exceptions are found in the rectangular bay, in the rear wing, and in the basement. Most glass is original.

The main entrance is through a partially recessed "L" shaped porch which wraps around the southwest corner of the structure. Access to the porch is up six steps approached by a concrete walk from 17th Street. The narrow hip roof is supported by large turned posts and curvilinear jigsawn brackets. The soffit of the front porch features decorative spindlework. The front door is paneled and glazed. There are two vertical, rectangular panels found in the lower third of the door. Flash glass and clear "ice-crazed" glass surround the picture glass. Architrave molding is found above the front door. The front elevation also features a pair of double-hung windows below the string course which separates the upper decorative shingles from the shiplap siding. The window pair has two decorative brackets beneath each sash. The rectangular bay window has a truncated hip roof with wrought-iron cresting comprised of two crossed circles with three arrows. Below the eaves are twelve (12) cyma reversa brackets. The rectangular bay features a horseshoe or keyhole opening at a second story balcony, which is enclosed on two sides. The opening has two newel posts and a turned balustrade. Small removable fixed sash windows with two lights are found in side walls. The balcony has a lead floor. The walls of the second story are clad in imbricated shingles and flare outward at the bottom of the second floor. Below the shingles is a paneled spandrel. On the first floor is a wide fixed sash window with decorative muntins separating the top one-third of the window into three lights. The area beneath this window has two small, vertical rectangular panels flanking a larger horizontal panel. Architrave molding continues from above the fixed sash window to the one-over-one double-hung sash windows which are found on the side elevations of the bay. Otherwise, the sash windows have plain surrounds.

The east elevation has a polygonal bay window which lights the dining room. Two squat double-hung sash windows apparently replace an exterior door to the kitchen wing. There are two double-hung sash windows on the second floor of this elevation.

The west elevation has a pair of double-hung sash windows which light the dining room on the first floor and two one-over-one double-hung sash windows on the second floor. Two door openings which serve as alternative access to the basement are also located on the west elevation. A hip roof

back porch extends beyond the kitchen wing to the north. Two double-hung sash windows are on the second floor of the north elevation.

The entry or foyer is a polygonal hallway which includes the stairs, understairs closet and openings to the sitting room, dining room and parlor. Interior woodwork is original in all rooms except the kitchen wing and woodwork includes incised disc-and-ball motifs between door jambs and heads. All doors have four vertical rectangular panels with the upper two panels approximately twice as long as the lower panel. Mopboards are approximately eight inches and capped with narrow molding. All walls are plaster and lath. The partially open stairway has a turned balustrade and newel post. Keyhole plates and doorknobs are of decorative metal. Motifs repeated on both knob and plate include flowers, fans and geometric patterns.

The entry hall is eight and one-half feet wide with a three-foot wide bannistered staircase to the left of the front door. The stairs lead to the second floor. To the right is a door to the parlor. About twelve feet into the house the hall turns at a 45 degree angle and ends at a door that leads to the sitting room. Immediately to the left of the sitting room door is another door that leads from the hall into the dining room.

The sitting room measures thirteen by fifteen feet and features a large bay that faces to the east. The main heating stove is located in this room and is fueled with wood. To the south of the sitting room lies the parlor.

The parlor is entered through a ten foot wide arch. It features the bay that is formed by the base of the tower. This bay faces to the southeast. The parlor is the same dimension as the sitting room, thirteen feet wide by fifteen feet long.

Access to the dining room is gained either from the single foot door in the hall, or a set of sliding double doors leading from the sitting room, or through a swinging door from the kitchen. The dining room is twelve by fifteen feet and is lit by two large windows that face to the west.

The kitchen measures eleven and one-half by twenty-one feet and spans the width of the house immediately behind and to the north of the sitting room and dining room. The cooking is done on a wood stove. This room is lit by large windows on the east and west sides of the house.

The kitchen wing appears to have been two rooms - a pantry and kitchen. Doors from the kitchen lead to a bathroom, basement and storage room as well as the dining and sitting rooms. The kitchen also features bevel tongue-and-groove wainscoting on the east wall and half of the north and south walls. The six by seven foot pantry side appears to have been

extended sometime after the kitchen wing was built. The kitchen windows are unlike the other windows found on the main floor. A pair of squat double-hung sash windows appear to have replaced an exterior door on the east wall. A set of three smaller double-hung sash windows are located on the west wall. The kitchen has various built-in cupboards, one with a marble counter tope.

A large seven by eight foot bathroom is located at the northwest corner of the house and between the pantry and the bath there is a six foot wide hallway that provides access from the kitchen to the back porch or the basement.

The back porch is not a part of the original house. It was added on about 1914.

The door to the basement also leads to a deteriorated shed roof back porch which was partially enclosed. The basement has a cement block foundation and is generally characterized by exposed unfinished floor joists.

The upstairs is served by a narrow hallway which opens into the four sleeping rooms on the second floor. All rooms have jambs and sashes similar to the first floor, and are generally unpainted.

The chamber at the northwest corner of the house measures nine by twelve feet and is entered through a door immediately at the top of the stairs. Access to the other rooms is gained by passing down a twelve foot long hall. The room at the northeast corner of the second floor measures twelve by thirteen feet. The room at the southwest corner is L-shaped due to the staircase. It measures seventeen by six in the north-south direction and ten by twelve and one-half in the east west oriented portion of the room. The main bed chamber lies in the southwest corner of the second floor. It is twelve and one-half feet wide by seventeen feet long. It is from this room that access to the recessed porch at the top of the tower can be gained.

8. Significance

Period	Areas of Significance—Check and justify below			
___ prehistoric	___ archeology-prehistoric	___ community planning	___ landscape architecture	___ religion
___ 1400–1499	___ archeology-historic	___ conservation	___ law	___ science
___ 1500–1599	___ agriculture	___ economics	___ literature	___ sculpture
___ 1600–1699	_X_ architecture	___ education	___ military	___ social/ humanitarian
___ 1700–1799	___ art	___ engineering	___ music	___ theater
_X_ 1800–1899	___ commerce	_X_ exploration/settlement	___ philosophy	___ transportation
___ 1900–	___ communications	___ industry	_X_ politics/government	___ other (specify)
		___ invention		

Specific dates 1893 **Builder/Architect** Unknown

Statement of Significance (in one paragraph)

The distinctive two-story Eastlake-style house of frame construction in the Green Point area on the northernmost edge of Oregon City, Clackamas County seat, was built in 1893 for local educator George W. Gray, who occupied it for eleven years. The house was passed from an intervening owner to Erwin Charles and Alma Hackett in 1911. Thus, the property is sometimes known as the Gray-Hackett House. Its distinguishing characteristics are a square corner tower with pyramidal roof set at a 45° angle to the plane of the facade, imbricated shingle siding, and a wrap-around veranda decorated with spool turnings. The second story space in the tower is a balcony with circular opening at which E. C. Hackett is said to have appeared to the public on the day of his inauguration as Oregon City mayor in 1916. While the house is among the few remaining historic buildings in the Green Point Addition (it was declared a City of Oregon City Historic Landmark in 1980), and while as a well preserved example of type it is appropriately evaluated under criterion "c," it is primarily significant under criterion "b" for its 27-year association with Erwin Charles Hackett (1851-1938), Mayor of Oregon City, 1916-1918; Chief Deputy Clackamas County Sheriff, 1915-1925; and Clackamas County Recorder from 1925 to his demise in 1938. Hackett was the son of John C. Hackett, Oregon Trail pioneer of 1847 and member of the Oregon expeditionary force raised in 1848 for reprisal of the Whitman Massacre (November 29, 1847) at Waiilatpu. Of interest to historians of the overland migration is the fact that E. C. Hackett donated the nearby site for placement of an "End of the Oregon Trail" marker at Oregon City in 1917 to commemorate the experience of his father and other overland pioneers. Hackett occupied the house until his death, and the property remained in ownership of E. C. Hackett's descendents until 1984. It is now undergoing restoration for compatible commercial use according to plans consistent with the Secretary of the Interior's Standards for Preservation Projects.

Erwin Charles Hackett was born in Park Place, immediately northeast of Oregon City, on December 30, 1851. He was the son of John C. Hackett, born September 10, 1825 in Ohio, who crossed the Plains to Oregon in 1847 at the age of 22. In September 1850, John Hackett married Ellen Johnson, daughter of Universalist minister William Johnson, who took up a Donation Land Claim on Johnson Creek near Milwaukie and for whom the creek was named. With her family, Ellen came over the Oregon Trail in 1846 at the age of 16, and the family stayed at the Whitman Mission from Fall 1856 until Spring 1847, when they traveled the Barlow Road to Clackamas County.

In the Spring of 1848, John C. Hackett and his then future brother-in-law, Jacob Johnson, joined the Indian War Veterans to avenge the murder of Marcus Whitman. Hackett later assisted Joe Meek, Sheriff of the Oregon Territory, in the Oregon hanging of the five Indians convicted of the Whitman Mission Massacre.

John C. and Ellen Hackett lived the early years of their marriage at Park Place, where their son, Erwin Charles Hackett, was born.The family moved to Oregon City in 1861 when Erwin was 10 years of age. John Hackett died December 25, 1895.

As a child, Erwin C. Hackett was educated by Congregational minister George Henry Atkinson, and N. W. Randall, a prominent judge of the time. Hackett worked as a teacher and

9. Major Bibliographical References

See Continuation Sheet

10. Geographical Data

Acreage of nominated property less than one

Quadrangle name Oregon City, Oregon **Quadrangle scale** 1:24000

UTM References

	Zone	Easting	Northing
A	10	531641040	5102131310
B			
C			
D			
E			
F			
G			
H			

Verbal boundary description and justification

See Continuation Sheet

List all states and counties for properties overlapping state or county boundaries

state	N/A	code	county	code
state		code	county	code

11. Form Prepared By

name/title Catherine Galbraith (in cooperation with Heritage Investment Corporation)

organization City of Oregon City Planning Department **date** August 20, 1984

street & number PO Box 631 **telephone** (503) 657-0891

city or town Oregon City **state** Oregon 97045

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

___ national ___ state X local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature

title Deputy State Historic Preservation Officer **date** January 2, 1985

For NPS use only

I hereby certify that this property is included in the National Register

Entered in the National Register

Keeper of the National Register **date** 2-14-85

Attest: **date**

Chief of Registration

bookkeeper and married Alma Marie Senker, who bore a son, Erwin A. Hackett, on October 2, 1890. They purchased the house at 415 - 17th Street in 1911, shortly before Hackett ventured into city and county politics.

The house was built in 1893 by Indiana-born professor George W. Gray and his wife, Dora (Smith) Gray, on land they purchased that year from H. P. and Melissa Bestow. At the time Gray built the house, he was employed as a teacher at the Park Place School. The Grays owned and lived in the house from 1893 to 1908, when they sold it to a man named Lillie. Lillie sold the house to Erwin C. and Alma Hackett in November, 1911. Erwin's mother, Ellen, also moved into the house, where she died on April 2, 1914.

(continued)

In 1915 Erwin C. Hackett became chief deputy of the Clackamas County Sheriff's Office. Shortly thereafter, he was elected Mayor of Oregon City and served for three years from January 3, 1916 to January 1, 1919. When inaugurated as Mayor, Hackett stood in the tower of his home and waved to the people in the parade as they passed by. As Mayor, Hackett donated the site for the End of the Oregon Trail Marker that was placed on Abernethy Green by the Daughters of the American Revolution. On October 13, 1917, Hackett dedicated the marker and in his speech cited the experiences of his pioneer parents. He ended his speech with the following words:

> "Time and tide wait for no man," and hence most of the people who assisted in any way in making this trail have passed over that "other trail" from whence none returns. We can serve our country and people in no better way than to emulate what they did and were in those days. Having been born near here in 1851, and having seen the Indian pass from view, do you wonder that I am exceedingly proud to be able to furnish a site for this marker? You are welcome, thrice welcome, to Oregon City, the historic town of Oregon.

He remained in the employ of the Sheriff's Office from 1915 to 1925, and his 1920 Motor Vehicles License lists his occupation as Deputy Sheriff, 68 years of age, 5'8" in height, 185 pounds in weight, with gray hair and blue eyes.

Hackett then became Clackamas County Recorder until his collapse and death on July 12, 1938 at age 86. Buried in the family plot at Oregon City's Mountain View Cemetery, Hackett's funeral records list him as a member of the Abernethy Grange, Sandy Pioneers, Multnomah Lodge #1, International Order of Odd Fellows of Oregon #3, and a 38-year member of the National Grange of the Patrons of Husbandry.

In July 1917, Hackett's son, Erwin A. Hackett, age 27, married Minnie Boese, age 19, of Boring, Oregon, and the couple moved into the family home on 17th Street. Erwin A. had started a fuel business on the property at the age of 17, and Erwin and Minnie continued to expand it. The Hackett house and property was left to them in Erwin C. Hackett's will and the estate was settled in 1941. Erwin A. Hackett was a prominent city businessman until his death on March 26, 1959 at the age of 68, following a long bout with cancer. In 1958, Erwin A. deeded all of the property to Minnie, who resided there for many years, living only on the first floor of the house in later years. In 1965, the well-known Hackett Barn was demolished following the Christmas Flood of 1964 which had damaged it extensively. The building had been constructed as a hop kiln and was purchased in 1912 by Erwin A. for use as a stock barn for his horse-drawn fuel delivery wagons.

In 1972, the Enterprise-Courier newspaper featured a front page article with photograph entitled "Hackett House Burns," but only minor damage occurred to the roof.

Minnie Hackett provided a new roof and minor porch repair to the house, which otherwise remained unaltered from the 1920's. Minnie Hackett was placed in a nursing home in late 1983 and died shortly thereafter on April 10, 1984. She was buried in Mountain View Cemetery adjoining the rest of the Hackett family. The heirs partitioned off and sold the vacant house with the property efforts are underway by the present owners.

BIBLIOGRAPHY
HACKETT HOUSE, 415 - 17TH STREET, OREGON CITY

-- Deed Records of Clackamas County

-- Personal Papers of Minnie Hackett:

  -- Will of E.C. Hackett
  -- Motor Vehicle Registrations
  -- Funeral Documents of E.C. and E.A. Hackett
  -- Grange Membership Certificates
  -- Marriage Certificate: E.A. and Minnie Hackett
  -- Personal Letters
  -- Financial Records of E.A. Hackett Fuel Wood, Coal, Gravel, Sand Co.

-- Enterprise Courier July 16, 1965

-- Enterprise Courier December 5, 1972

-- Lynch, Vera Martin. Free Land for Free Men: A Story of Clackamas County. Artline Printing, Portland, OR 1973.

-- Vaughn, Thomas, editor. Space, Style and Structure. Volume One: Oregon Historical Society, Portland, Oregon 1974.

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY
RECEIVED
DATE ENTERED

HACKETT PROPERTY: LEGAL DESCRIPTION

Description of a parcel of land located in the George Abernethy Donation Land Claim No. 58, in Section 29, Township 2 South, Range 2 East of the Willamette Meridian, in Clackamas County, Oregon:

Beginning at a stone monument at the intersection of centerlines of 14th Street and Main Street in the Plat of Oregon City, a recorded subdivision in Clackamas County, Oregon, thence North 35o 30' East, tracing the centerline of Main Street 1093.10 feet to a point. Thence South 70o 56' East 346.9 feet to an iron rod driven on the easterly line of the Southern Pacific Railroad right-of-way; thence South 62o 45' East, along the northerly boundary of a County Road known as 17th Street 175.15 feet to an iron rod and the True Point of Beginning of the parcel to be described. Thence North 37o 10' East along the westerly boundary of that tract of land recorded as Fee 81-32410 in the County Recorder's Officer, 108.00 feet to an iron pipe. Thence North 62o 45' West, parallel with the north boundary of the said 17th Street, 135.00 feet to an iron rod. Thence South 37o 10' West 108.00 feet to an iron rod on the said road right-of-way. Thence South 62o 45' East along the said right-of-way 135.00 feet to the True Point of Beginning. The above described parcel contains 0.3297 acres.


HACKETT
HOUSE
RESTORATION
BY
F&F STRUCTURES, INC.
OFFICE SPACE
FOR
LEASE

Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

1 of 17

South (front) elevation

City of Oregon City Photo, 1984
Planning Department, PO Box 631
Oregon City, OR 97045


1890
HACKETT
HOUSE

Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

2 of 17

Detail of front porch.

City of Oregon City Photo, 1984
Planning Department, PO Box 631
Oregon City, OR 97045



Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

3 of 17

Detail of side porch (west).

City of Oregon City Photo, 1984
Planning Department, PO Box 631
Oregon City, OR 97045



Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

4 of 17

Detail of upper wall, west elevation.

City of Oregon City Photo, 1984
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Oregon City, OR 97045



Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

5 of 17

Detail of corner tower, southeast corner.

City of Oregon City Photo, 1984
Planning Department, PO Box 631
Oregon City, OR 97045

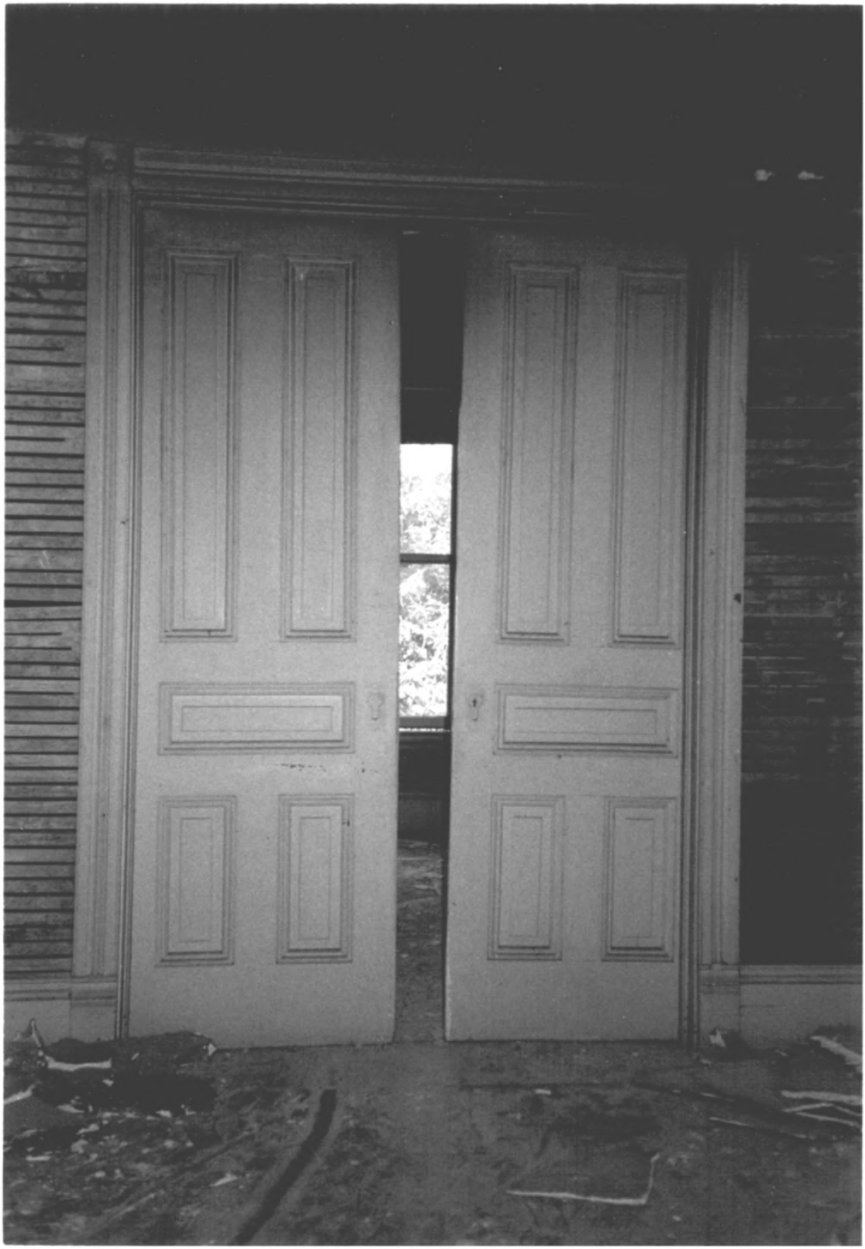

HACKETT
HOUSE
RESTORATION
BY
F&F STRUCTURES, INC.
OREGON CITY, OREGON
657-7010 655-0284
OFFICE SPACE
FOR
LEASE
657-7010 655-0284

Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

6 of 17

South and east elevations.

City of Oregon City Photo, 1984
Planning Department, PO Box 631
Oregon City, OR 97045

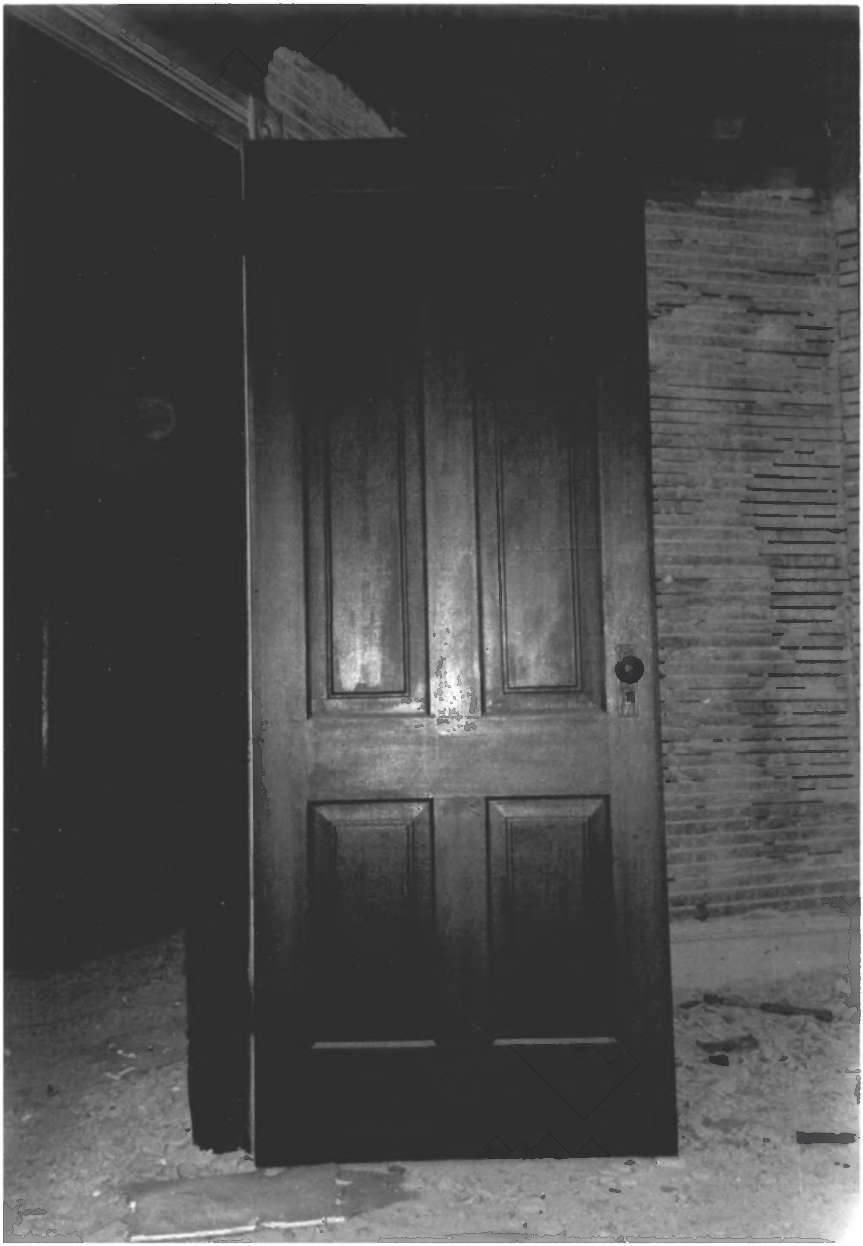


Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

7 of 17

Sliding pocket parlor doors.

City of Oregon City Photo, 1984
Planning Department, PO Box 631
Oregon City, OR 97045



Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

8 of 17

Typical four-panel interior door.

City of Oregon City Photo, 1984
Planning Department, PO Box 631
Oregon City, OR 97045



Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

9 of 17

Typical four-panel doors and
architraves in lower hallway.

City of Oregon City Photo, 1984
Planning Department, PO Box 631
Oregon City, OR 97045



Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

10 of 17

Detail of typical beaded architrave molding and door hinges.

City of Oregon City Photo, 1984
Planning Department, PO Box 631
Oregon City, OR 97045



Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

11 of 17

Detail of front staircase.

City of Oregon City Photo, 1984
Planning Department, PO Box 631
Oregon City, OR 97045

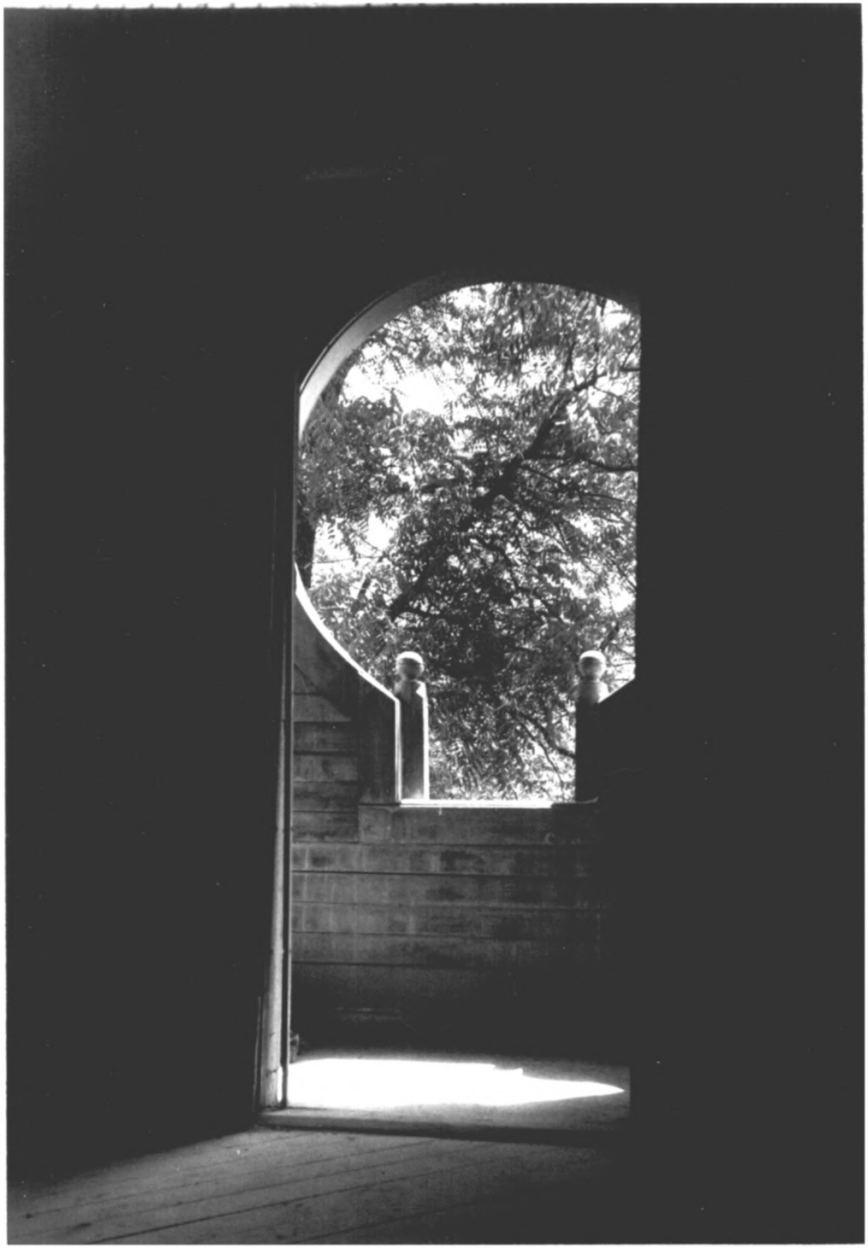


Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

12 of 17

Typical window with colored and etched border lights.

City of Oregon City Photo, 1984
Planning Department, PO Box 631
Oregon City, OR 97045



Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

13 of 17

Interior view of balcony in SE corner tower.

City of Oregon City Photo, 1984
Planning Department, PO Box 631
Oregon City, OR 97045

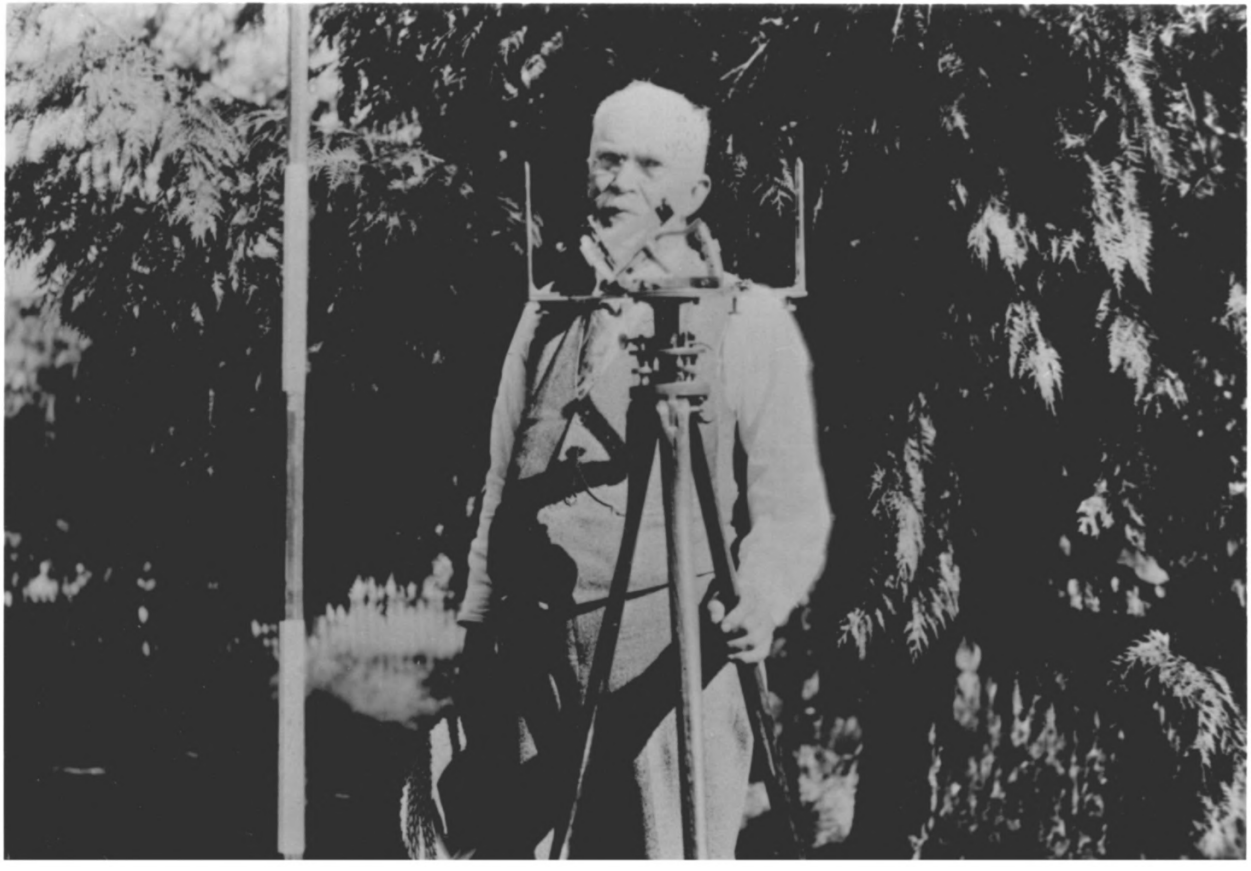


Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

14 of 17

View of kitchen with original wood trim and tongue- in-groove paneling.

City of Oregon City Photo, 1984
Planning Department, PO Box 631
Oregon City, OR 97045



E.C. HACKETT HOUSE
415 17TH STREET
OREGON CITY, CLACKAMAS COUNTY, OREGON

Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon
15 of 17

Historic view, c. 1927, E. C. Hackett

Copy negative in possession of:
Clackamas County Planning Department
P.O. Box 631
Oregon City, OR 97045



E.C. HACKETT HOUSE
415 17TH STREET
OREGON CITY, CLACKAMAS COUNTY, OREGON

Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

16 of 17

Historic view, c. 1917, North (rear)face
Among those pictured are Erwin A. Hackett
son of Erwin C. (far left) and Minne
Bosse Hackett, his wife, far right.

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Oregon City, OR 97045



E.C. HACKETT HOUSE
415 17TH STREET
OREGON CITY, CLACKAMAS COUNTY, OREGON

Hackett, Erwin Charles, House
415 17th Street
Oregon City, Clackamas County, Oregon

17 of 17

Historic view, c. 1920, South (front) face. Pictured also is Minnie Boese Hackett, wife of Erwin A. Hackett and longtime occupant of the house.

Copy negative in possession of:
Clackamas County Planning Department
P.O. Box 631
Oregon City, OR 97045

Abernethy Place Phase One Hotel

Oregon City, OR

Developer: Hackett Hospitality Group, LLC

J.O. SGL 17-021
March 28th, 2017

PRELIMINARY WATER QUALITY CALCULATIONS

SISUL ENGINEERING
A Division of Sisul Enterprises, Inc.
375 Portland Avenue
Gladstone, OR 97027
phone: (503) 657-0188
fax: (503) 657-5779

Narrative:

The existing site contains one building which is to remain. The north side of the site is vegetated with trees, hedges, and brush. The south and east sides of the site consists of existing trees and asphalt pavement. The site is sloped from the south to the north.

The site is proposed to be developed into two phases. The first phase will consist of a new 100 room hotel along with 100 parking spaces distributed around the lot. New private utilities will also be constructed with the development. The second phase will consist of a multi-use site to be constructed at a later date yet to be determined. The site will require a public storm extension to the northeast and a half street improvement along Washington Street. Calculations in this report only include the first phase of development and not the second phase or the public storm extension in Washington Street.

The development will not have to meet flow control or detention requirements based off of the exemptions stated in Chapter 1.2.2.H of the Oregon City Public Works Stormwater and Grading Design Standards. The development will have to meet the water quality requirement of treating the volume that equates to a water quality design storm of 1.0 inch over 24 hours.

Site Conditions & Design Values - Post Development:

Area: These calculations are for the area that drains to a slotted drain and filtered catch basin towards Washington Street – Basin 'A'

Total Area = 0.26 Acres
- Pavement area = 8,138 SF or 0.18 acres
- Sidewalk area = 3,319 SF or 0.08 acres

Area: These calculations are for the area that drains to a water quality swale – Basin 'B'

Total Area = 1.16 Acres
- Hotel roof area = 14,143 SF or 0.32 acres
- Pavement area = 32,702 SF or 0.75 acres
- Sidewalk area = 3,835 SF or 0.09 acres

Runoff Curve Numbers: (per Table 4-3 MODIFIED CURVE NUMBERS, City of Oregon City Stormwater and Grading Design Standards)

Impervious Surfaces, AC, Roofs etc.-Hydrologic Group 'C' => 98

Rainfall Distribution: (per Table 4-1 TOTAL DEPTH, City of Oregon City Stormwater and Grading Design Standards)

1yr, 24-hour duration STD SCS Type 1A Storm => 1.0 inches

Time of Concentration – Post Development:

Since a large portion of the site is impervious, the minimum time of concentration of 5 minutes will be used. Tc = 5 minutes

Water Quality Analysis – Basin 'A':

1) ***Area to be managed by Stormfilter catchbasin located onsite*:**
   Access & sidewalk = 3,966 sq. ft. = 0.091 acres

The water quality requirements will be met by a 2-cartridge StormFilter Catch Basin for treatment of the water quality storm event of 1.0-inch in 24 hours.

2) ***Water Quality Storm Event*:**

Water Quality – 1.0-inch in 24 hours – Basin 'A':

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********   1-YEAR  24-HOUR STORM  ****  1.00" TOTAL PRECIP. *********

------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
0,0,.26,98,5

DATA PRINT-OUT:

  AREA(ACRES)    PERVIOUS    IMPERVIOUS   TC(MINUTES)
                 A     CN     A     CN
        .3        .0    .0     .3  98.0        5.0

  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
       .06          7.67            746

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
17021-wqa
```

3) ***Obtaining number of filters required*:**
   A single Contech Stormwater Management filter can manage a flow (Q) of 0.034 cfs/cartridge

   Per the water quality analysis above in item #2 for the impervious area, water quality flow (Q) is 0.06 cfs.

   Required: Contech two-filter catchbasin

Methodology:

KING COUNTY DEPARTMENT OF PUBLIC WORKS Surface Water Management Division HYDROGRAPHS PROGRAMS (Version 4.21 B) was used to generate a peak flow for the water quality storm event.

Analysis:

Engineering Conclusions
The peak flow was used to size the CONTECH Stormwater Management Stormfilter catchbasin. Per CONTECH, each cartridge will treat 0.034 cfs: therefore, the CONTECH Stormwater Management Stormfilter catchbasin was sized for the appropriate number of filter cartridges.

Water Quality Analysis – Basin 'B':

The water quality requirements will be met by water quality swale for treatment of the water quality storm event of 1.0-inch in 24 hours.

Water Quality – 1.0-inch in 24 hours – Basin 'B':

```
------------------------------------------------------------------------
******************** S.C.S. TYPE-1A DISTRIBUTION ********************
*********   1-YEAR  24-HOUR STORM  ****  1.00" TOTAL PRECIP. *********

------------------------------------------------------------------------
ENTER: A(PERV), CN(PERV), A(IMPERV), CN(IMPERV), TC FOR BASIN NO.  1
0,0,1.16,98,5

DATA PRINT-OUT:

  AREA(ACRES)    PERVIOUS    IMPERVIOUS   TC(MINUTES)
                 A     CN     A     CN
       1.2        .0    .0    1.2  98.0        5.0

  PEAK-Q(CFS)   T-PEAK(HRS)    VOL(CU-FT)
       .26          7.67           3330

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
17021-wqb
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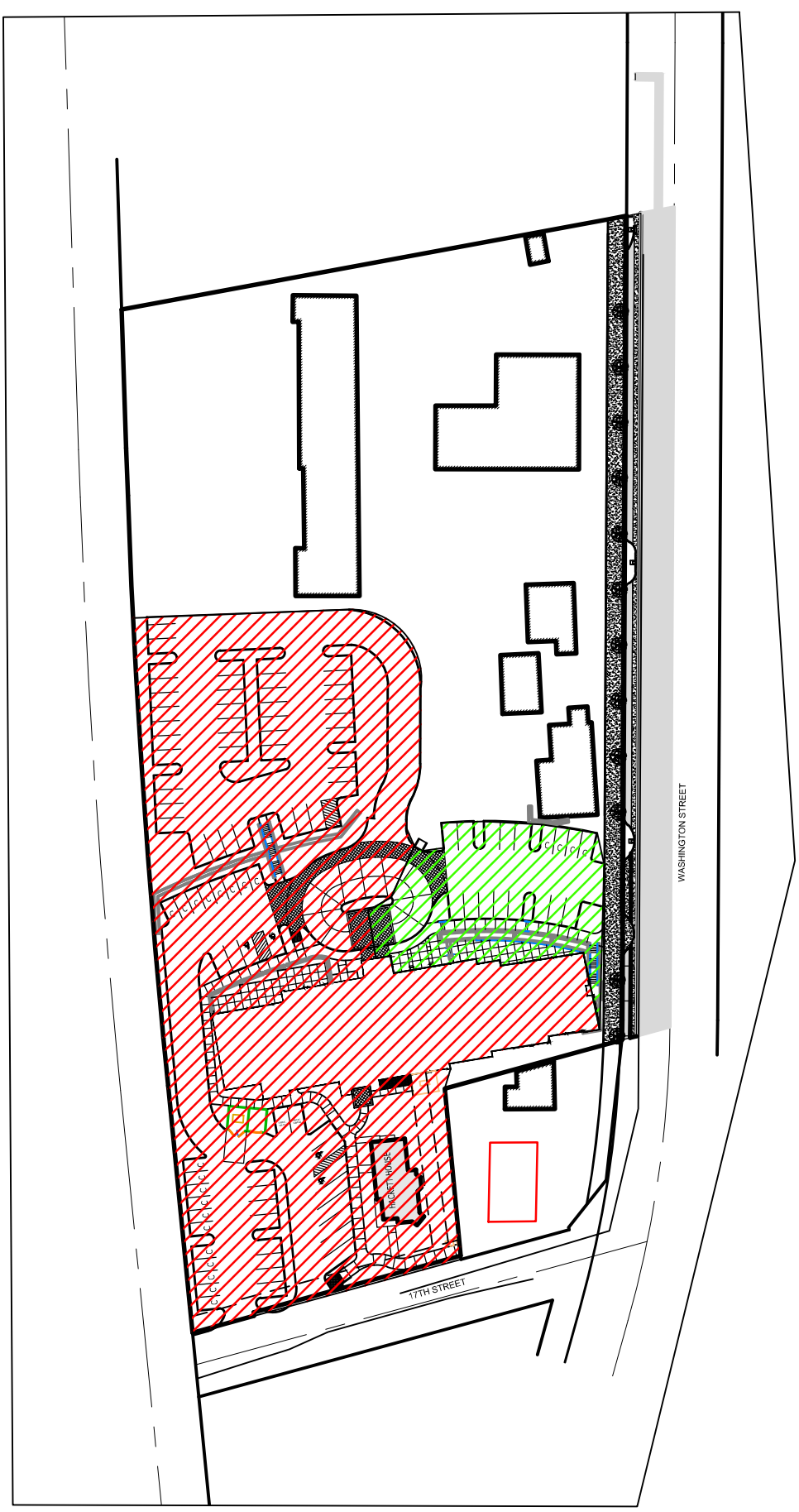
Methodology:

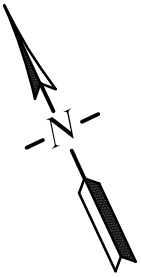
The WES BMP Sizing software was used to determine the size of the facilities. A copy of the report has been attached in the appendices. 1160 SF of planter area is proposed which exceeds the 760.2 SF required for water quality treatment.

Analysis:

Engineering Conclusions

The proposed stormwater facilities has been designed in accordance with the 2015 Oregon City Stormwater and Grading Design Standards for stormwater management. The storm water facilities have been designed to meet water quality requirements according to the BMP Sizing tool. See the attached calculations.





0 100′ 200′

GRAPHIC SCALE 1″=100′

BASIN 'A'
= 0.26 ACRES

BASIN 'B'
= 1.16 ACRES

WES BMP Sizing Software Version 1.6.0.1, August 2015

WES BMP Sizing Report

Project Information

Project Name	Abernethy Place Phase One
Project Type	Addition
Location	
Stormwater Management Area	1160
Project Applicant	
Jurisdiction	CCSD1NCSA

Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
DMA	50,530	Impervious	ConventionalConcrete	D	BMP

LID Facility Sizing Details

LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
BMP	WaterQuality	Stormwater Planter - Filtration	Lined	758.0	1,160.0	1.3

Pond Sizing Details

1. FCWQT = Flow control and water quality treatment, WQT = Water quality treatment only

2. Depth is measured from the bottom of the facility and includes the three feet of media (drain rock, separation layer and growing media).

3. Maximum volume of the facility. Includes the volume occupied by the media at the bottom of the facility.

4. Maximum water storage volume of the facility. Includes water storage in the three feet of soil media assuming a 40 percent porosity.

SITE ASSESSMENT AND PLANNING CHECKLIST

✓	Information needed	Attach supporting materials as needed
2.2.1 Site Information		
	Applicant contact information	Applicant name: Tom Sisul Business name: Sisul Egineering Contact address, phone number, and e-mail: tomsisul@sisulengineering.com 375 Portland Avenue, Gladstone, OR 97027 503-657-0188
	Project location	Site address: various- Map 22E29CA, TL 1200, 1300, 1301, 601, 900,1000 and 1100 Site description: Contains the Hackett House and several businesses. pavement, some in use some not, and several buildings some storage areas in gravel or dirt Major drainage basin: Lower Clackamas River Is the project site located with the WQRA as defined in OCMC 17.49? N (Y/N) *Include a vicinity map of the site (including location of property in relation to adjacent properties, roads, and pedestrian/bike facilities).*
	Project type	Identify types of development planned for the site such as commercial, industrial, single-family residential, multi-family residential, or other (describe): Hotel and Multi-family with some commercial on ground floor.
	Size of site	Size of site: 4.07 (acres) Number of existing/proposed tax lots: 7 / 2 Amount of new and replaced impervious area: app 149,000 (SF)
2.2.2 Site Assessment *Note: Site assessment information may be available from the OCMaps online tool available through the City's website.*		
	Site Assessment Map	*Attach engineered scale Site Assessment Map, showing items below.*
	Topography Evaluate site and map slopes: *Flat: 0-10%* *Moderate: 10-25%* *Steep: 25% and greater*	*Surveyed or aerial-based mapping with 2-foot intervals for slopes 0-25% slope and 10-foot intervals for steeper. Indicate Geologic Hazard Areas as defined by OCMC 17.04.510 and Geologic Hazards Overlay Zone as defined by OCMC 17.04.515.*
	Soils and Groundwater Research and map site soil hydrologic group, depth to groundwater	NRCS Hydrologic Soil Type (show on map if more than one type present): A per NCRS *Attach seasonal groundwater depth evaluation if available or required (site has floodplain and/or wetland). Groundwater depth information is available from the City.* Geotechnical report indicates undocumented fill overlays the site.
	Infiltration Assessment Determine soil capacity for onsite infiltration	If an infiltration test is performed, attach the documentation. Report the test type (Basic/Professional) performed and results. See **Appendix D** for the approved infiltration testing methods. Test type: Borings per PDX SWM Negligible (inches/hour)

SITE ASSESSMENT AND PLANNING CHECKLIST		
	Hydrology – Conditions and Natural Features Map site floodplains, wetlands, streams, and location of outfalls	Clearly label on map all intermittent and perennial creeks/streams/rivers and wetlands, FEMA floodplains, and existing drainage systems (pipes, ditches, outfalls). Check here if present on site: _____ Sensitive area(s) None Floodplain Yes
	Downstream Conveyance	Indicate the proposed point of discharge on the site plan. *Prepare and attach a Downstream Analysis as required by **Chapter 5**.* Check here to verify that adequate downstream capacity is available: X
	Existing Vegetation Map trees and vegetation	Using aerial photos or survey, map all trees and vegetation. Note all existing trees 6-inch caliper and greater (DBH) on map. Delineate and identify other areas and types of existing vegetation. The local planning authority may require a formal tree survey.
	Required Vegetated Buffers and Setbacks Assess and map buffers	Identify required vegetated buffer areas and other setback limits as defined by OCMC Title 17.
	Land Use and Zoning	Existing Land Use Zoning designation(s): MUD
	Access and Parking	Delineate proposed access points for all transportation modes on map. Indicate amount and area of required parking onsite if applicable, *attach documentation as needed.*
	Utilities to Site and Surrounding Area	Map existing utilities including stormwater facilities, storm conveyance, sewer, water, electricity, phone/cable, gas, and any public storm system/facility downstream.
2.2.3 Site Planning Design Objectives *(attach engineered scale Preliminary Site Plan)*		
	1. Preserve existing resources	**Required:** Show sensitive areas and buffers on site plan. Denote buffer areas that require enhancement. Show any proposed areas of encroachment and associated buffer mitigation areas.
	2. Minimize site disturbance	**Required:** Delineate protection areas on site plan for areas to remain undisturbed during construction.
	3. Minimize soil compaction	**Required:** Delineate and note temporary fencing on site plan for proposed infiltration facilities, vegetated stormwater management facilities, and re-vegetation areas.
	4. Minimize imperviousness	**Required:** Delineate proposed impervious areas and proposed impervious area reduction methods on the site plan. A. Total proposed new/replaced impervious area: approx. 140,000 (SF) B. Area of proposed Green Roofs: 0 (SF) C. Area of proposed pervious pavements: 0 (SF) D. Describe type of pavers or pavement proposed: not applicable E. Impervious area requiring management [A-(B+C)]: approx. 140,000 (SF)

SITE ASSESSMENT AND PLANNING CHECKLIST

2.2.4 Proposed Stormwater Management Strategy

Proposed Stormwater Management Strategy

_____ Infiltration facilities

_____ Surface Infiltration facilities to the MEP

_____ Full onsite retention/infiltration up to the 10-year storm event

X Infiltration facilities are limited by the following conditions *(include documentation to demonstrate the limiting condition and choose an alternate strategy below):*

- _____ Stormwater management facility to be located on fill
- _____ Steep slopes
- _____ High groundwater extremely soil draining soils
- _____ Contaminated soils
- _____ Conflict with required Source Controls (**Chapter 6**)

X Onsite Stormwater management facilities (indicate below)

_____ Offsite stormwater management facilities/regional facilities

_____ Fee in Lieu, as determined by the City

Preliminary Facility Selection/Sizing

Check all that apply, *attach output from BMP Sizing Tool*, and show proposed Stormwater Management Facilities on Preliminary Site Plan.

LID facilities:

_____ Infiltration Stormwater Planter

_____ Filtration Stormwater Planter

_____ Infiltration Rain Garden

_____ Filtration Rain Garden

X Vegetated Swale Filtration

_____ Detention Pond

_____ Infiltration Trench

X Manufactured Treatment Technology

_____ Other: _____

Verify Minimum Facility Size

Infiltration not possible due to extremely slow draining soils.

A. Required surface area of onsite surface infiltration facilities:

As determined by BMP sizing tool or engineered method: _____ (SF)

B. Calculate MEP surface area of surface infiltration facilities for sites with limiting conditions:

Total new/replaced impervious area (SF) x 0.10 = _____ (SF)

C. Calculate required surface area of onsite LID facilities:

Smaller of [A] or [B]: _____ (SF)

D. Proposed surface infiltration facility size(s):

From site plan: _____ (SF) *must be larger than [C]*

SITE ASSESSMENT AND PLANNING CHECKLIST		
2.2.5 Other Project Requirements		
	Grading Permit	Review OCMC 15.48 to determine whether a grading permit will be required. Grading permit required? Y (Y/N) Type of Grading Plan proposed (see **Chapter 3**): Excavations adn Engineered Fills
	Erosion Prevention and Sediment Control	Identify the required permits: X ESC Permit from the City *(sites that include 1,000+ SF new or replaced impervious area)* X 1200-C Permit from DEQ *(sites that disturb 1 acre or more land surface)*
	Source Control for High Use Sites	Identify whether the proposed development will include any of the following: _____ Fuel Dispensing Facilities and Surrounding Traffic Areas _____ Above-Ground Storage of Liquid Materials _____ Solid Waste Storage Areas, Containers, and Trash Compactors _____ Exterior Storage of Bulk Materials _____ Material Transfer Areas/Loading Docks _____ Equipment and/or Vehicle Washing Facilities _____ Development on Land With Suspected or Known Contamination _____ Covered Vehicle Parking Areas _____ Industrial and Commercial High Traffic Areas _____ Other land uses subject to the ODEQ 1200-Z Industrial Stormwater Permit
	Other Permits	Identify other natural resources related permits from local, state, or federal agencies that may be required as part of the proposed development activity. It is the responsibility of the applicant to identify and obtain required permits prior to project approval. List other anticipated permits:

SISUL ENGINEERING

A Division of Sisul Enterprises, Inc.

375 PORTLAND AVENUE, GLADSTONE, OREGON 97027
(503) 657-0188
FAX (503) 657-5779

May 10, 2017

City of Oregon City
Public Works – Engineering
626 Center Street
Oregon City, OR 97045

ATTN: Development Engineering Review staff

RE: Public Street Improvements on Washington Street and 17th Street adjacent to the proposed Abernethy Place Development

Dear Engineering Staff:

This letter is to explain some of our thoughts and reasoning in preparation of the Public Works plans for this site's frontage.

1. Washington Street structural section.
    a. The structural section from the east edge of the concrete gutter section to centerline of the right-of-way is to meet the recommendation of GeoDesign for Washington St.
        i. At the concrete gutter, the section was modified from the GeoDesign section to use lightly reinforced concrete rather than asphalt, but the concrete thickness matches the asphalt section thickness and the base rock below it matches that for the asphalt section.
        ii. The final lift section will be tapered down to match the existing street section between the center of the right-of-way and the east edge of the center median lane. (Final lift will be reduced from a 2 inch section to one inch over several feet).
    b. The structural section *west* of concrete gutter section is proposed to simply meet the local street section as it will be a parking only area protected from truck use by the landscape planters extending into the pavement.
2. Washington Street configuration with planters was aligned to match with was constructed in terms of planters extending into the ROW at the Amtrak Station entry. This allows for a south bound traffic lane and bike lane as shown on the typical cross-section.
3. Washington Street cross-section slope has been modified from the standard of sloping from the centerline to the curb line to have a gutter line at the west edge of the bike lane / east edge of the parking stalls. The thought for this is that it will allow the roadside drainage to drain to the front edge of the water quality planters rather than at the curb line and does not require pass throughs for drainage at the curb line for non-WQ planters. It also allows for a slightly higher

curb and sidewalk elevation which helps in grading to on-site facilities that need to be above the flood plain elevation.

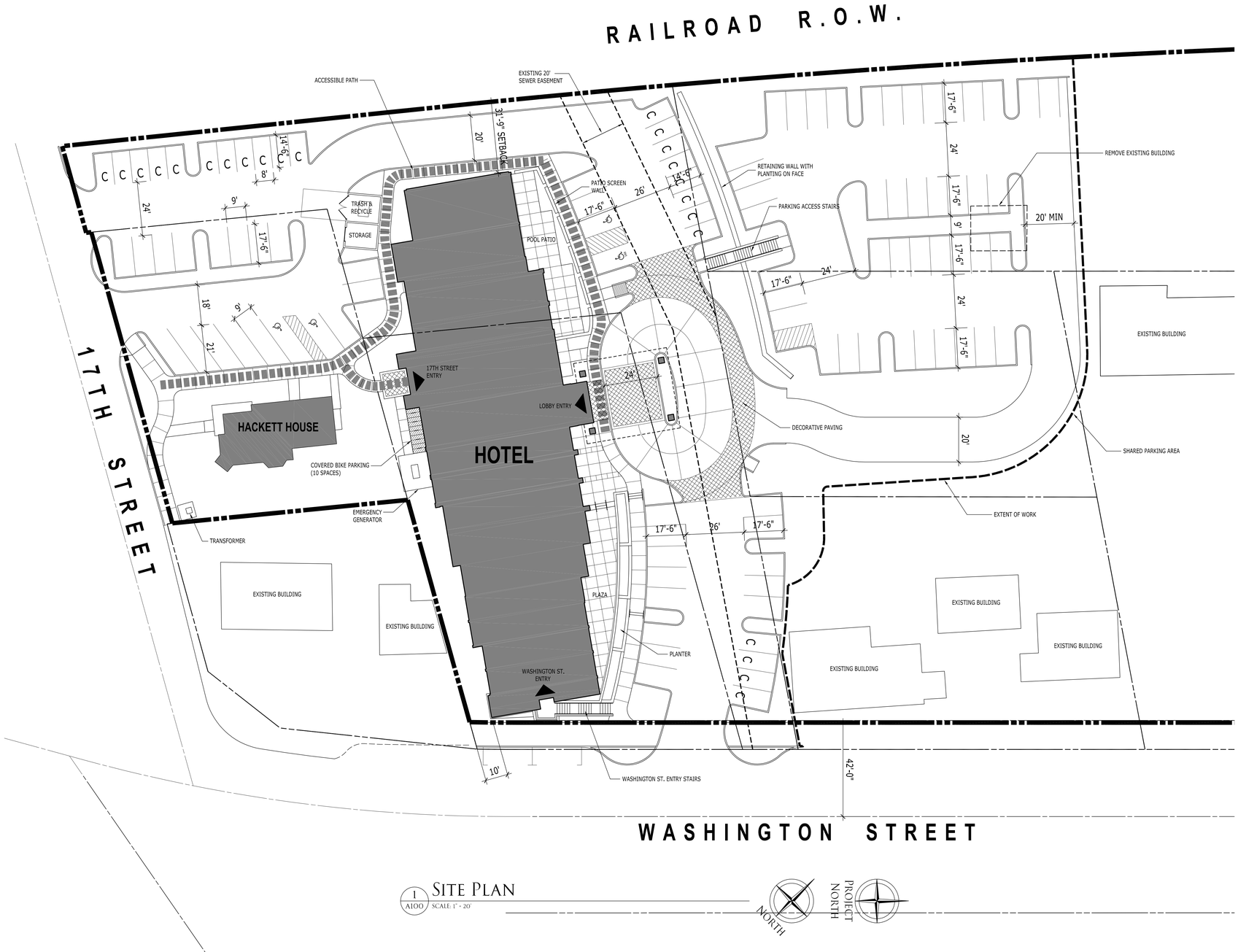
   a. Because the parking area would slope to a gutter several feet away from the curbline, we are proposing to use a standard Type "C" curb, rather than curb and gutter, as the curb installers do not have a curb and gutter mold template for a reverse grade gutter.

4. 17th Street structural section.
   a. It appears that from the core test inspection the existing 17th Street section meets the local street structural section.
   b. The widen street section will meet the local street standard section.
5. 17th Street sidewalk configuration was modified from the standard to take it behind an existing significant tree near the Hackett House and the sidewalk ends at a point that is likely to be potential midblock crossing point if a future sidewalk extension under the railroad trestle were ever to be constructed in the future. As there appears to be no chance for the sidewalk to be extended across the railroad ROW at grade level, we have not extended to the public sidewalk to the west edge of the parcel's frontage on 17th as would normally be done.

Should there be any questions about what we are proposing please let us know.

Sincerely,

Thomas J. Sisul, P.E.



1 A100 SITE PLAN
SCALE: 1" = 20'

NORTH

PROJECT NORTH

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

REGISTERED ARCHITECT
KEVIN A. HILL
WEST LINN, OREGON
STATE OF OREGON
Preliminary
NOT FOR CONSTRUCTION

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE 1
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

MARK	DATE	REVISION/ISSUE
	2017-04-14	LAND USE SUBMITTAL

PROJECT NUMBER	DRAWN BY	CHECKED BY
13647/15708	XXX	

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PHASE 1
SITE PLAN

A101

Date: Thursday, April 20, 2017 5:23:03 PM / Location: P:\2013_JOB\13647 Abernethy Place\8 Drawing\A100 Site Plan.dwg / User: Robin Chard / Layout: A101 Site Plan DDP Phase 1



1 A201 LOBBY FLOOR PLAN

SCALE: 1/8" = 1'-0"

PROJECT NORTH

0 4' 8' 16'

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

REGISTERED ARCHITECT
JEFFREY M. HILL
WEST LINN, OREGON
EXPIRES: 12/31/2017

Preliminary NOT FOR CONSTRUCTION

ABERNETHY PLACE
DDP

DETAILED DEVELOPMENT PLAN
PHASE I
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

MARK	DATE	REVISION/ISSUE
	2017-04-14	LAND USE SUBMITTAL

PROJECT NUMBER 13647/15708 | DRAWN BY rc | CHECKED BY

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LOBBY FLOOR PLAN

A201

Date: Thursday, April 20, 2017 3:46:31 PM / Location: P:\2015_JOB\15708 Oregon City Hampton Inn & Suites\8 Drawing\A201.dwg / User: Robin Chard / Layout: A201 Land Use



1 SECOND FLOOR PLAN
A202 SCALE: 1/8" = 1'-0"

PROJECT NORTH

0 4' 8' 16'

THIS WIDTH SHOULD BE 3"

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

REGISTERED ARCHITECT
KEVIN HILL
WEST LINN, OREGON
EXPIRES: 12/31/17
Preliminary
NOT FOR CONSTRUCTION
FOR REVIEW ONLY

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE 1
OREGON CITY, OREGON
FOR CLIENT NAME

MARK	DATE	REVISION/ISSUE
	2017-04-14	LAND USE SUBMITTAL

PROJECT NUMBER	DRAWN BY	CHECKED BY
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SECOND FLOOR PLAN

A202

Date: Thursday, April 20, 2017 4:31:36 PM / Location: P:\2015_JOB\15708 Oregon City Hampton Inn & Suites\8 Drawing\A202.dwg / User: Robin Chard / Layout: A202 Land Use



1 A203 TYPICAL FLOOR PLAN
SCALE: 1/8" = 1'-0"

PROJECT NORTH

0 4' 8' 16'

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

REGISTERED ARCHITECT
KEVIN HILL
WEST LINN, OREGON
Preliminary
NOT FOR CONSTRUCTION
EXPIRES: 12/31/17

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE I
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

2017-04-14 LAND USE SUBMITTAL

MARK	DATE	REVISION/ISSUE

PROJECT NUMBER	DRAWN BY	CHECKED BY
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TYPICAL FLOOR PLAN

A203

Date: Thursday, April 20, 2017 4:32:46 PM / Location: P:\2015_JOB\15708 Oregon City Hampton Inn & Suites\8 Drawing\A203.dwg / User: Robin Chard / Layout: A203 Land Use



1 NATURAL STONE VENEER

2 WOOD TEXTURE FIBER CEMENT PANEL SYSTEM

3 METAL LOUVERS INTEGRATED WITH WINDOW SYSTEM

4 INSULATED GLAZING WITH PAINTED ALUMINUM MULLION

5 SYNTHETIC PLASTER

6 PAINTED METAL

7 METAL FLASHING & SMOOTH FINISH SYNTHETIC PLASTER

8 NATURAL STONE VENEER SITE WALL

9 HACKETT HOUSE

10 EXISTING AUTO REPAIR

17TH STREET ELEVATION

0 4' 8' 16'

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE 1
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

MARK	DATE	REVISION/ISSUE
	2017-04-14	LAND USE SUBMITTAL

PROJECT NUMBER 13647 | DRAWN BY XXX | CHECKED BY YYY

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EXTERIOR ELEVATION

A300

Date: Friday, April 14, 2017 9:55:52 AM / Location: P:\2013_JOB\13647 Abernethy Place\8 Drawing\DDP 30x42 Etiebloc ks.dwg / User: Robin Chard / Layout: A300 Exterior Elevation



1 NATURAL STONE VENEER

2 WOOD TEXTURE FIBER CEMENT PANEL SYSTEM

3 METAL LOUVERS INTEGRATED WITH WINDOW SYSTEM

4 INSULATED GLAZING WITH PAINTED ALUMINUM MULLION

5 SYNTHETIC PLASTER

6 PAINTED METAL

7 METAL FLASHING & SMOOTH FINISH SYNTHETIC PLASTER

8 NATURAL STONE VENEER SITE WALL

9 HACKETT HOUSE

10 EXISTING AUTO REPAIR

EAST ELEVATION

0 4' 8' 16'

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE I
OREGON CITY, OREGON
FOR: CLIENT NAME

THIS WIDTH SHOULD BE 3"

2017-04-14 LAND USE SUBMITTAL

MARK	DATE	REVISION/ISSUE

PROJECT NUMBER 13647 | DRAWN BY XXX | CHECKED BY YYY

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EXTERIOR ELEVATION

A301

Date: Thursday, April 13, 2017 4:15:29 PM / Location: P:\2013_JOB\13647 Abernethy Place\8 Drawing\DDP 30x42 titleblocks.dwg / User: Robin Chard / Layout: A301 Exterior Elevation



1 NATURAL STONE VENEER

2 WOOD TEXTURE FIBER CEMENT PANEL SYSTEM

3 METAL LOUVERS INTEGRATED WITH WINDOW SYSTEM

4 INSULATED GLAZING WITH PAINTED ALUMINUM MULLION

5 SYNTHETIC PLASTER

6 PAINTED METAL

7 METAL FLASHING & SMOOTH FINISH SYNTHETIC PLASTER

8 NATURAL STONE VENEER SITE WALL

NORTH ELEVATION

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE 1
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

MARK	DATE	REVISION/ISSUE
	2017-04-14	LAND USE SUBMITTAL

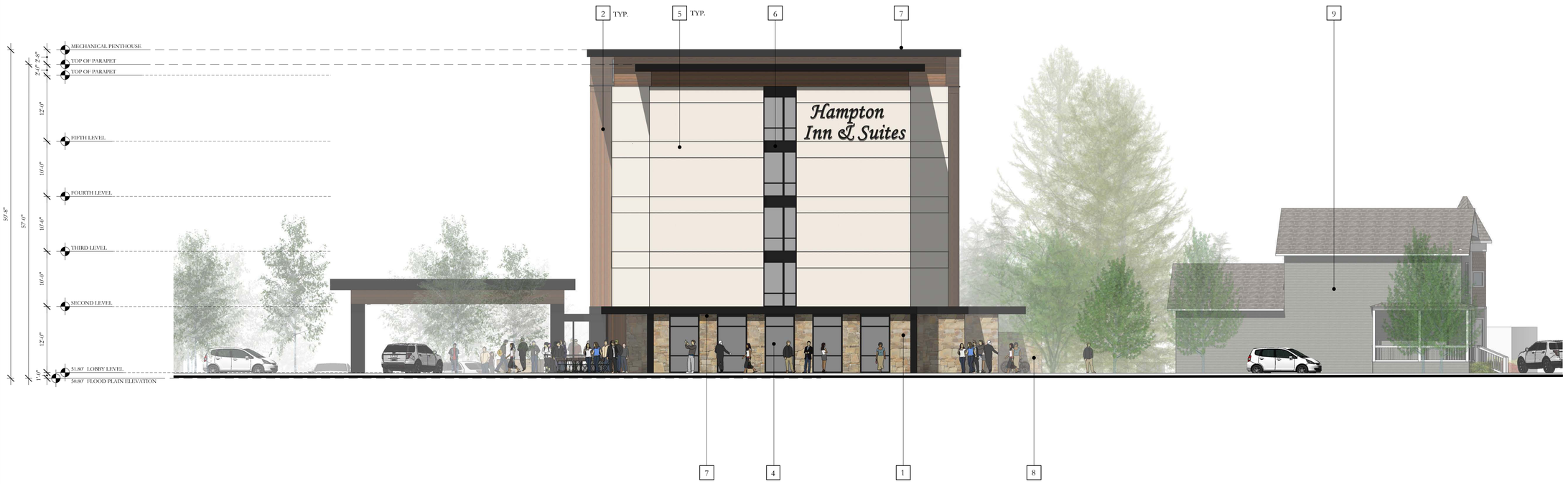
PROJECT NUMBER	DRAWN BY	CHECKED BY
13647	XXX	YYY

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EXTERIOR ELEVATION

A302

Date: Thursday, April 13, 2017 4:16:21 PM / Location: P:\2013_JOB\13647 Abernethy Place\8 Drawing\DDP 30x42 titleblocks.dwg / User: Robin Chard / Layout: A302 Exterior Elevation



1 NATURAL STONE VENEER

2 WOOD TEXTURE FIBER CEMENT PANEL SYSTEM

3 METAL LOUVERS INTEGRATED WITH WINDOW SYSTEM

4 INSULATED GLAZING WITH PAINTED ALUMINUM MULLION

5 SYNTHETIC PLASTER

6 PAINTED METAL

7 METAL FLASHING & SMOOTH FINISH SYNTHETIC PLASTER

8 NATURAL STONE VENNER SITE WALL

9 HACKETT HOUSE

10 EXISTING AUTO REPAIR

WEST ELEVATION

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE I
OREGON CITY, OREGON
FOR: CLIENT NAME

THIS WIDTH SHOULD BE 3"

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	2017-04-14	LAND USE SUBMITTAL

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EXTERIOR ELEVATION

A303

Date: Thursday, April 13, 2017 4:16:41 PM / Location: P:\2013_JOB\13647 Abernethy Place\8 Drawing\DDP 36x24 titleblocks.dwg / User: Robin Chand / Layout: A303 Exterior Elevation



1 NATURAL STONE VENEER

2 WOOD TEXTURE FIBER CEMENT PANEL SYSTEM

3 METAL LOUVERS INTEGRATED WITH WINDOW SYSTEM

4 INSULATED GLAZING WITH PAINTED ALUMINUM MULLION

5 SYNTHETIC PLASTER

6 PAINTED METAL

7 METAL FLASHING & SMOOTH FINISH SYNTHETIC PLASTER

8 NATURAL STONE VENNER SITE WALL

SOUTH ELEVATION

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE 1
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

MARK	DATE	REVISION/ISSUE
	2017-04-14	LAND USE SUBMITTAL

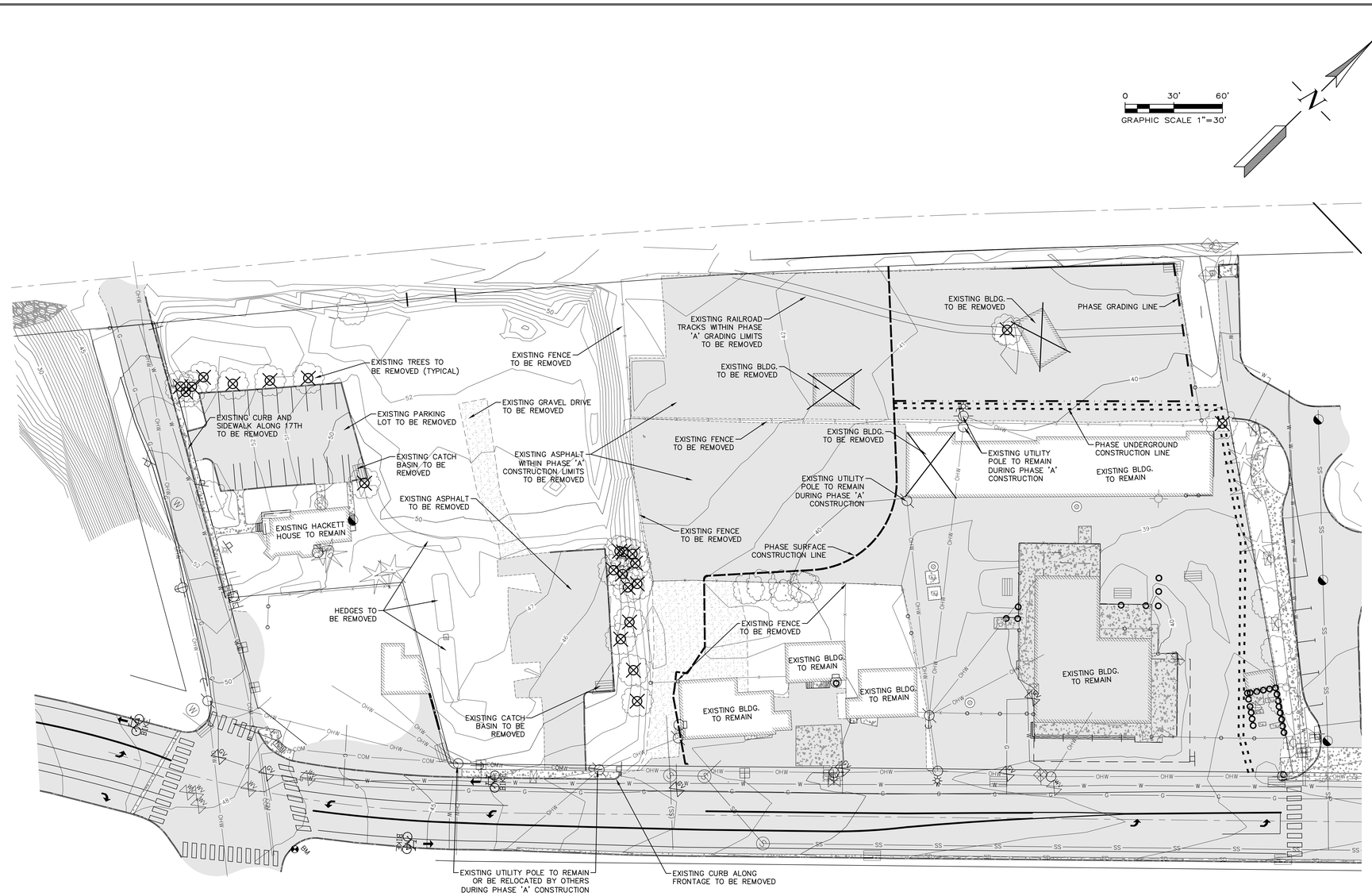
PROJECT NUMBER	DRAWN BY	CHECKED BY
13647	XXX	YYY

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EXTERIOR ELEVATION

A304

Date: Thursday, April 13, 2017 4:17:02 PM / Location: P:\2013_JOB\13647 Abernethy Place\8 Drawing\DDP 30x42 titleblock.dwg / User: Robin Chard / Layout: A304 Exterior Elevation



REVISIONS	BY

ABERNETHY PLACE
PHASE ONE – HOTEL
Demo Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE APR. 2017
SCALE 1" = 30'
DRAWN JVM
JOB SGL17-021
SHEET C2
OF C1.3 SHEETS

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188
DRAWING: SGL17-021-P1-GRADING.dwg

REGISTERED PROFESSIONAL ENGINEER 16820 OREGON FEB 14, 1985 THOMAS J. SISUL
DESIGN REVIEW
EXPIRES: 6/30/18

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE I
OREGON CITY, OREGON
FOR: CLIENT NAME

THIS WIDTH SHOULD BE 3"

2017-03-30 PROGRESS

MARK	DATE	REVISION/ISSUE

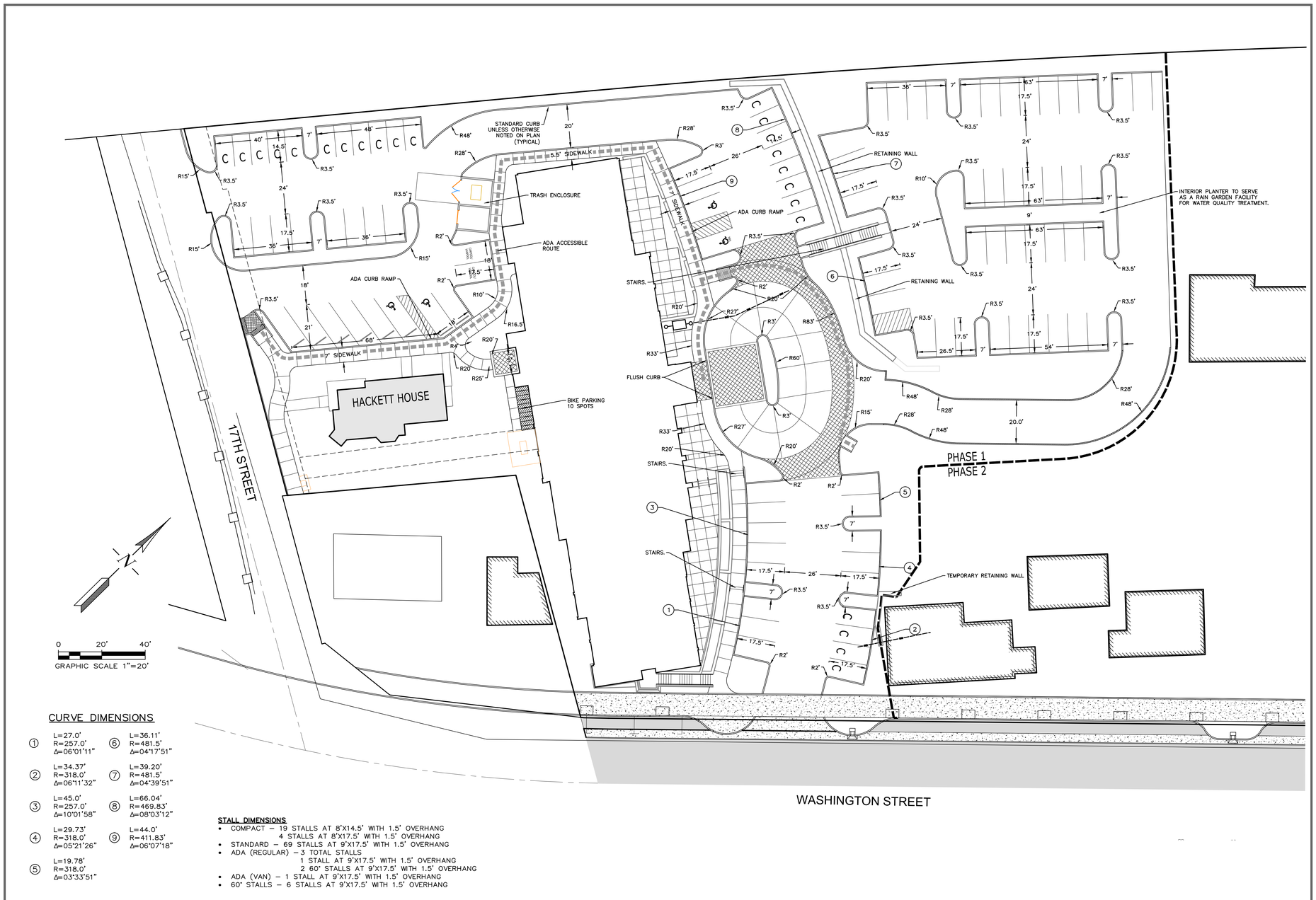
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DEMOLITION PLAN

C102

Date: Tuesday, April 11, 2017 8:30:20 AM / Location: X:\Sisul Gladstone\Engineering\Autocad\2017\17-021 Abernethy Place\dwg\17-021-LU-DEMO.dwg / User: Jordan Morfitt / Layout: 22x34



CURVE DIMENSIONS

①	L=27.0' R=257.0' Δ=06°01'11"	⑥	L=36.11' R=481.5' Δ=04°17'51"
②	L=34.37' R=318.0' Δ=06°11'32"	⑦	L=39.20' R=481.5' Δ=04°39'51"
③	L=45.0' R=257.0' Δ=10°01'58"	⑧	L=66.04' R=469.83' Δ=08°03'12"
④	L=29.73' R=318.0' Δ=05°21'26"	⑨	L=44.0' R=411.83' Δ=06°07'18"
⑤	L=19.78' R=318.0' Δ=03°33'51"		

STALL DIMENSIONS

- COMPACT – 19 STALLS AT 8'X14.5' WITH 1.5' OVERHANG
  4 STALLS AT 8'X17.5' WITH 1.5' OVERHANG
- STANDARD – 69 STALLS AT 9'X17.5' WITH 1.5' OVERHANG
- ADA (REGULAR) – 3 TOTAL STALLS
  1 STALL AT 9'X17.5' WITH 1.5' OVERHANG
  2 60° STALLS AT 9'X17.5' WITH 1.5' OVERHANG
- ADA (VAN) – 1 STALL AT 9'X17.5' WITH 1.5' OVERHANG
- 60° STALLS – 6 STALLS AT 9'X17.5' WITH 1.5' OVERHANG

REVISIONS	BY

ABERNETHY PLACE
PHASE ONE – HOTEL

Site Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE APR. 2017
SCALE 1"=20'
DRAWN JVM
JOB SGL17-021
SHEET C3
OF C13 SHEETS

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188
DRAWING: SGL17-021-P1-GRADING.dwg

REGISTERED PROFESSIONAL ENGINEER 12,820 OREGON JULY 14, 1995 THOMAS J. SISUL
DESIGN REVIEW
EXPIRES: 6/30/18

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE 1
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

MARK	DATE	REVISION/ISSUE
	2017-03-30	PROGRESS

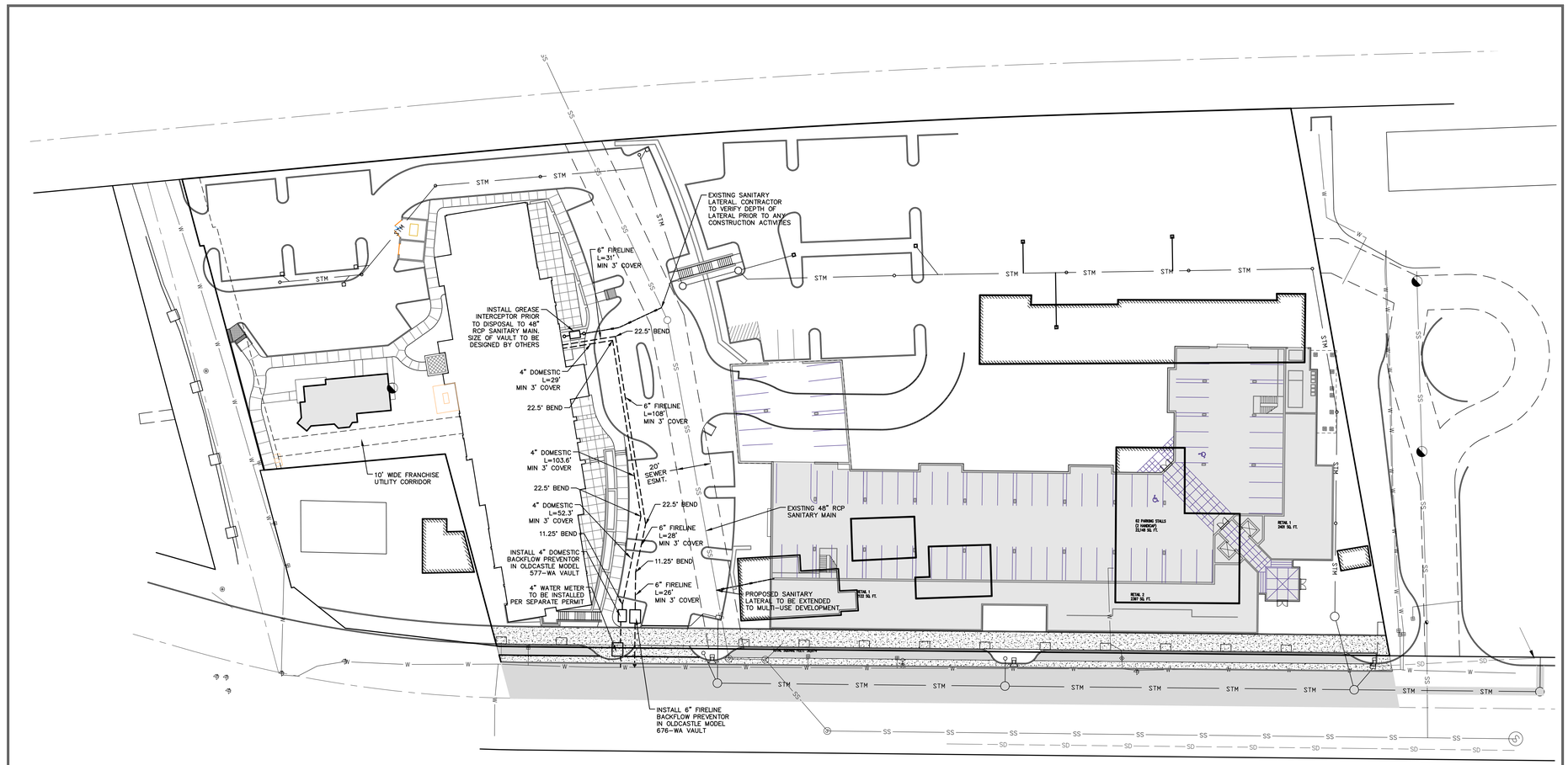
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SITE PLAN (PHASE 1)

C103

Date: Thursday, April 13, 2017 12:38:31 PM / Location: N:\Sisul Gladstone\Engineering\Autocad\2017\17-021 Abernethy Place\dwg\17-021-UU-SITE.dwg / User: Jordan Marks / Layout: 30x42



REVISIONS	BY

ABERNETHY PLACE
PHASE ONE – HOTEL

Sanitary Sewer & Waterline Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE APR. 2017
SCALE 1"=30'
DRAWN JVM
JOB SGL17-021
SHEET C4
OF C1.3 SHEETS

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DRAWING: SGL17-021-P1-GRADING.dwg

REGISTERED PROFESSIONAL ENGINEER 12,820 OREGON JULY 14, 1995 THOMAS J. SISUL

DESIGN REVIEW

EXPIRES: 6/30/18

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE I
OREGON CITY, OREGON
FOR: CLIENT NAME

THIS WIDTH SHOULD BE 3"

2017-03-30 PROGRESS

MARK DATE REVISION/ISSUE

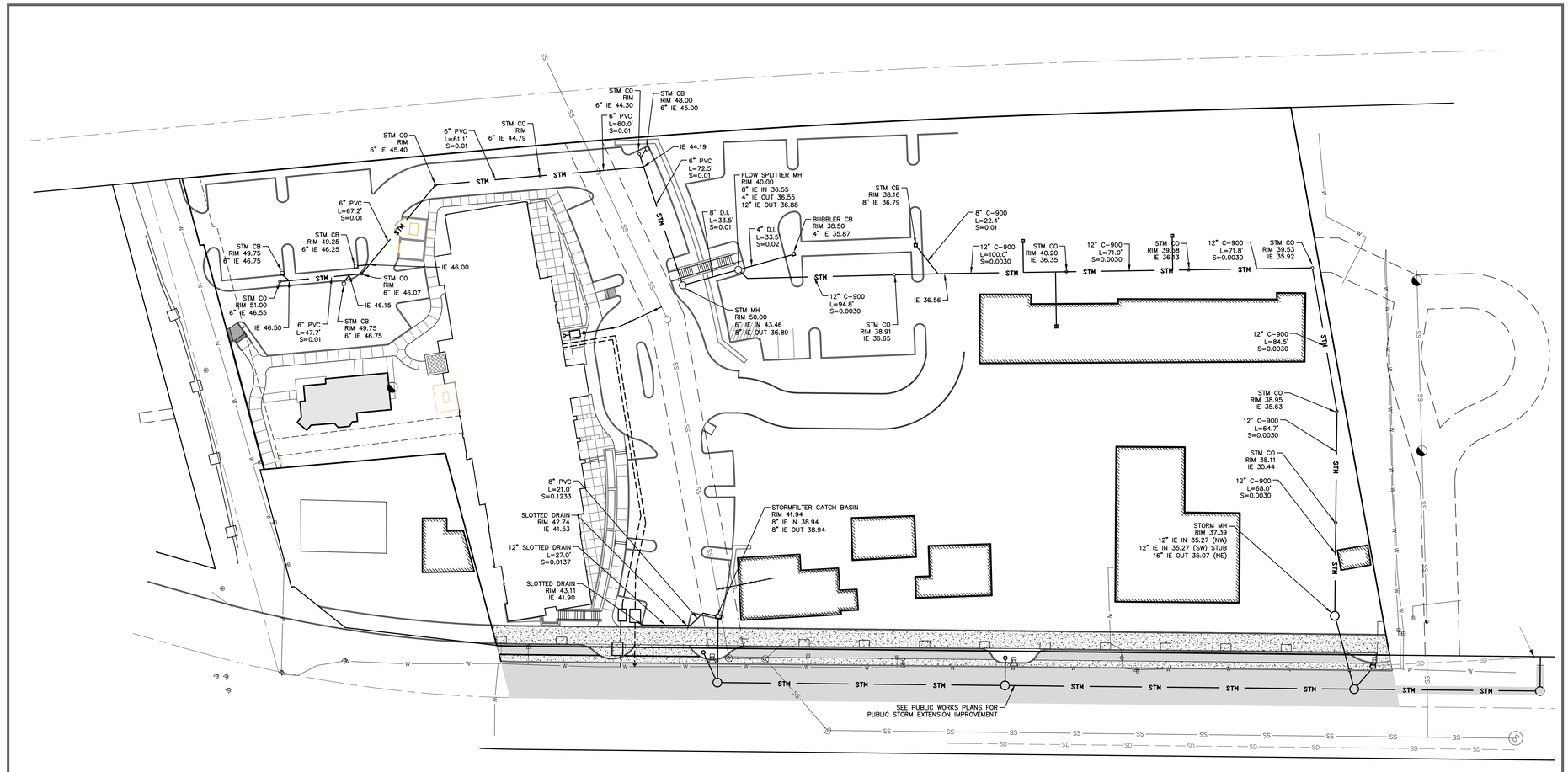
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SANITARY SEWER & WATERLINE PLAN

C201

Date: Wednesday, April 12, 2017 1:06:06 PM / Location: X:\Sisul Gladstone\Engineering\Autocad\2017\17-021 Abernethy Place\dwg\17-021-UU-UTILITIES.dwg / User: Jordan Mathis / Layout: 22x34-SandMat



REVISIONS	BY

Storm Drain Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE APR. 2017
SCALE 1"=30'
DRAWN JVM
JOB SGL17-021
SHEET C5
OF C13 SHEETS

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DRAWING: SGL17-021-P1-GRADING.dwg

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1995
THOMAS J. SISUL
DESIGN REVIEW
EXPIRES: 6/30/18

ABERNETHY PLACE
PHASE ONE - HOTEL

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE I
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

2017-03-30 PROGRESS

MARK	DATE	REVISION/ISSUE

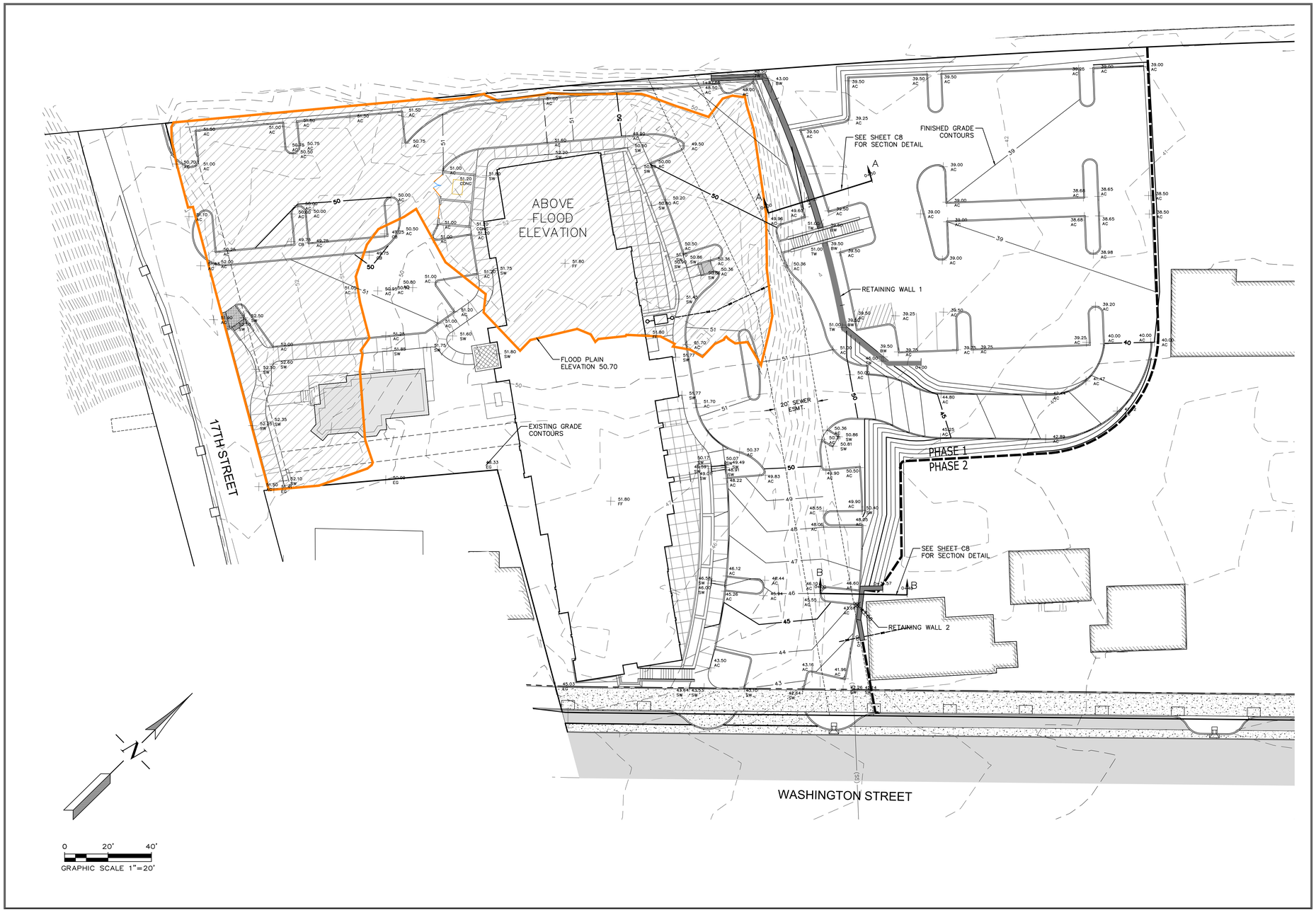
PROJECT NUMBER 13647
DRAWN BY JVM
CHECKED BY TJS

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STORM DRAIN PLAN

C301

Date: Wednesday, April 12, 2017 1:16:04 PM / Location: X:\Sisul Gladstone\Engineering\Autocad\2017\17-021-Abernethy Place\dwg\17-021-UU-UTILITIES.dwg / User: Jordan Mafla / Layout: 22x34-Storm



REVISIONS	BY

ABERNETHY PLACE
PHASE ONE- HOTEL

Grading Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE APR. 2017
SCALE 1"=20'
DRAWN JVM
JOB SGL17-021
SHEET C6
OF C13 SHEETS

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188
DRAWING: SGL17-021-P1-GRADING.dwg

REGISTERED PROFESSIONAL ENGINEER
13,820
OREGON
JULY 14, 1995
THOMAS J. SISUL
DESIGN REVIEW
EXPIRES: 6/30/18

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE 1
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

2017-03-30 PROGRESS

MARK	DATE	REVISION/ISSUE

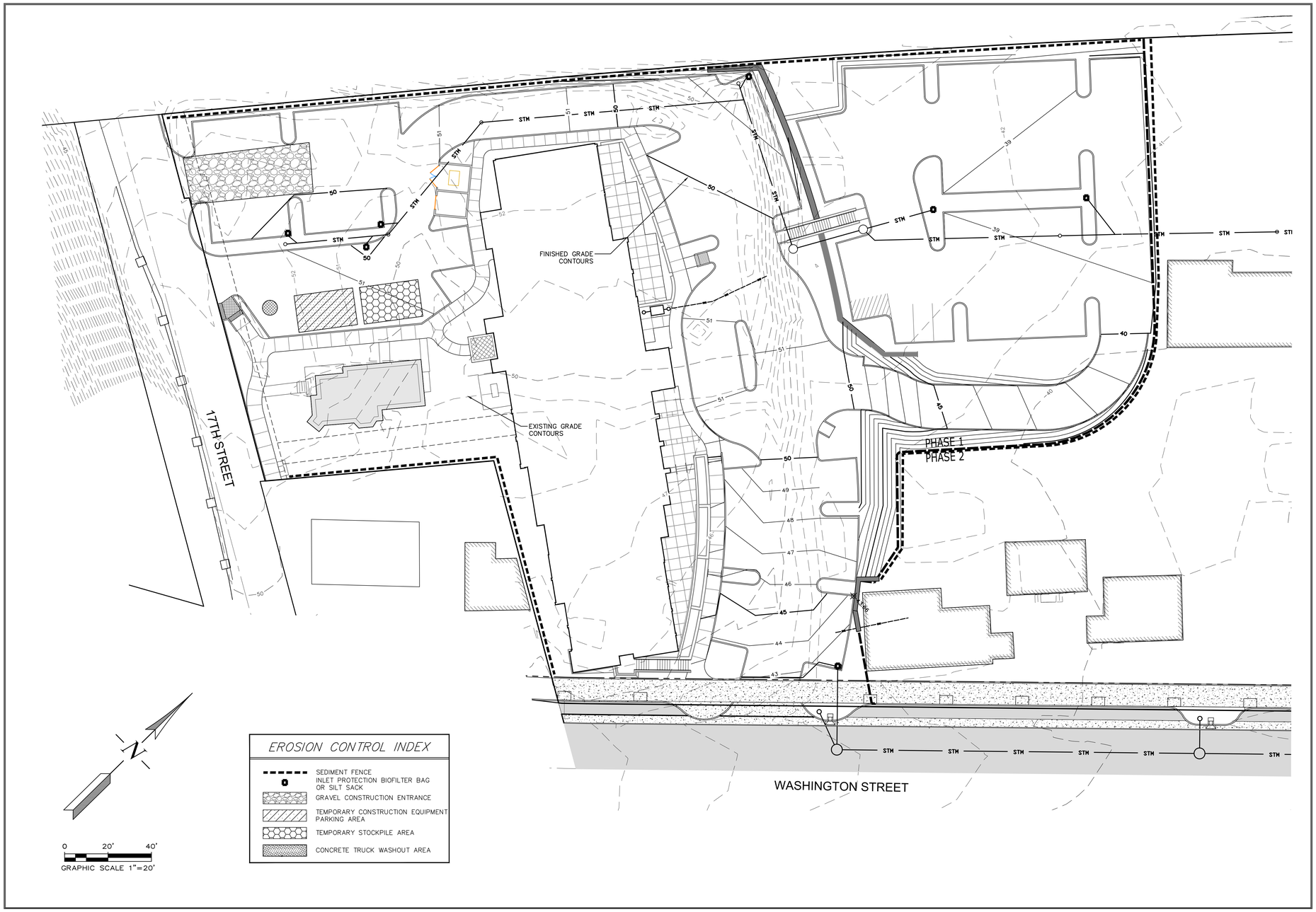
PROJECT NUMBER	DRAWN BY	CHECKED BY
13647	JVM	TJS

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GRADING PLAN (PHASE 1)

C401

Date: Wednesday, April 12, 2017 11:26:12 PM / Location: X:\Sisul Gladstone\Engineering\Autocad\2017\17-021 Abernethy Place\dwg\17-021-P1-GRADING.dwg / User: Jordan Marfia / Layout: Grading Plan



REVISIONS	BY

ABERNETHY PLACE
PHASE ONE- HOTEL

Erosion Control Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE APR. 2017
SCALE 1"=20'
DRAWN JVM
JOB SGL17-021
SHEET C7
OF C13 SHEETS

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DRAWING: SGL17-021-P1-GRADING.dwg

REGISTERED PROFESSIONAL ENGINEER
12,820
OREGON
FEB 14, 1985
THOMAS J. SISUL
DESIGN REVIEW
EXPIRES: 6/30/18

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE I
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

2017-03-30 PROGRESS

MARK	DATE	REVISION/ISSUE

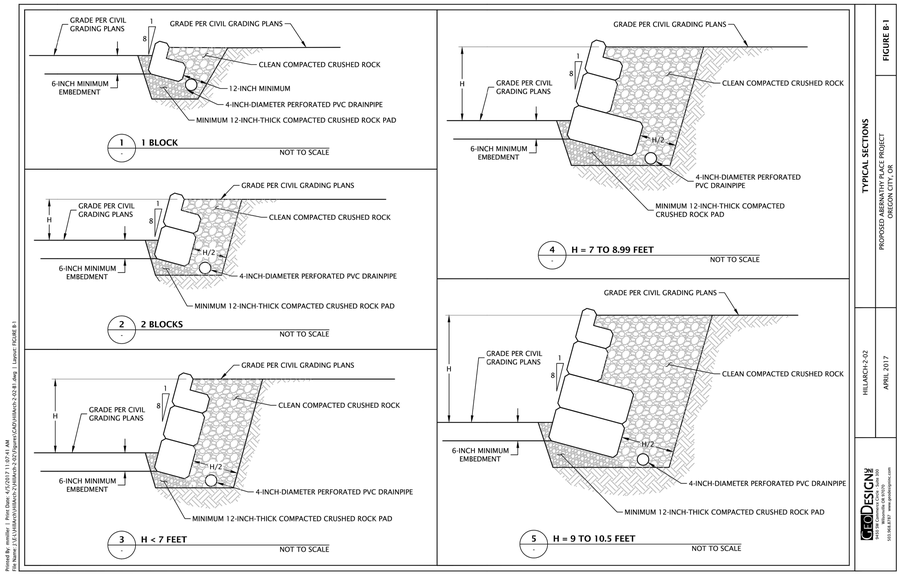
PROJECT NUMBER 13647 | DRAWN BY JVM | CHECKED BY TJS

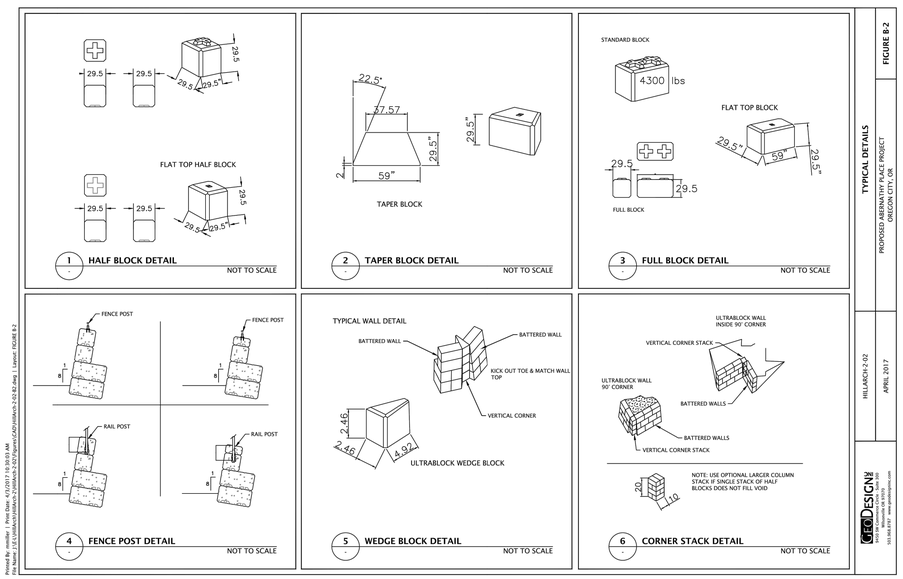
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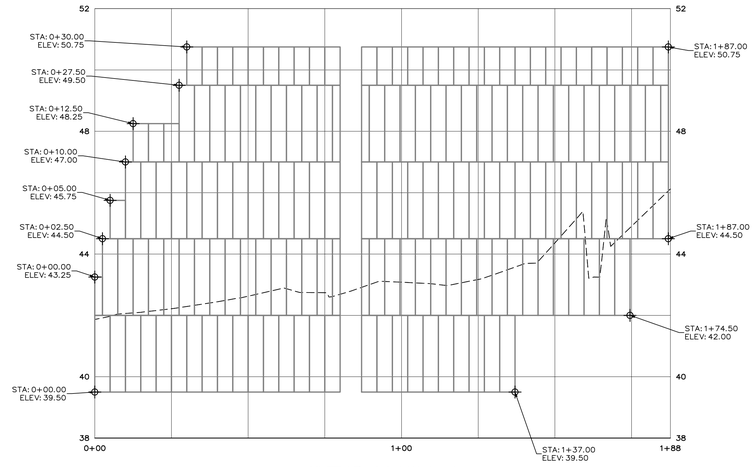
EROSION CONTROL PLAN

C402

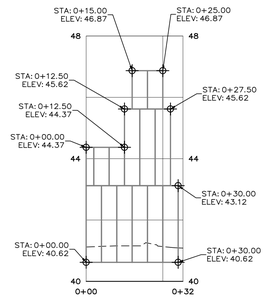
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ULTRABLOCK WALL 1
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=2'



ULTRABLOCK WALL 2
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=2'

REVISIONS	BY

ABERNETHY PLACE
PHASE ONE– HOTEL

Wall Profiles

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657–0188

DATE	APR. 2017
SCALE	NOTED
DRAWN	JVM
JOB	SGL17–021
SHEET	C8
OF	C13 SHEETS

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657–0188
DRAWING: SGL17–021–P1–GRADING.dwg

REGISTERED PROFESSIONAL ENGINEER
12,820
OREGON
JULY 14, 1995
THOMAS J. SISUL
DESIGN REVIEW
EXPIRES: 6/30/18

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE I
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

MARK	DATE	REVISION/ISSUE
	2017-03-30	PROGRESS

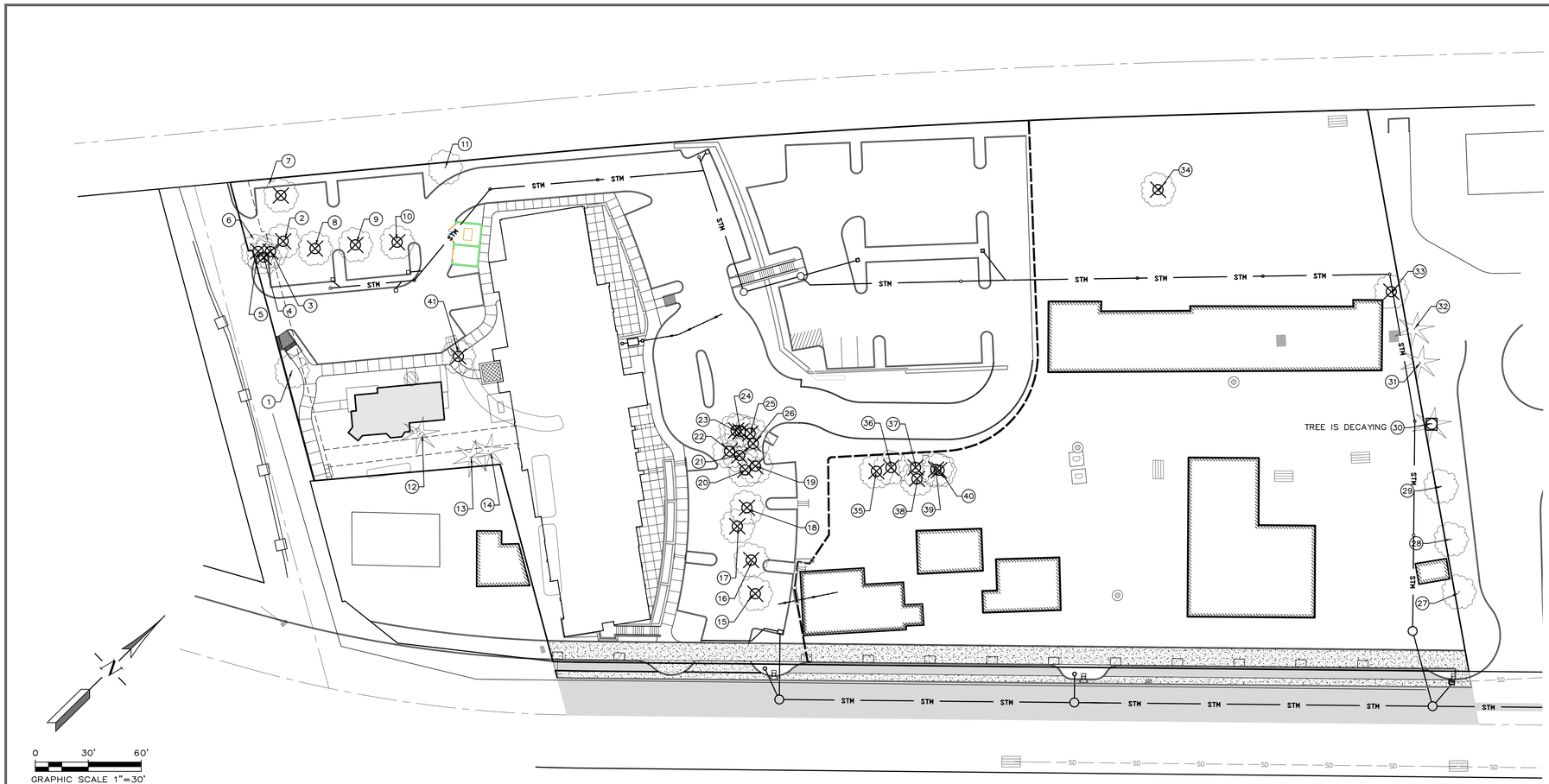
PROJECT NUMBER	DRAWN BY	CHECKED BY
13647	JVM	TJS

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RETAINING WALL PROFILES & DETAILS

C403

Date: Wednesday, April 12, 2017 1:35:43 PM / Location: X:\Sisul Gladstone\Engineering\Autocad\2017\17-021 Abernethy Place\dwg\17-021-P1-GRADING.dwg / User: Jordan Marlia / Layout: Profiles



Remove	Tag	Species	Diameter	Cr. Radius	Remarks	RPZ
	1	Spanish chestnut	48	26	viable; re-grown tops at 50'	48
X	2	tree of heaven	10	12	nuisance	0
X	3	juniper sp.	8,5	8	viable	8
X	4	juniper sp.	6	8	viable	8
X	5	juniper sp.	7	8	viable	8
X	6	juniper sp.	9	8	viable	8
X	7	tree of heaven	7	6	nuisance; added	0
X	8	red maple	21	20	viable; needs pruning	21
X	9	red maple	21	20	viable; needs pruning	21
X	10	red maple	20	17	viable; needs pruning	20
	11	apple	24	16	topped; re-grown tops; stem decay; size estimated	0
	12	Hinoki cypress	6	6	viable	8
	13	deodar cedar	29,14	26	viable; trunk swoop; multiple tops	30
	14	deodar cedar	28,22	28	viable; co-dominant; multiple tops	30
X	15	black cottonwood	36	30	viable	36
X	16	black cottonwood	27	26	viable	27
X	17	black cottonwood	28	28	viable; two broken leaders	28
X	18	black cottonwood	11	14	viable	11
X	19	black cottonwood	23	18	viable; ivy	23
X	20	black cottonwood	14	10	viable; co-dominant at 3'	14

PHASE TWO REMOVAL

Remove	Tag	Species	Diameter	Cr. Radius	Remarks	RPZ
X	21	black cottonwood	12	8	viable	12
X	22	black cottonwood	33	33	viable	33
X	23	black cottonwood	15	15	viable	23
X	24	black cottonwood	10	10	viable; trunk rubs on T23	10
X	25	black cottonwood	19	18	viable; leans to south	19
X	26	black cottonwood	18,14,12,8	18	viable; multiple stems from base	18
	27	red oak	17	14	viable	17
	28	red oak	15	16	viable	15
	29	red oak	13	16	viable	13
	30	western red cedar	10	8	trunk decay; wood borers	0
	31	western red cedar	12	8	viable	12
	32	western red cedar	9	8	viable	9
X	33	white birch	8	12	viable; sapsuckers	8
X	34	black cottonwood	18	10	viable; co-dominant at 1'	18
X	35	black locust	32	26	size estimated due to access; nuisance	0
X	36	black cottonwood	30	24	viable; size estimated due to access; ivy	30
X	37	black cottonwood	26	28	top is dead; size estimated due to access	0
X	38	black locust	46	36	size estimated due to access; three co-dominant stems at 4'; ivy; nu	0
X	39	black cottonwood	21	30	broken top; suppressed; size estimated due to access	0
X	40	black cottonwood	49	42	viable; dead branches; size estimated due to access	49
X	41	Hinoki cypress	10	8	viable; multiple tops; lost graft	10

Species

apple- Malus sp.
black cottonwood- Populus trichocarpa
black locust- Robinia pseudoacacia
deodar cedar- Cedrus deodara
Hinoki cypress- Chamaecyparis obtusa
juniper- Juniperus sp.
red maple- Acer rubrum
red oak- Quercus rubra
Spanish chestnut- Castanea sativa
tree of heaven- Ailanthus altissima
western red cedar- Thuja plicata
white birch- Betula pendula

TREES TO REMAIN DURING PHASE 1 CONSTRUCTION
1, 11–14, 27–32

REVISIONS	BY

ABERNETHY PLACE
PHASE ONE – HOTEL

Tree Removal & Mitigation Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE APR. 2017
SCALE 1"=20'
DRAWN JVM
JOB SGL17-021
SHEET C9
OF C13 SHEETS

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188
DRAWING: SGL17-021-P1-GRADING.dwg

REGISTERED PROFESSIONAL ENGINEER 14,820 OREGON FEB 14, 1985 THOMAS J. SISUL
DESIGN REVIEW
EXPIRES: 6/30/18

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE I
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

2017-03-30 PROGRESS
MARK DATE REVISION/ISSUE

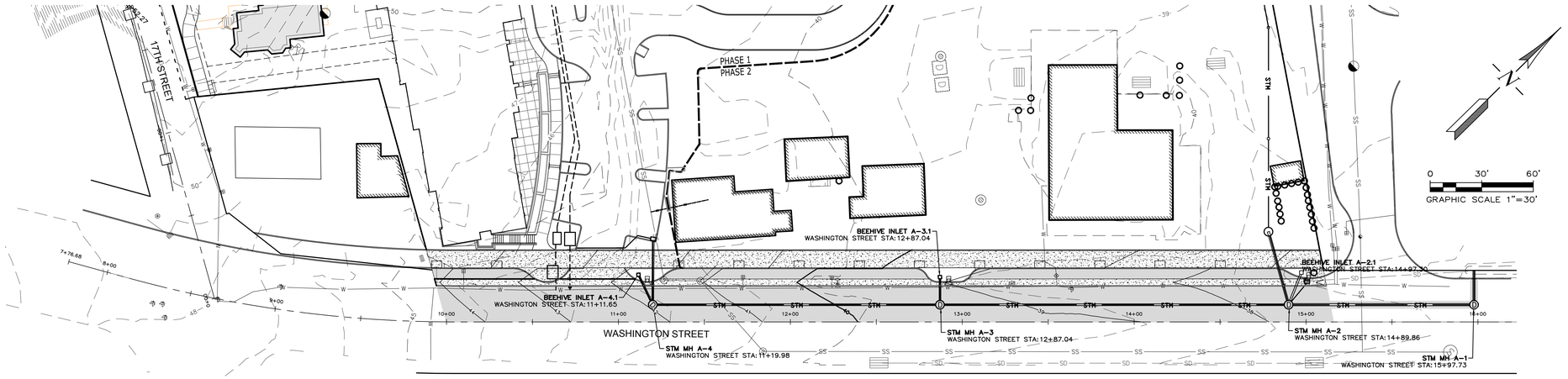
PROJECT NUMBER 13647
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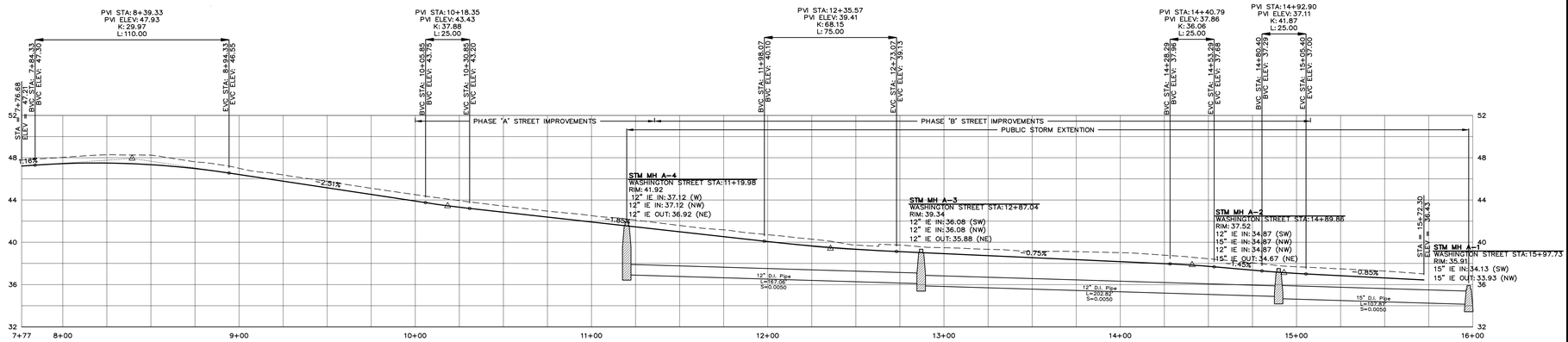
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TREE REMOVAL PLAN

C404

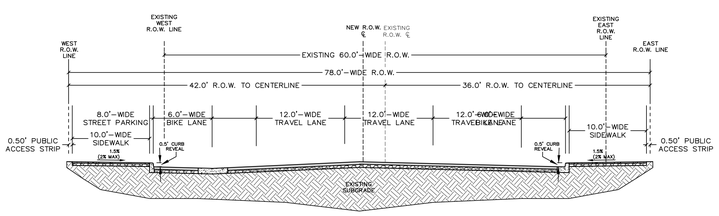
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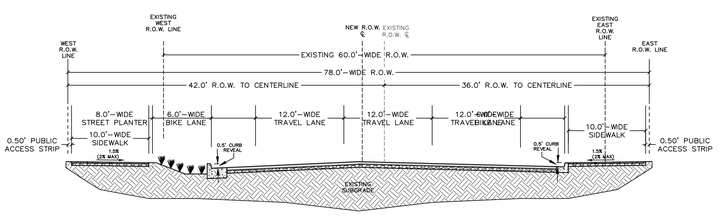


WASHINGTON STREET

HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=5'



TYPICAL SECTION – WASHINGTON STREET
(TRAVELING NORTHWARD)
N.T.S.



TYPICAL SECTION – WASHINGTON STREET
(TRAVELING NORTHWARD)
N.T.S.

CITY OF OREGON CITY
APPROVED FOR CONSTRUCTION

☐ Approved as Submitted

☐ Approved as Noted in Red

Engineer: _____

Planning: _____

Public Works: _____

You shall be responsible for protecting all existing public and private utilities.

Date of Approval: _____

100XXX.XX

REVISIONS

NO.	DESCRIPTION	DATE

DRAWING NUMBER:
2
SHEET 2 OF 9

WASHINGTON STREET
STREET/STORM PLAN & PROFILE
OC PROJECT#:
ABERNETHY PLACE
PHASE ONE

OREGON CITY
FILE NUMBER:
PROJECT MANAGER:

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188
PROJECT NO: SGL 17-021
STANDARD BY: JVM
SCALE: 1"=30'
DATE: MAR. 2018
DRAWN BY: JVM
REV:

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188
DRAWING: SGL17-021-P1-GRADING.dwg

REGISTERED PROFESSIONAL ENGINEER
OREGON
FEB 14, 1985
THOMAS J. SISUL
DESIGN REVIEW
EXPIRES: 6/30/18

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE I
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

2017-03-30 PROGRESS
MARK DATE REVISION/ISSUE

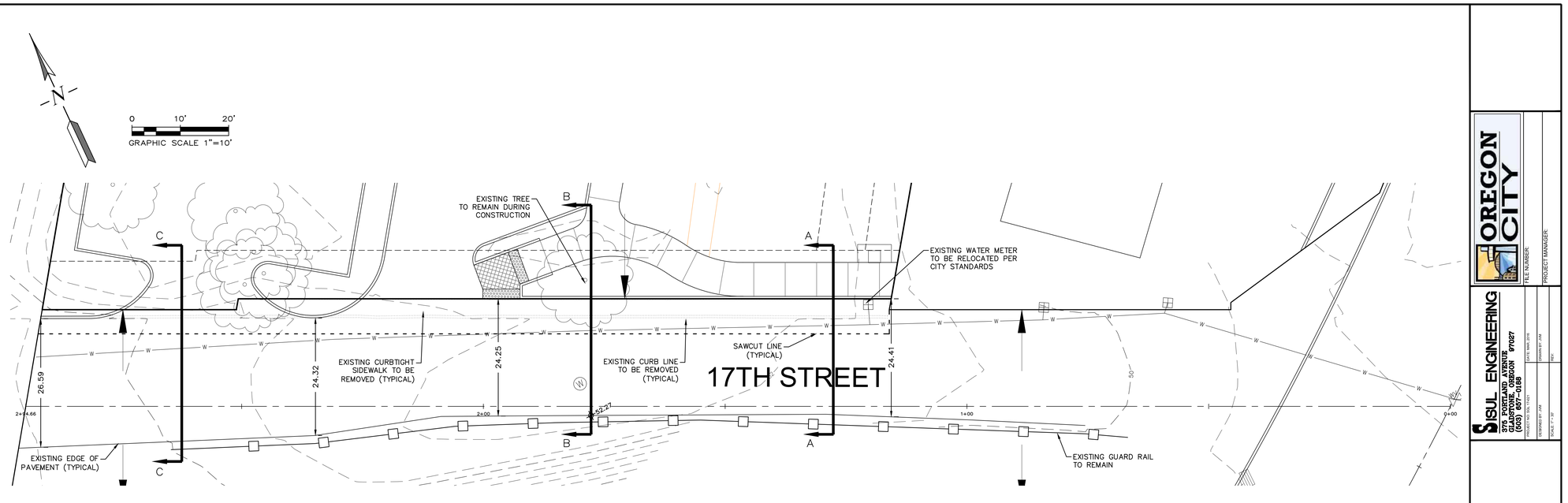
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CHECKED BY: TJS

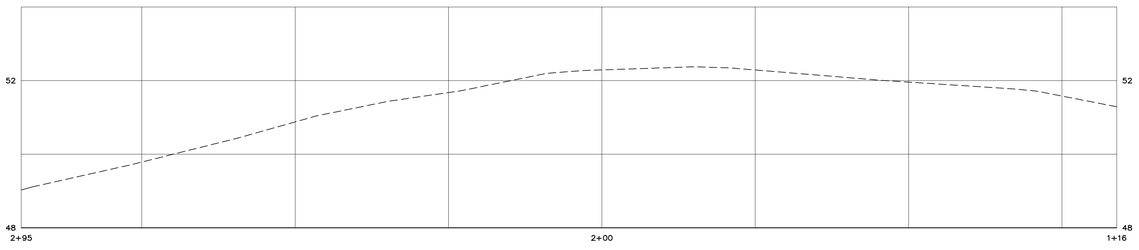
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WASHINGTON STREET
STREET/STORM PLAN & PROFILE

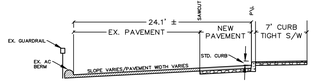
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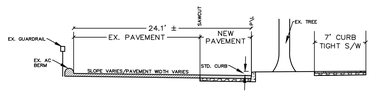




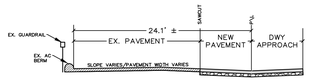
17TH STREET
HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=2'



TYPICAL SECTION A–A – 17TH STREET
N.T.S.



TYPICAL SECTION B–B – 17TH STREET
N.T.S.



TYPICAL SECTION C–C – 17TH STREET
N.T.S.

CITY OF OREGON CITY
APPROVED FOR CONSTRUCTION

☐ Approved as Submitted

☐ Approved as Noted in Red

Engineer: _____

Planning: _____

Public Works: _____

You shall be responsible for protecting all existing public and private utilities.

Date of Approval: _____

100XXX.XX

OREGON CITY

PROJECT MANAGER:

FILE NUMBER:

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE: MAR. 2016
DRAWN BY: JVM
REV:

PROJECT NO: SGL17-021
DESIGNED BY: JVM
SCALE: 1" = 10'

17TH STREET
PLAN & PROFILE
OC PROJECT#:
ABERNETHY PLACE
PHASE ONE

REVISIONS

NO.	DESCRIPTION	DATE

DRAWING NUMBER:
3
SHEET 3 OF 9

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188
DRAWING: SGL17-021-P1-GRADING.dwg

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1995
THOMAS J. SISUL
EXPIRES: 6/30/18

DESIGN REVIEW

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE I
OREGON CITY, OREGON
FOR CLIENT NAME

THIS WIDTH SHOULD BE 3"

MARK	DATE	REVISION/ISSUE
	2017-03-30	PROGRESS

PROJECT NUMBER: 13647
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17TH STREET
PLAN & PROFILE

C603

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TOPOGRAPHIC SURVEY

LOCATED IN THE SOUTHWEST ONE-QUARTER AND THE NORTHWEST ONE-QUARTER OF SECTION 29, TOWNSHIP 2 SOUTH, RANGE 2 EAST, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON

FIELD SURVEYED: NOVEMBER 2016

SANITARY SEWER DATA:

1 SANITARY SEWER MANHOLE
RIM=41.65'
IE 12"+/- (N)=29.70'
IE 8"+/- (NE)=26.95'+/-*
*PIPE RECESSED UNDER MANHOLE CONE
IE 48"+/- (SE)=26.95'
IE 48"+/- (NW)=26.75'

2 SANITARY SEWER MANHOLE
RIM=41.38'
IE 8"+/- (E)=27.28'
IE 8"+/- (SW)=27.18'

3 SANITARY SEWER MANHOLE
RIM=40.70'
IE 8"+/- (NE)=27.35'
IE 8"+/- (SW)=27.30'

4 SANITARY SEWER MANHOLE
RIM=36.58'
IE 8"+/- (NE)=28.98'
IE 8"+/- (SW)=29.08'

5 SANITARY SEWER CLEANOUT
RIM=37.44'

6 SANITARY SEWER CLEANOUT
RIM=38.37'

7 SANITARY SEWER CLEANOUT
RIM=39.53'

8 SANITARY SEWER CLEANOUT
RIM=53.66'

9 SANITARY SEWER MANHOLE
RIM=47.33'
IE 48"+/- (SE)=26.43'
IE 48"+/- (NW)=26.03'

STORM SEWER DATA:

1 STORM SEWER CATCH BASIN
RIM=48.57'
IE 12"+/- (SW)=46.26'

2 STORM SEWER IE
IE 12" +/- (NE)=42.86'

3 STORM SEWER CATCH BASIN
RIM=44.63'
FULL OF WATER

4 STORM SEWER AREA DRAIN
RIM=49.39'

5 STORM SEWER CATCH BASIN
LYNCH STYLE
RIM=48.55'

6 STORM SEWER CATCH BASIN
RIM=44.55'

7 STORM SEWER CATCH BASIN
RIM=39.16'
IE 12"+/- (NE)=36.75'

8 STORM SEWER CATCH BASIN
RIM=38.52'
FULL OF WATER

9 STORM SEWER CATCH BASIN
RIM=36.88'
IE 12"+/- (SW)=34.00'
IE 12"+/- (NE)=34.02'

10 STORM SEWER CATCH BASIN
RIM=36.84'
IE 12"+/- (NE)=34.74'

11 STORM SEWER IE
IE 12" +/- (SW)=33.83'

12 STORM SEWER DITCH INLET
FLOWLINE=33.46'
IE 18"+/- (NE)=31.93'

13 STORM SEWER IE
IE 18"+/- (SW)=31.08'

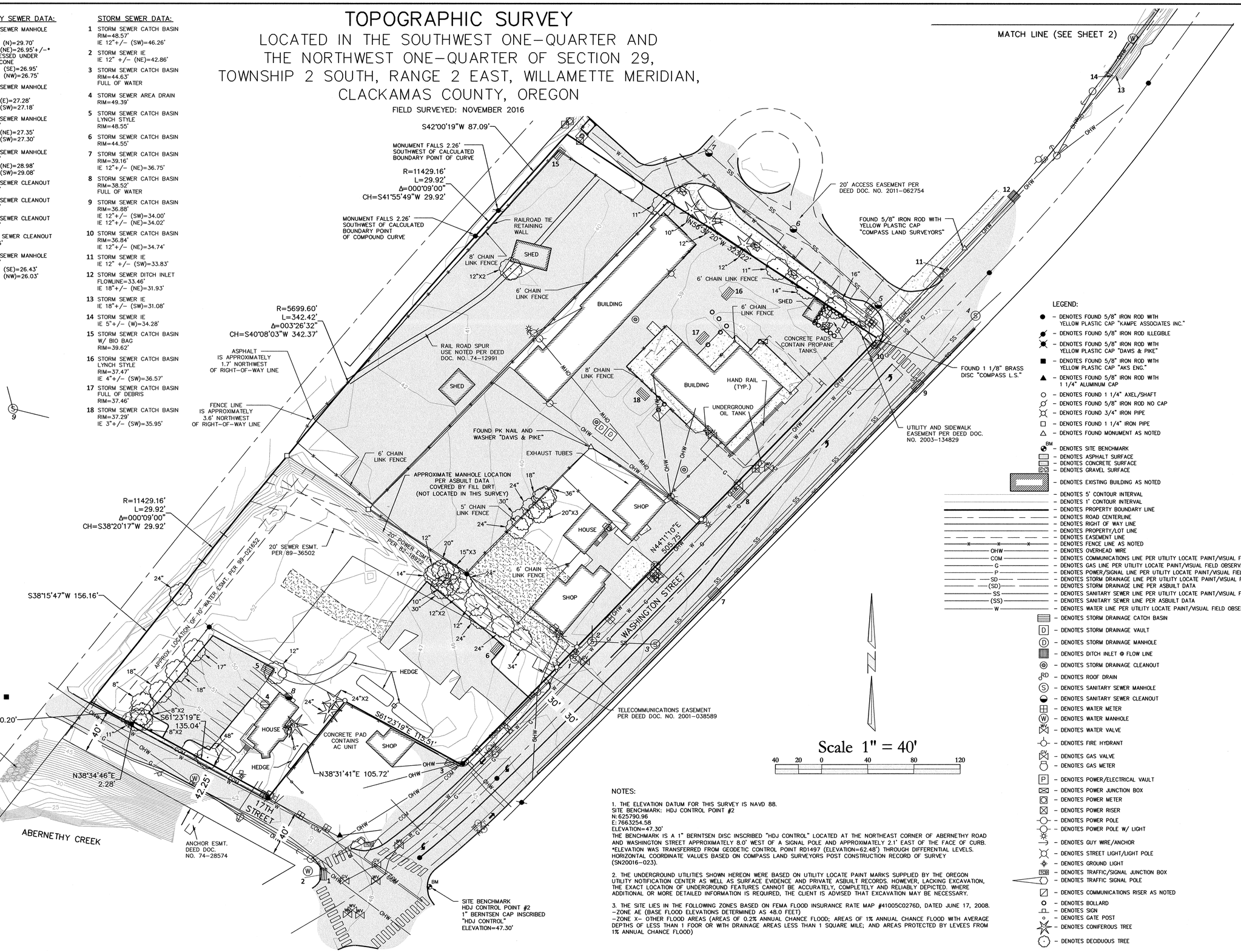
14 STORM SEWER IE
IE 5"+/- (W)=34.28'

15 STORM SEWER CATCH BASIN
W/ BIO BAG
RIM=39.62'

16 STORM SEWER CATCH BASIN
LYNCH STYLE
RIM=37.47'
IE 4"+/- (SW)=36.57'

17 STORM SEWER CATCH BASIN
FULL OF DEBRIS
RIM=37.46'

18 STORM SEWER CATCH BASIN
RIM=37.29'
IE 3"+/- (SW)=35.95'



LEGEND:

- ● – DENOTES FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP "KAMPE ASSOCIATES INC."
- ⊘ – DENOTES FOUND 5/8" IRON ROD ILLEGIBLE
- ⊗ – DENOTES FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP "DAVIS & PIKE"
- ■ – DENOTES FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP "AKS ENG."
- ▲ – DENOTES FOUND 5/8" IRON ROD WITH 1 1/4" ALUMINUM CAP
- ○ – DENOTES FOUND 1 1/4" AXEL/SHAFT
- ⊘ – DENOTES FOUND 5/8" IRON ROD NO CAP
- ⊗ – DENOTES FOUND 3/4" IRON PIPE
- □ – DENOTES FOUND 1 1/4" IRON PIPE
- △ – DENOTES FOUND MONUMENT AS NOTED
- BM – DENOTES SITE BENCHMARK
- ▭ – DENOTES ASPHALT SURFACE
- ▭ – DENOTES CONCRETE SURFACE
- ▭ – DENOTES GRAVEL SURFACE
- ▨ – DENOTES EXISTING BUILDING AS NOTED
- – DENOTES 5' CONTOUR INTERVAL
- – DENOTES 1' CONTOUR INTERVAL
- – DENOTES PROPERTY BOUNDARY LINE
- – DENOTES ROAD CENTERLINE
- – DENOTES RIGHT OF WAY LINE
- – DENOTES PROPERTY/LOT LINE
- – DENOTES EASEMENT LINE
- – DENOTES FENCE LINE AS NOTED
- OHW – DENOTES OVERHEAD WIRE
- COM – DENOTES COMMUNICATIONS LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- G – DENOTES GAS LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- P – DENOTES POWER/SIGNAL LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- SD – DENOTES STORM DRAINAGE LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- (SD) – DENOTES STORM DRAINAGE LINE PER ASBUILT DATA
- SS – DENOTES SANITARY SEWER LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- (SS) – DENOTES SANITARY SEWER LINE PER ASBUILT DATA
- W – DENOTES WATER LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- ▤ – DENOTES STORM DRAINAGE CATCH BASIN
- D – DENOTES STORM DRAINAGE VAULT
- Ⓓ – DENOTES STORM DRAINAGE MANHOLE
- ▥ – DENOTES DITCH INLET @ FLOW LINE
- ◎ – DENOTES STORM DRAINAGE CLEANOUT
- RD – DENOTES ROOF DRAIN
- Ⓢ – DENOTES SANITARY SEWER MANHOLE
- ◒ – DENOTES SANITARY SEWER CLEANOUT
- ⊞ – DENOTES WATER METER
- Ⓦ – DENOTES WATER MANHOLE
- WV – DENOTES WATER VALVE
- – DENOTES FIRE HYDRANT
- GV – DENOTES GAS VALVE
- – DENOTES GAS METER
- P – DENOTES POWER/ELECTRICAL VAULT
- ⊠ – DENOTES POWER JUNCTION BOX
- ▣ – DENOTES POWER METER
- ⊠ – DENOTES POWER RISER
- – DENOTES POWER POLE
- – DENOTES POWER POLE W/ LIGHT
- – DENOTES GUY WIRE/ANCHOR
- – DENOTES STREET LIGHT/LIGHT POLE
- – DENOTES GROUND LIGHT
- TCB – DENOTES TRAFFIC/SIGNAL JUNCTION BOX
- – DENOTES TRAFFIC SIGNAL POLE
- – DENOTES COMMUNICATIONS RISER AS NOTED
- – DENOTES BOLLARD
- – DENOTES SIGN
- – DENOTES GATE POST
- – DENOTES CONIFEROUS TREE
- – DENOTES DECIDUOUS TREE

NOTES:

1. THE ELEVATION DATUM FOR THIS SURVEY IS NAVD 88.
SITE BENCHMARK: HDJ CONTROL POINT #2
N:625790.96
E:7663254.58
ELEVATION=47.30'
THE BENCHMARK IS A 1" BERNTSEN DISC INSCRIBED "HDJ CONTROL" LOCATED AT THE NORTHEAST CORNER OF ABERNETHY ROAD AND WASHINGTON STREET APPROXIMATELY 8.0' WEST OF A SIGNAL POLE AND APPROXIMATELY 2.1' EAST OF THE FACE OF CURB. *ELEVATION WAS TRANSFERRED FROM GEODETIC CONTROL POINT RD1497 (ELEVATION=62.48') THROUGH DIFFERENTIAL LEVELS. HORIZONTAL COORDINATE VALUES BASED ON COMPASS LAND SURVEYORS POST CONSTRUCTION RECORD OF SURVEY (SN20016-023).

2. THE UNDERGROUND UTILITIES SHOWN HEREON WERE BASED ON UTILITY LOCATE PAINT MARKS SUPPLIED BY THE OREGON UTILITY NOTIFICATION CENTER AS WELL AS SURFACE EVIDENCE AND PRIVATE ASBUILT RECORDS. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY AND RELIABLY DEPICTED. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION MAY BE NECESSARY.

3. THE SITE LIES IN THE FOLLOWING ZONES BASED ON FEMA FLOOD INSURANCE RATE MAP #41005C0276D, DATED JUNE 17, 2008.
-ZONE AE (BASE FLOOD ELEVATIONS DETERMINED AS 48.0 FEET)
-ZONE X- OTHER FLOOD AREAS (AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOR OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD)

HDJ A DIVISION OF PBS
314 W 15th Street
Vancouver, WA 98660-2927
360.695.3488
360.695.8767 fax
www.hdjdg.com

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 16, 1982
TERRY GOODMAN
1989
RENEWAL DATE: 6-30-17

TOPOGRAPHIC SURVEY
ABERNETHY PLACE
OREGON CITY, OREGON 97045

REVISIONS	REV.:	DESCRIPTION:

DATE	1/5/2017
DRAWN	MDL
SURVEYED	MFD/MFG
CHECKED	TLG/RFS
JOB NO.:	70997-000
DRAWING NAME:	70997-00-TOPO
SHEET NO.	1/2

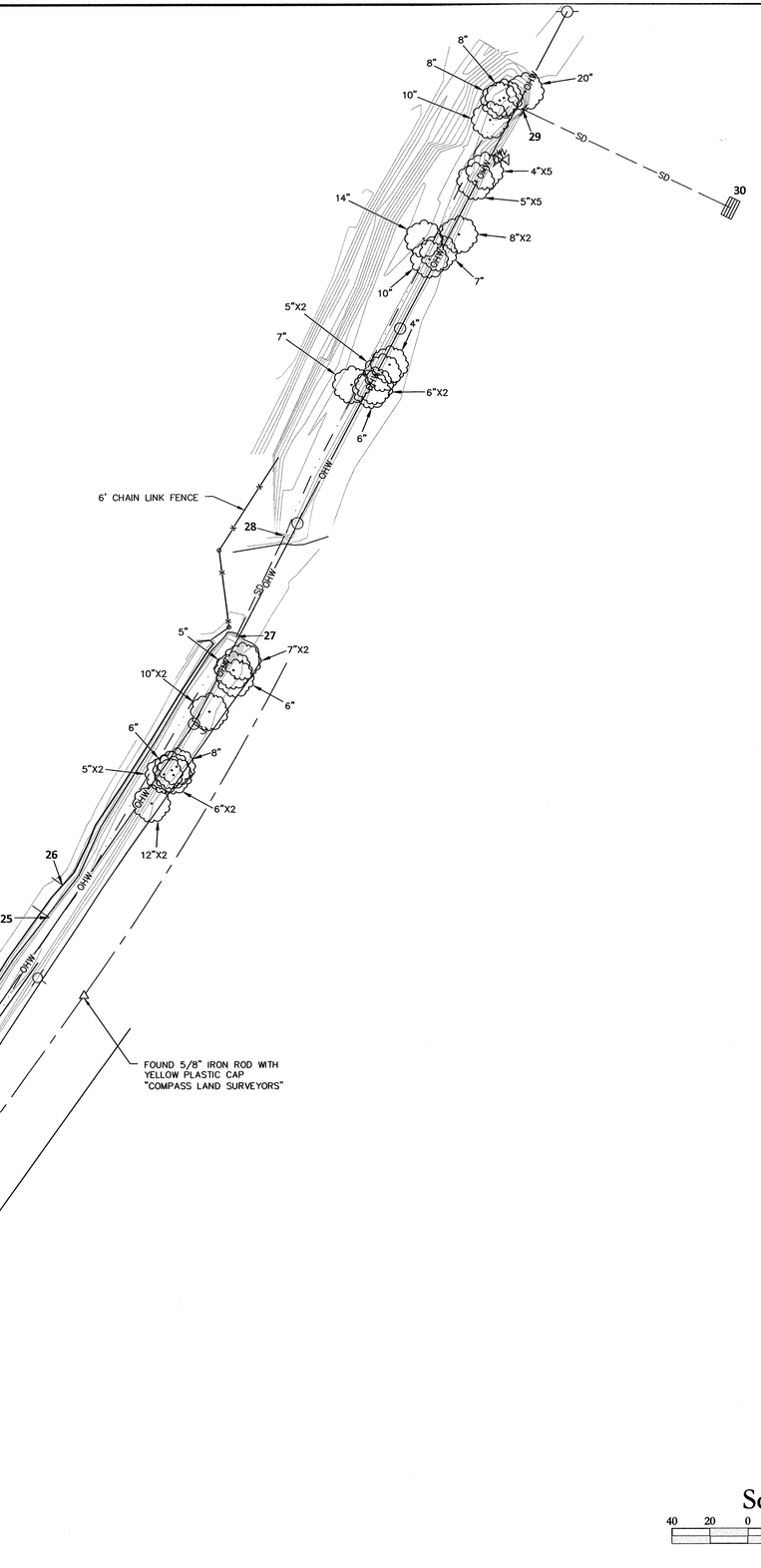
TOPOGRAPHIC SURVEY

LOCATED IN THE SOUTHWEST ONE-QUARTER AND THE NORTHWEST ONE-QUARTER OF SECTION 29, TOWNSHIP 2 SOUTH, RANGE 2 EAST, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON

FIELD SURVEYED: NOVEMBER 2016

LEGEND:

- △ – DENOTES FOUND MONUMENT AS NOTED
- – DENOTES 5' CONTOUR INTERVAL
- – DENOTES 1' CONTOUR INTERVAL
- – DENOTES ROAD CENTERLINE
- – DENOTES RIGHT OF WAY LINE
- – DENOTES FENCE LINE AS NOTED
- OHW – DENOTES OVERHEAD WIRE
- SD – DENOTES STORM DRAINAGE LINE PER UTILITY LOCATE PAINT/VISUAL FIELD OBSERVATION
- – DENOTES STORM DRAINAGE CATCH BASIN
- – DENOTES DITCH INLET @ FLOW LINE
- Ⓦ – DENOTES WATER MANHOLE
- – DENOTES WATER VALVE
- FDC – DENOTES FIRE DEPT CONNECTION
- – DENOTES FIRE HYDRANT
- – DENOTES POWER POLE
- – DENOTES GUY WIRE/ANCHOR
- – DENOTES GATE POST
- – DENOTES DECIDUOUS TREE



STORM SEWER DATA:

19 STORM SEWER IE
IE 18"+/- (W)=32.88'

20 STORM SEWER DITCH INLET
FLOWLINE=33.14'
IE 30"+/- (NE)=31.71'

21 STORM SEWER IE
IE 30"+/- (SW)
FULL OF DIRT

22 STORM SEWER IE
IE 24"+/- (NE)=32.50'

23 STORM SEWER IE
IE 24"+/- (SW)
FULL OF DIRT

24 STORM SEWER IE
IE 3"+/- (NW)=35.45'

25 STORM SEWER IE
IE 6"+/- (NW)=33.83'

26 STORM SEWER IE
IE 4"+/- (NW)=35.49'

27 STORM SEWER IE
IE 36"+/- (NE)=31.37'

28 STORM SEWER IE
IE 36"+/- (SW)=30.89'

29 STORM SEWER IE
IE 72"+/- (SE)=28.39'

30 STORM SEWER CATCH BASIN
RIM=31.59'
IE 72"+/- (NW)=27.89'

N

Scale 1" = 40'

40 20 0 40 80 120

HDJ A DIVISION OF PBS
314 W 15th Street
Vancouver, WA 98660-2927
360.695.3488
360.695.8767 fax
www.hdjdg.com

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 16, 1982
TERRY GOODMAN
1989
RENEWAL DATE: 6-30-17

TOPOGRAPHIC SURVEY
ABERNETHY PLACE
OREGON CITY, OREGON 97045

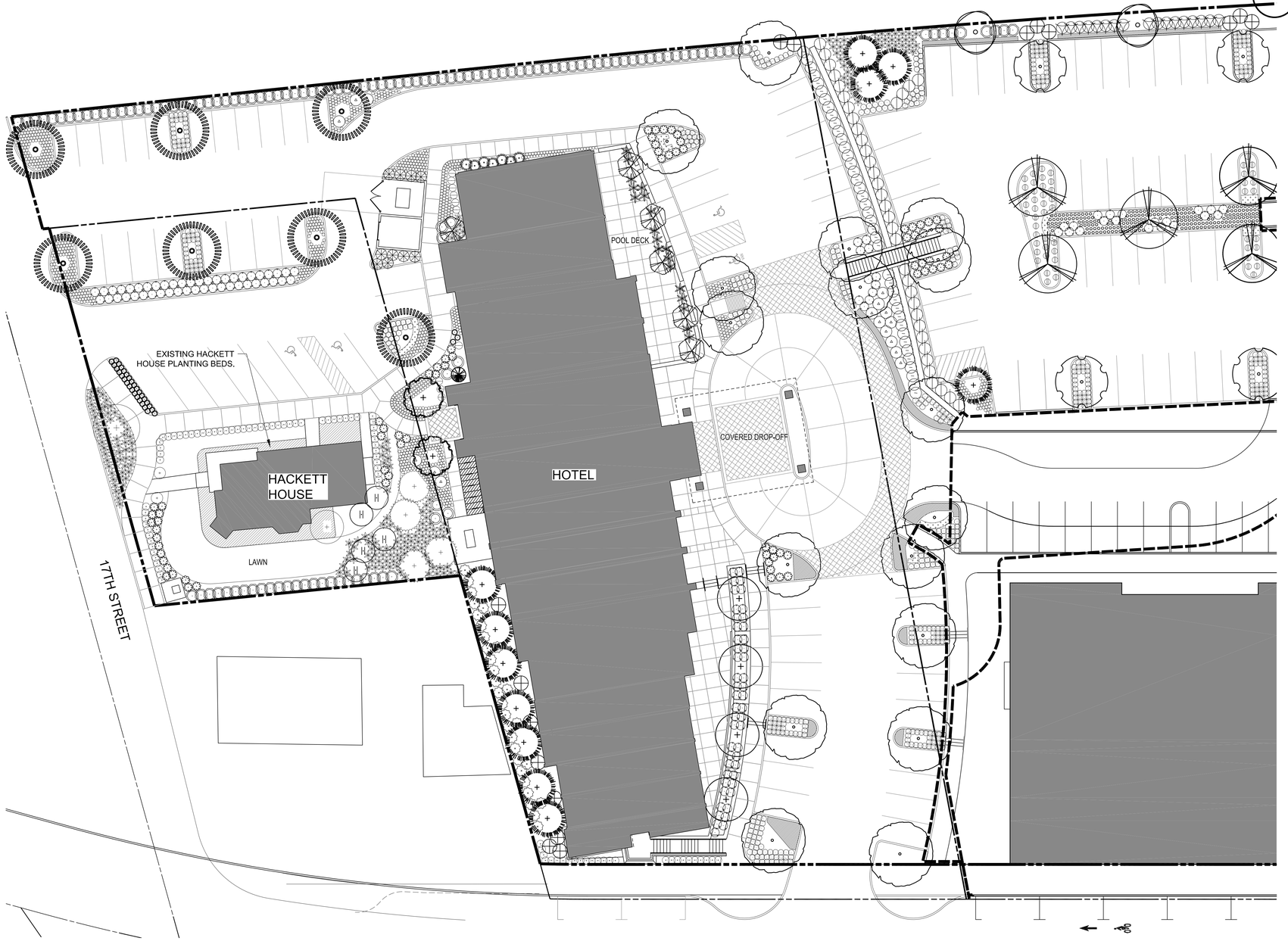
REVISIONS REV.:	DESCRIPTION:

DATE	1/5/2017
DRAWN	MDL
SURVEYED	MFD/MFG
CHECKED	TLG/RFS

JOB NO.: 70997-000

DRAWING NAME: 70997-00-TOPO

SHEET NO. 2/2



PLANTING LEGEND

TREES

BOTANICAL NAME / COMMON NAME	SIZE	NOTES	QTY
ACER PALMATUM 'SANGOKAKU' CORAL BARK JAPANESE MAPLE	3" cal.		2
ACER CIRCINATUM VINE MAPLE	3" cal.		7
BETULA NIGRA RIVER BIRCH	3" cal.		5
BETULA UTILIS 'JACQUEMONTII' HIMALAYAN BIRCH	3" cal.		17
CARPINUS BETULUS 'FRANS FONTAINE' FRANS FONTAINE HORNBEAM	3" cal.		5
CERCIS CANADENSIS REDBUD	3" cal.		4
CUPRESSUS NOOTKATENSIS ALASKAN YELLOW CEDAR	3" cal.		11
CUPRESSUS SEMPERVIRENS ITALIAN CYPRESS	3" cal.		1
PRUNUS X YEDOENSIS YOSHINO CHERRY TREE	3" cal.		4
PSEUDOTSUGA MENZIESII DOUGLAS FIR	3" cal.		2
QUERCUS GARRYANA OREGON OAK	3" cal.		2

SHRUBS: DECIDUOUS

BOTANICAL NAME / COMMON NAME	SIZE	NOTES	QTY
ARBUTUS UNEDO 'COMPACTA' COMPACT STRAWBERRY TREE	10 gal.		16
KOLKWITZIA AMABILIS BEAUTY BUSH	5 gal.		8
LILAC SP. SYRINGA VULGARIS	10 gal.		5
MISCANTHUS SINENSIS 'MORNING LIGHT' MISCANTHUS	10 gal.		7
RIBES SANGUINEUM 'AMORE' FLOWERING CURRANT	5 gal.		38
SPIRAEA BUMALDA 'GOLDFLAME' GOLDFLAME SPIRAEA	5 gal.		128
SPIRAEA DOUGLASII DOUGLAS SPIRAEA	5 gal.		30
SPIRAEA NIPPONICA 'SNOW MOUND' SNOW MOUND SPIRAEA	10 gal.		16
VIBURNUM DAVIDII DAVID VIBURNUM	5 gal.		10

SHRUBS: EVERGREEN

BOTANICAL NAME / COMMON NAME	SIZE	NOTES	QTY
BERBERIS JULIANAE WINTERGREEN BURBERRY	10 gal		40
BUXUS SEMPERVIRENS 'SUFFRUTICOSA' DWARF BOXWOOD	7 gal.		91
CEANOTHUS GLORIOSUS POINT REYES CEANOTHUS	5 gal		55
MAHONIA NERVOSA DWARF OREGON GRAPE	5 gal.		531
MAHONIA AQUIFOLIUM 'COMPACTA' COMPACT OREGON GRAPE HOLLY	5 gal.		35
MYRICA CALIFORNICA PACIFIC WAX MYRTLE	10 gal		118
RHODODENDRON 'UNIQUE' UNIQUE RHODODENDRON	7 gal.		13
SARCOCOCCA HOOKERIANA 'HUMILIS' SWEET BOX	5 gal		19
VIBURNUM TINUS 'SPRING BOUQUET' SPRING BOUQUET VIBURNUM	10 gal		17

PERENNIALS AND GROUNDCOVERS

BOTANICAL NAME / COMMON NAME	SIZE	NOTES	QTY
HELLABORUS NIGER CHRISTMAS ROSE	5 gal.		75
LIRIOPE MUSCARI 'BIG BLUE' BIG BLUE LILYTURF	1 gal.		1246
POLYSTICHUM MUNITUM WESTERN SWORD FERN	5 gal.		214
SCIRPUS AMERICANUS THREE-SQUARE BULRUSH	1 gal.		397
ARCTOSTAPHYLOS UVA-URSI KINNIKINNICK	1 gal.		383
LUPINE LUPINUS SPP.	1 gal.		130

EXISTING DECIDUOUS TREE TO REMAIN

EXISTING EVERGREEN TREE TO REMAIN

GENERAL NOTES:

1. ALL SIZES SHOWN ARE MINIMUM SIZES. LARGER SIZES MAY BE ALLOWED UPON APPROVAL OF LANDSCAPE ARCHITECT.
2. CONTRACTOR SHALL EXAMINE FINISH SURFACE, GRADES TOPSOIL QUALITY AND DEPTH. DO NOT START WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. VERIFY LIMITS OF WORK BEFORE STARTING.
3. CONTRACTOR TO REPORT ALL DAMAGES TO EXISTING CONDITIONS AND INCONSISTENCIES WITH PLANS TO THE LANDSCAPE ARCHITECT.
4. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN ALL LANDSCAPE BEDS.
5. COORDINATE PLANTING INSTALLATION WITH INSTALLATION OF UNDERGROUND SPRINKLERS AND DRAINAGE SYSTEMS.
6. CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ALL PLANT MATERIAL SUBSTITUTIONS FROM THE LANDSCAPE ARCHITECT 90 DAYS PRIOR TO INSTALLATION. PLANT SUBSTITUTIONS WITHOUT PRIOR WRITTEN APPROVAL THAT DO NOT COMPLY WITH THE DRAWINGS AND SPECIFICATIONS MAY BE REJECTED BY THE LANDSCAPE ARCHITECT AT NO COST TO THE OWNER. THESE ITEMS MAY BE REQUIRED TO BE REPLACED WITH PLANT MATERIALS THAT ARE IN COMPLIANCE WITH THE DRAWINGS.
7. NOTIFY LANDSCAPE ARCHITECT IN WRITING, WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, POOR PLANTING SOIL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, PRIOR TO PLANTING.
8. SEE CIVIL PLANS FOR EXISTING TREES TO REMAIN ON SITE.
9. ALL PLANTS MUST COMPLY TO THE AMERICAN STANDARDS FOR NURSERY STOCK. THOSE THAT DO NOT WILL BE REJECTED. CALIPER TREES SHALL BRANCH AT 6'HT., UNLESS APPROVED BY THE LANDSCAPE ARCHITECT.

0 8 16 32 64 FT

SCALE 1/16"=1'

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

KLA
KOCH LANDSCAPE ARCHITECTURE
1621 NORTHEAST SECOND AVENUE
PORTLAND, OREGON 97232
p503.286.7175 f503.286.7979

ABERNETHY PLACE
DDP

DETAILED DEVELOPMENT PLAN
PHASE 1
OREGON CITY, OREGON
FOR CLIENT NAME

MARK	DATE	REVISION/ISSUE
	2017-03-30	PROGRESS

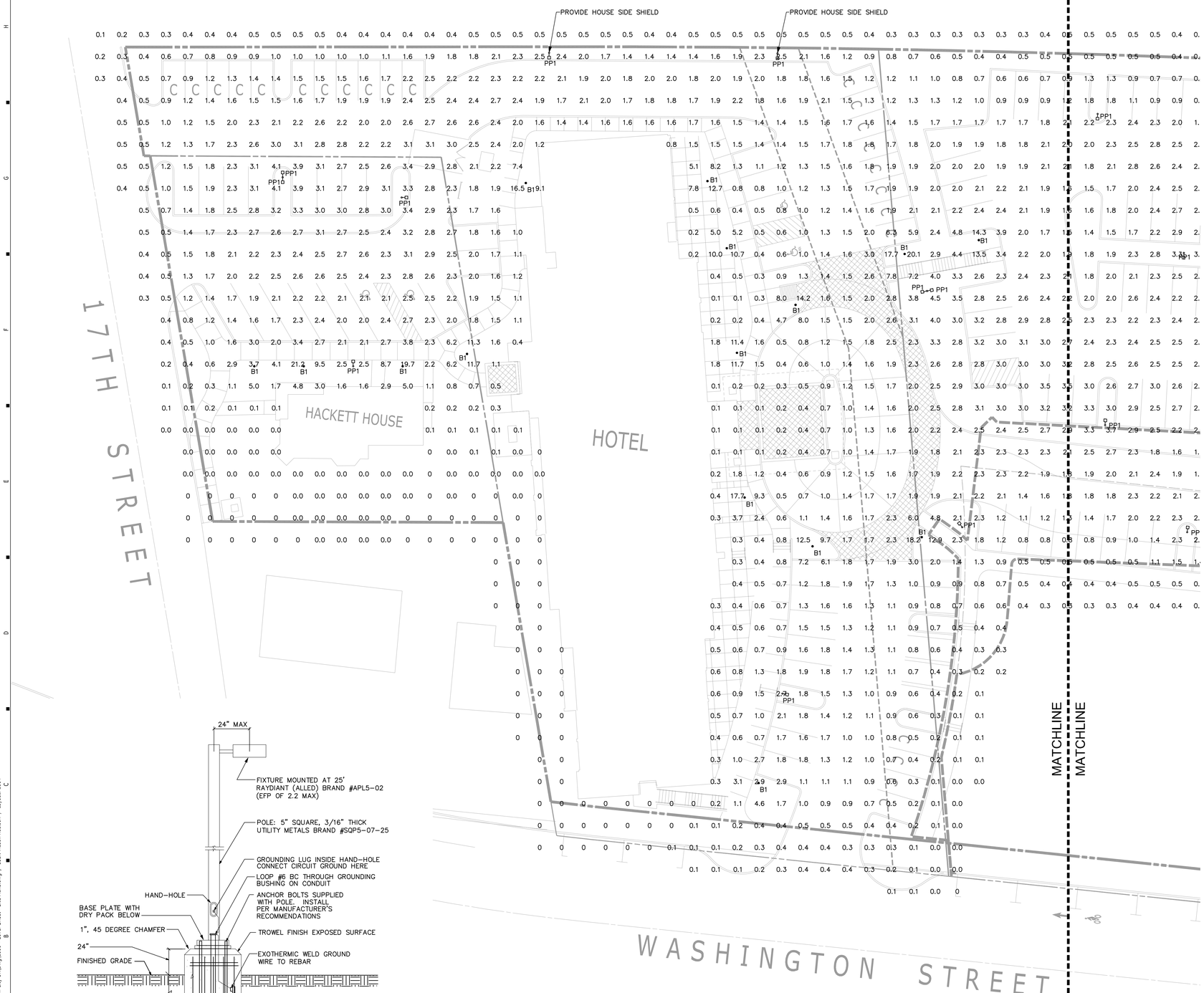
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13647	PMV	SK

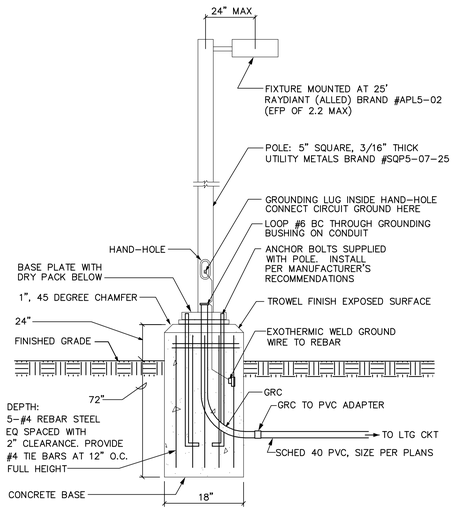
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PLANTING PLAN

L1.0

Date: 4/14/2017 4:42 PM / Location: K:\commercial\clients\1706 abernethy\drawings\L7.0 PLANTING PLAN.dwg / User: Ryan Blume / Layout: L7.0 PLANTING PLAN





SITE LIGHTING BASE

POLE BASE DETAIL

SCALE: NONE

1

SITE PHOTOMETRIC PLAN (SOUTH WEST)

SCALE: 1" = 20'-0"

0' 10' 20' 40'

AREA & PARKING SERIES

APL5 2 MODULE

RAYDIANT LED LIGHTING SYSTEM





Product Description

ALLED offers the industry's smartest, toughest and best LED area and parking lot lighting solutions.

When safety and security is a key concern in large parking lots and areas where illumination is essential during evening hours or for 24 hour operations that require additional surveillance capabilities. Being able to illuminate these areas while reducing energy usage is paramount!

The revolutionary design of the RAYdiant system delivers unprecedented levels of simplicity, scalability, and cost-efficiency in LED lighting operation and maintenance. With a wide range of luminaire models to replace any area or parking lot lighting application up to 1000 watts, the RAYdiant system features the most powerful, intelligent, resilient and reliable LED lighting solution on the market today!

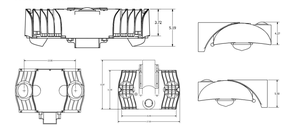
The ALLED APL5 is a perfect solution for area and parking applications along with general spaces that require lighting.

Comparison

Current Fixture Wattage	ALLED Fixture Wattage
150 watt Metal Halide	56 watts
250 watt Metal Halide	105 watts

(+) This wattage can be used in either 1 or 2 module fixture. The 2 module fixture gives 20% higher light output.

Product Dimensions (2 LEMs - 18 lbs)



Ordering Information

Model	Series	Wattage	Voltage	Lens Optics	Color Temperature	Finish	Surge	Control+	Control Options (if applicable)	Photoeye+	Options+
APL5	02	56w 105w	1 100–277V 2 347V+ 3 480V+	T3 Type III T4 Type IV T5 Type V	4000K 5000K	BL Black BR Bronze GR Gray OW White	10K 10kv Surge Protection (standard) 20Kv 20Kv Surge Protection+	NC None WC With Control ALL ALLink Wireless Monitoring & Control+	ATB Automatic Timer Board (Factory pre-set)+ ALL ALLink Wireless Monitoring & Control+	NP No Photoeye DPS Digital Photo Sensor (only available w/ ALLink or ATB) PCR3 NEMA 3-Pin Twist Lock Photo Control Receptacle PCR7 NEMA 7-Pin Twist Lock Photo Control Receptacle	1APM One Adjustable Pivot Arm Module (consult factory) 2APM Two Adjustable Pivot Arm Module (consult factory) IP67 IP67 Rating

• Any selection with (+) is additional cost/charge
• Choice of ordering through above Ordering Info or refer to Quick Ordering Guide

AREA & PARKING SERIES

APL5 2 MODULE

RAYDIANT LED LIGHTING SYSTEM

Model	Lumens	Lumens / watt	CRI	BUG Rating
APL5-02 (56W)	7,105	118.6	80+	B3 U3 G3
APL5-02 (105W)	11,582	114.0	80+	B3 U3 G3

Construction
- Pressure die cast aluminum housing
- Tool-less entry
- Level adjustment 0° to 45°
- Open air/pass-through module enables full moisture and debris flow through and passive chimney "air-flow" cooling of LED chip
- No mechanical or fan cooling of light engines

Finish
- Salt-resistant Dupont SD Polyester powder coat
- Dual salt-resistant powder coats for enhanced protection in marine environments
- Meets 6000 hours of salt-spray test
- Available colors: Black, Bronze, Gray, White and custom [Consult factory]

Light Engine Module & Optical Assembly
- Light engine modules (LEMs) provide the most efficient LED heat reduction thermal path built into the design to allow for passive "air-flow" heat dissipation
- Fully scalable up to 4 LEMs
- Utilizes high-quality Nichia High Brightness COB LED
- Multi-directional lens optics, with 90°, 180°, 270° and 360° rotation capability, provides for directional light distribution and customization of light patterns.
- Optional adjustable 360° module pivot adapter provides unparalleled flexibility to customize light distribution around obstructions and light exactly where it is needed
- High impact resistant Borosilicate glass lens optics prevent potential yellowing over time
- Standard 4000K and 5000K +/- 200 color temperature
- Standard 80+ CRI (for higher/lower CRI consult factory)

Electrical
- 100–277V 50/60Hz and optional 347V/480V 60Hz available
- System power factor >0.9 and THD <20%
- Terminal block for power input suitable for #8 - #18 AWG wire
- Integral surge protection:
  - For 100–277VAC per IEEE/ANSI C62.41.2, 10kV
- Ambient operating temperature from -40° to 70°C

Qualifications & Ratings
- UL/cUL Listed
  - suitable for wet locations
- RoHS Compliant
- DLC Listed
- IP65 standard rating with optional IP67 rating available
- IP67 standard for LEM assembly
- 3G bridge and overpass vibration-rated per ANSI C136.31
- Effective Projected Area (EPA): 0.5 sq. ft.
- Compliant with FCC Part 15, Subpart B, Class A & B
- Projected Lumen Maintenance at 25°C ambient is >150,000 calculated L70 hours per TM-21
- Made in USA
- ARRA Compliant

Warranty
- 10 year limited warranty

OPTIONS

Controls
- Available with patented ALLink fully-integrated, adaptive wireless monitoring and control system
  - Includes ALLED's patented digital photo sensor
  - Available 0-100% dimming
  - [Coming Soon] Smart metering and intelligent surge protection and notification features also available with ALLink
- Available with patented ATB (Automated Timer Board) for factory set dimming in dusk to dawn applications
  - Alternative and inexpensive method to further energy savings
  - Includes ALLED's patented digital photo sensor
  - Available 10-100% dimming
  - Can dim to a preset level after a pre-specified number of hours
  - Available range from 2 to 17 hours in one hour increments

Mounting
- Round and square pole adapters
- Pre-drilled holes for easy pole mounting on square and round poles
- Optional bullhorn adapter available

Accessories
- Backlight Shield
  - A shield meant for aiming light Forward from the luminaire
- Full BUG Shield [Coming Soon]
  - A shield meant for creating zero amount of backlight, uplight or glare for Dark Skies compliance

ALLEDLighting

ALLED Lighting Systems
101 Randolph Street | Ellwood City, PA 16117
724.752.0326 | www.alled.co

Making **Green** Brighter!™

cULus LISTED E331191

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SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

HAMPTON INN & SUITES
OREGON CITY, OREGON

DESIGN DEVELOPMENT PLANS
BRAND ID: (hg392)
FOR HACKETT HOSPITALITY GROUP, LLC, AN OREGON LLC

THIS WIDTH SHOULD BE 3"

30-MAR-2017 DESIGN DEVELOPMENT PLANS

MARK	DATE	REVISION/ISSUE

PROJECT NUMBER	DRAWN BY	CHECKED BY
704-002	MAR	JR

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SITE PHOTOMETRICS

E004

Date: Friday, April 14, 2017 9:32:58 AM / Location: F:\704-002 Hampton Inn Oregon City OR\Dwg\E000 - Cover Sheet - Site Plans.dwg / User: Mason Robison / Layout: E004
COPYRIGHT 2017, ROBSON ENGINEERING, INC.
MASONROBSON F:\704-002 HAMPTON INN OREGON CITY OR\DWG\E000 - COVER SHEET - SITE PLANS.DWG 04-10-2017 17:11



SITE PHOTOMETRIC PLAN (NORTH EAST)

SCALE: 1" = 20'-0"

0' 10' 20' 40'

KBD8 LED
LED Specification Bollard

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all missing required information.

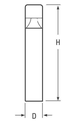


Specifications

8" Round (20.3 cm)

Height: 42" (106.7 cm)

Weight (max): 27lbs (12.25 kg)



Introduction

The KBD8 Bollard is a stylish, fully integrated LED solution for walkways. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

With an expected service life of over 20 years of nighttime use and up to 70% in energy savings over comparable 100W metal halide luminaires, the KBD8 Bollard is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

Ordering Information

EXAMPLE: KBD8 LED 16C 700 40K SYM MVOLT DDBXD

KBD8 LED

Series	LEDs	Drive current	Color temperature	Distribution	Voltage	Control options	Other options	Finish (required)
KBD8 LED	**Asymmetric** 12C 12 LEDs **Symmetric** 16C 16 LEDs	350 350 mA 450 450 mA [1,2] 530 530 mA 700 700 mA	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted AMBVW Amber limited wavelength [1,3]	ASY Asymmetric [1] SYM Symmetric [1]	MVOLT [1] 120 [1] 208 [1] 240 [1] 277 [1] 347 [1]	**Shipped installed** PE Photoelectric cell, button type DMG 0-10V dimming driver (no controls) ELCW Emergency battery backup [4]	**Shipped installed** SF Single fuse (120, 277, 347V) [5] DF Double fuse (208, 240V) [5] H24 24" overall height H30 30" overall height H36 36" overall height FG Ground-fault tension outlet LHB Without anchor bolts (1 bolt per base) LHB4 4 bolt retrofit base without anchor bolts [6]	DNAXD White DNAXD Natural aluminum DDBXD Dark bronze DBLXD Black DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

Accessories

Ordered and shipped separately.

MBAB U Anchor bolts for KBD8 LED [8]

NOTES

1. Only available in the 12C, ASY version.
2. Only available in the 16C, SYM version.
3. Only available with 40K AMBVW version.
4. Not available with ELCW.
5. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options), or photocontrol (PE option).
6. Not available with 347V. Not available with fusing. Not available with 40K AMBVW.
7. Single fuse (SF) requires 120, 277, or 347 voltage option. Double fuse (DF) requires 208 or 240 voltage option.
8. MBAB U not available with LHB4 option.

LITHONIA LIGHTING
One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • Fax: 770.918.1209 • www.lithonia.com
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Performance Data

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Actual performance may differ as a result of end-user environment and application. Actual wattage may differ by +/- 5% when operating between 120-480V +/- 10%.

Light Engines	Drive Current	System Watts	3000 K				4000 K				5000 K				Limited Wavelength Amber			
			Lumens	LPW	B	U	Lumens	LPW	B	U	Lumens	LPW	B	U	Lumens	LPW	B	U
Asymmetric 1 Engines (12 LEDs)	350	16	641	40	1	1	809	51	1	1	870	54	1	1				
	530	22	947	43	1	1	1,191	54	1	1	1,282	58	1	1				
	700	31	1,214	40	1	1	1,527	51	1	1	1,646	55	1	1				
	Amber 450	16													324	20	0	1
Symmetric 4 Engines (16 LEDs)	350	20	888	44	1	0	1,116	56	1	0	1,203	60	1	0				
	530	28	1,254	45	1	0	1,598	57	1	0	1,719	61	1	0				
	700	39	1,608	41	1	0	2,022	52	1	0	2,180	56	2	0				
	Amber 450	20													374	19	0	0

Note: Available with phosphor-converted amber LEDs (nomenclature AMBPC). These LED's procuce light with 97+% >530 nm. Output can be calculated by applying a 0.7 factor to 4000 K lumen values and photometric files.

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate L77, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.00	0.98	0.97	0.95

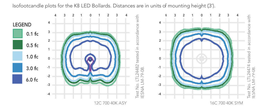
Electrical Load

Light Engines	Drive Current (mA)	System Watts	Current (A)				
			120	208	240	277	347
12C	350	16W	0.138	0.078	0.174	0.199	0.155
	530	22W	0.217	0.146	0.136	0.138	0.118
	700	31W	0.296	0.185	0.168	0.153	0.139
	Amber 450	16W	0.161	0.123	0.115	0.110	0.106
16C	350	20W	0.197	0.137	0.128	0.121	0.114
	530	28W	0.282	0.179	0.162	0.148	0.133
	700	39W	0.385	0.231	0.207	0.185	0.163
	Amber 450	20W	0.199	0.131	0.130	0.123	0.116

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's KBD8 Bollard homepage.

Isofootcandle plots for the K8 LED Bollards. Distances are in units of mounting height (2').



FEATURES & SPECIFICATIONS

INTENDED USE
The rugged construction and clean lines of the KBA bollard is ideal for illuminating building entryways, walking paths, and pedestrian plazas, as well as any other location requiring a low mounting height light source with fully cutoff illumination.

CONSTRUCTION
One-piece 8-inch round extruded aluminum shaft with thick side walls for extreme durability, a high-impact clear acrylic lens and welded top cap. Die-cast aluminum mounting ring allows for easy leveling even in sloped locations and a full 360-degree rotation for precise alignment during metal ation. Three ½" x 11" anchor bolts with double nuts and washers and 3 ¾" bolt circle template ensure stability. Overall height is 42" standard.

FINISH
Exterior parts are protected by a zinc-infused super durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering for maximum retention of gloss and luster. A tightly controlled multi-stage process ensures a minimum 3-mil thickness for a finish that can withstand the elements without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS
Two fully cutoff optical distributions are available: symmetrical and asymmetrical. IP66 sealed LED light engine provides smoothly graduated illumination without any uplight. Light engines are available in standard 4000 K (+70 CRI) or optional 3000 K (>80 CRI) or 5000 K (61 CRI). Limited-wavelength amber LEDs are also available.

ELECTRICAL
Light engines consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (L95/100,000 hours at 700mA at 25°C). Class 2 electronic drivers are designed for an expected life of 100,000 hours with < 1% failure rate. Electrical components are mounted on a removable power tray.

LISTINGS
CSA certified to U.S. and Canadian standards. Light engines are IP66 rated. Rated for -40°C minimum ambient. Cold-weather emergency battery backup rated for -20°C minimum ambient.

WARRANTY
Five-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx.

Note: Specifications subject to change without notice.

LITHONIA LIGHTING
One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8041 • Fax: 770.918.1209 • www.lithonia.com
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KBD8-LED
Rev. 06/24/14

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8033 FAX 503.305.8034

HAMPTON INN & SUITES
OREGON CITY, OREGON

DESIGN DEVELOPMENT PLANS
BRAND ID: (16-392)
FOR: HACKETT HOSPITALITY GROUP LLC, AN OREGON LLC

THIS WIDTH SHOULD BE 3"

30-MAR-2017 DESIGN DEVELOPMENT PLANS

MARK	DATE	REVISION/ISSUE

PROJECT NUMBER	DRAWN BY	CHECKED BY
704-002	MAR	JR

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SITE PHOTOMETRICS

E005

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MASONROBISON F:\704-002 HAMPTON INN OREGON CITY OR\DWG\E000 – COVER SHEET – SITE PLANS.DWG 04-10-2017 17:11

Date: Friday, April 14, 2017 9:32:58 AM / Location: F:\704-002 Hampton Inn Oregon City OR\Dwg\E000 - Cover Sheet - Site Plans.dwg / User: Mason Robison / Layout: E005

ABERNETHY PLACE MIXED-USE DEVELOPMENT
TRAFFIC IMPACT STUDY

OREGON CITY, OREGON

4/18/17

REGISTERED PROFESSIONAL ENGINEER
54983PE
OREGON
JULY 10, 2002
MICHAEL T. ARD

EXPIRES: 12/31/17

DATE:
April 18, 2017

PREPARED FOR:
Historic Properties, LLC

PREPARED BY:
Daniel Stumpf, EI
Michael Ard, PE

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ENGINEERING

321 SW 4th Ave., Suite 400 | Portland, OR 97204 | 503.248.0313 | lancasterengineering.com

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EXECUTIVE SUMMARY

1. The proposed Abernethy Place Mixed-Use Development will include the construction a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop located at 1737 Washington Street in Oregon City, Oregon.

2. The trip generation calculations show that the proposed development is projected to generate a net new total of 159 site trips during the morning peak hour and 151 site trips during the evening peak hour.

3. Based on the operational analysis, all study area intersections are projected to operate acceptably per Oregon City code standards through 2022 either with or without the addition of site trips from the proposed development.

4. Based on the crash analysis, the intersection of 14th Street at Main Street was identified as having a high crash rate. It is recommended that the intersection be converted to all-way stop control to address this safety concern. It is recommended that concurrent with conversion to all-way stop control the eastbound and westbound approaches on 14th Street be converted to have a shared left/through lane and a shared through/right lane. Additionally, it is recommended that the westbound approach to Highway 99E be converted to have a shared left/right turn lane and a dedicated right-turn lane. With these improvements in place, it is anticipated that the safety of the intersection will be improved while maintaining acceptable operation of the affected intersections.

5. It should be noted that the city's Transportation System Plan includes an alternative improvement that could address safety concerns at the intersection of 14th Street and Main Street, consisting of conversion of 14th Street to one-way eastbound from OR-99E to John Adams Street and conversion of 15th Street to one-way westbound from Washington Street to OR-99E. This alternative treatment would likely necessitate installation of a new traffic signal for the intersection of Highway 99E at 15th Street.

6. Intersection sight distance is adequate at the site access intersections. No sight distance mitigation is recommended.

7. Based on the left-turn lane warrant analysis, installation of a northbound left-turn lane on Washington Street at the site access is recommended in conjunction with development of Phase 2.

8. Since the westbound 14th Street approach to Main Street currently meets left-turn lane warrants, it is recommended that a northwest-bound left-turn lane be provided even if the intersection is not converted to all-way stop control.

9. Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met for any of the unsignalized stop-controlled study intersections under any of the analysis scenarios.

10. The proposed site access intersection at Washington Street can be constructed to meet the minimum access spacing standards required by the Oregon City Municipal Code.

11. Based on the proportionality analysis, it was determined that a requirement to construct a left-turn lane serving the site access would be proportionate to the impacts of the proposed development. However, a requirement for construction of safety improvements at the intersection of 14th Street and Main Street would not proportionate to the impacts of the development. If the city desires to require mitigation from the proposed development, it may therefore be appropriate to request a proportionate share payment based on the impacts of the proposed development rather than requesting construction of the recommended improvements.

PROJECT DESCRIPTION & LOCATION

INTRODUCTION

The proposed Abernethy Place Mixed-Use Development will include the construction a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop located at 1737 Washington Street in Oregon City, Oregon. The proposed development will take access to the nearby transportation system via three points of access: the intersections of Abernethy Road at Washington Street, a proposed site access driveway onto Washington Street, and a shared access driveway onto Washington Street at the existing Amtrak station entrance.

This report addresses the impacts of the proposed development on the nearby street system. Based on correspondence with City of Oregon City staff, the report conducts safety and capacity/level-of-service analyses at the following intersections:

1. Interstate 205 (I-205) southbound ramps at McLoughlin Boulevard (OR-99E);
2. I-205 northbound ramps at OR-99E;
3. 15th Street at OR-99E;
4. 14th Street at OR-99E;
5. 14th Street at Main Street;
6. 7th Street at Washington Street;
7. 14th Street at Washington Street;
8. 15th Street at Washington Street;
9. Abernethy Road at Washington Street;
10. Proposed site access at Washington Street;
11. Amtrak station access at Washington Street;
12. Prairie Schooner Way at Washington Street;
13. Clackamas River Drive at Washington Street; and
14. Trails End Highway (OR-213) at Clackamas River Drive.

The purpose of this study is to determine whether the transportation system in the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, safety analyses, and level-of-service calculations is included in the appendix to this report.

LOCATION DESCRIPTION

The project site is located northwest of Washington Street, north of 17th Street, and southeast of the Amtrak railroad tracks in Oregon City, Oregon. The subject site is located within a mixed-use area with the Oregon City Amtrak Rail Station to the northeast, the End of the Oregon Trail Interpretive Center to the southeast, a power substation and other industrial land-uses to the west, and a mix of smaller residential/commercial/industrial land-uses to the south.

The subject site includes seven tax lots; lots 601, 900, 1000, 1100, 1200, 1300, 1301; which encompass an approximate total of 4.1 acres. All seven lots are zoned as *Mixed Use Downtown*

(MUD) and are currently developed and utilized by several industrial and commercial service land-uses.

VICINITY STREETS

OR-99E is classified by the Oregon Department of Transportation (ODOT) as a Regional Highway south and a District Highway north of I-205 and by the City of Oregon City as a Major Arterial. The roadway has a varying cross-section of four to eight travel lanes and has a posted speed of 40 mph north and 30 mph south of 14th Street. On-street parking is permitted along both sides of the roadway at marked locations south of 14th Street. Curbs, sidewalks, and bicycle lanes are intermittently provided along both sides of the roadway.

Main Street is classified by the City of Oregon City as a Collector. The roadway has a two-lane cross-section with on-street parking permitted along both sides of the roadway south of 15th Street where either adequate roadway width is provided or spaces are marked. Bicycle lanes are provided along both sides of the roadway north while sharrows are marked within vehicle travel lanes south of 15th Street. Curbs and sidewalks are provided along both sides of the roadway south of 15th Street while only partially provided to the north.

Washington Street is classified by the City of Oregon City as a Minor Arterial north and a Local Street south of 5th Street. The roadway has a varying cross-section between two to six travel lanes and has a posted speed which varies between 25 mph and 35 mph within the study area. On-street parking is permitted along both sides of the roadway south of 11th Street while bicycle lanes are provided along both sides to the north. Curbs and sidewalks are provided along both sides of the roadway south and intermittently provided north of Abernethy Road.

OR-213 is classified by ODOT as a District Highway and by the City of Oregon City as an Expressway. The roadway has a varying cross-section between four to seven travel lanes and has a posted speed of 45 mph north and 55 mph south of Prairie Schooner Way. Bicycle lanes or shoulders are provided along both sides of the roadway. Curbs and sidewalks are intermittently provided along both sides of the roadway.

Clackamas River Drive is classified by the City of Oregon City as a Minor Arterial. The roadway has a two-lane cross-section north of the roundabout at Washington Street, and a four-lane cross-section to the south with two southbound travel lanes, a two-way left-turn lane, and a northbound travel lane. It has a posted speed of 40 mph north and 30 mph south of S Melinda Street. Bicycle lanes are provided along both sides of the roadway while curbs and sidewalks are intermittently provided.

Prairie Schooner Way is classified by the City of Oregon City as a Minor Arterial. The roadway has a five-lane cross-section, with two eastbound and three westbound travel lanes. Curbs and bicycle lanes are provided along both sides of the roadway.

Abernethy Road is classified by the City of Oregon City as a Minor Arterial. The roadway has a three-lane cross-section, with one travel lane and a center two-way left-turn lane, and has a posted speed of 35 mph. Bicycle lanes are provided along both sides of the roadway while curbs and sidewalks are intermittently provided along both sides.

15th Street is classified by the City of Oregon City as a Collector. The roadway has a two-lane cross-section and has a posted speed of 25 mph. On-street parking is permitted along both sides of the roadway east of Washington Street where adequate roadway width is available. Curbs and sidewalks are intermittently provided along both sides of the roadway.

14th Street is classified by the City of Oregon City as a Collector west and Local Street east of Washington Street. The roadway has a four-lane cross-section between OR-99E and Main Street, with two travel lanes in each direction, and a two-lane cross-section east of Main Street. On-street parking is permitted along both sides of the roadway east of Washington Street. Curbs and sidewalks are provided along both sides of the roadway.

7th Street is classified by the City of Oregon City as a Major Arterial. The roadway has a three-lane cross-section, with one travel lane in each direction and a center turn lane. On-street parking is permitted along the north side of the roadway between John Adams Street and John Quincy Adams Street. Curbs and sidewalks are provided along both sides of the roadway.

STUDY INTERSECTIONS

The I-205 southbound ramps intersection at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northbound approach has three through lanes and one channelized right-turn lane that operates under yield control. The southbound approach has three through lanes and one left-turn lane served by protected phasing. The westbound approach has two left-turn lanes and one right-turn lane served by permitted/overlapping phasing. One crosswalk is marked across the eastern intersection leg.

The I-205 northbound ramps intersection at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northbound approach has three through lanes and one right-turn lane served by permitted/overlapping phasing. The southbound approach has three through lanes and one left-turn lane served by protected phasing. The westbound approach has one left-turn lane and one channelized right-turn lane that operates under yield control. One crosswalk is marked across the eastern intersection leg.

The intersection of 15th Street at OR-99E is a three-legged intersection that is stop-controlled for the westbound approach of 15th Street. The northeast-bound approach has one through lane and one shared through/right-turn lane. The southwest-bound approach has three through lanes. The northwest-bound approach has one right-turn lane. One crosswalk is marked across the southeastern intersection leg.

The intersection of 14th Street at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one through lane and one shared through/right-turn lane. The southwest-bound approach has two through lanes and a left-turn lane served by flashing-yellow-arrow phasing. The northwest-bound approach of 14th Street has one left-turn lane and one right-turn lane served by permitted/overlapping phasing. Crosswalks are marked across all intersection legs.

The intersection of 14th Street at Main Street is a four-legged intersection that is two-way stop-controlled for the northeast-bound and southwest-bound approaches of Main Street. The northeast-bound approach has one shared left-turn/through lane and one right-turn lane. The southwest-bound and northwest-bound approaches each have one shared lane for all turning movements. The southeast-bound approach has one left-turn lane and one shared through/right-turn lane. Crosswalks are marked across all intersection legs.

The intersection of 7th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane and one shared through/right-turn lane. The northeast-bound and southwest-bound approaches operate under split phasing. The southeast-bound and northwest-bound approaches of 7th Street each have one through lane and one right-turn lane served by permitted/overlapping phasing. Left-turns from 7th Street onto Washington Street are prohibited. Crosswalks are marked across all intersection legs.

The intersection of 14th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane served by flashing-yellow-arrow phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound approach has one shared lane for all turning movements. The southeast-bound approach has one shared left-turn/through lane and one right-turn lane. Crosswalks are marked across all intersection legs.

The intersection of 15th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane served by flashing-yellow-arrow phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound and southeast-bound approaches each have one shared lane for all turning movements. Crosswalks are marked across all intersection legs.

The intersection of Abernethy Road at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one left-turn lane served by permitted phasing, one through lane, one right-turn lane, and a bicycle lane situated between the through and right-turn lanes. The south-westbound approach has one left-turn turn lane served by permitted phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound approach has one left-turn lane served by permitted phasing and one shared through/right-turn lane. The southeast-bound approach has one shared lane for all turning movements. Crosswalks are marked across all intersection legs.

The Amtrak station/End of the Oregon Trail Interpretive Center access intersection on Washington Street is a four-legged intersection that is two-way stop-controlled for the two driveway approaches. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound and southeast-bound approaches each have one shared lane for all turning movements. A crosswalk is marked across the southwestern intersection leg while sidewalks are in place across the northwestern and southeastern legs.

The intersection of Prairie Schooner Way at Washington Street is a three-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one through lane, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The southwest-bound approach has two through lanes, one left-turn lane served by flashing-yellow-arrow phasing, and a bicycle lane to the right of the outermost standard travel lane. The westbound approach of Prairie Schooner Way has two left-turn lanes, one right-turn lane served by permitted/overlapping phasing, and a bicycle lane to the right of the outermost standard travel lane. Crosswalks are marked across the northeastern and southeastern intersection legs.

The intersection of Clackamas River Drive at Washington Street is a three-legged round-about intersection. The northeast-bound approach of Washington Street has one shared through/U-turn lane and one free-flowing channelized right-turn lane. The southwest-bound approach has one shared left-turn/through/U-turn lane. The northwest-bound approach has one shared left-turn/right-turn/U-turn lane. Crosswalks are marked across all intersection legs.

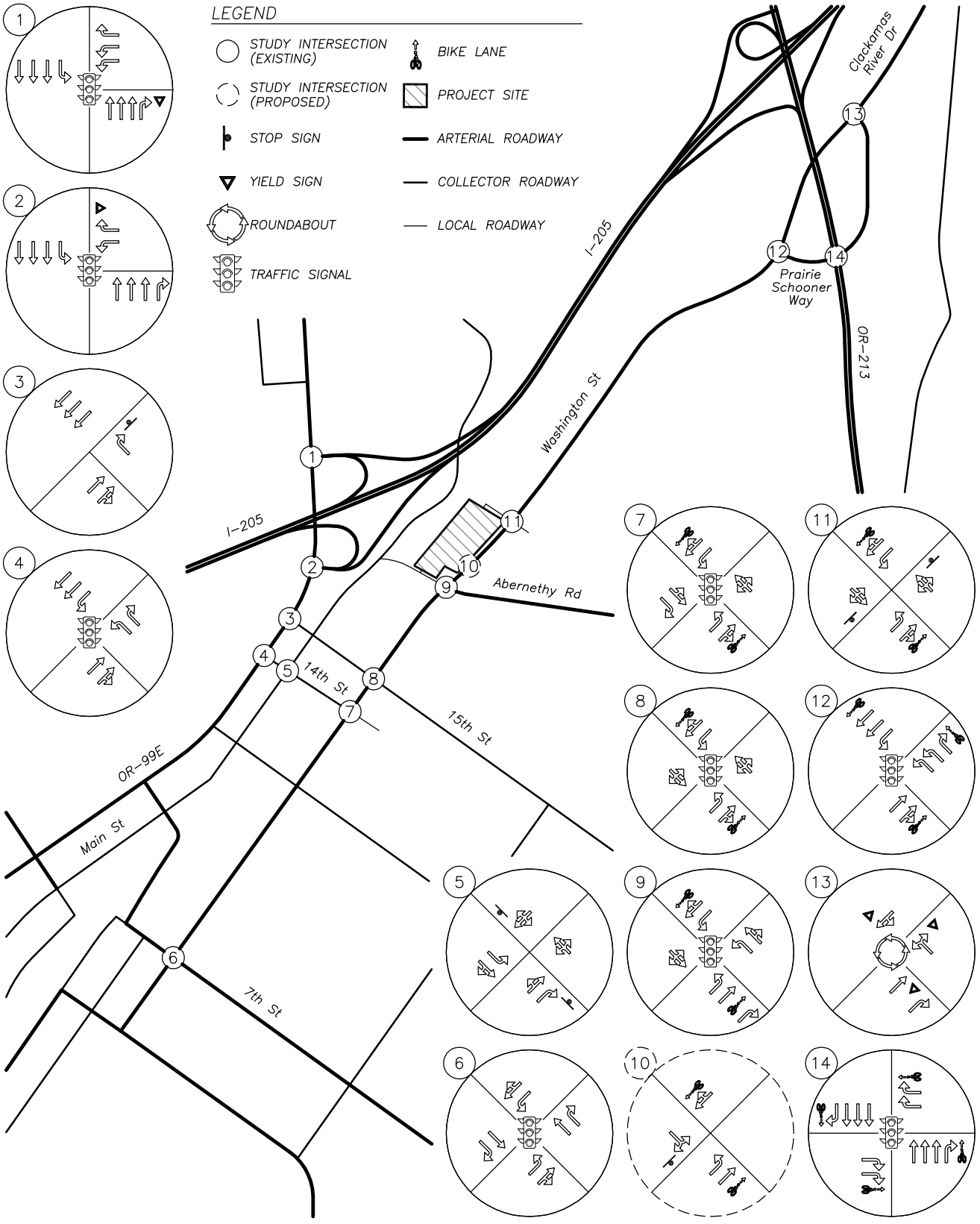
The intersection of OR-213 at Clackamas River Drive is a four-legged intersection that is controlled by a traffic signal. The northbound and southbound approaches of OR-213 each have three through lanes, one channelized right-turn lane that operates without stop/yield/signal controls, and a bicycle lane to the right of the outermost standard travel lane. The eastbound and westbound approaches of Prairie Schooner Way and Clackamas River Drive, respectively, each have two right-turn lanes and a bicycle lane to the right of the outermost standard travel lane. Crosswalks are marked across the eastern and western intersection legs.

A vicinity map displaying the project site, vicinity streets, and the study intersections with their associated lane configurations is shown in Figure 1 on page 10.

TRAFFIC COUNTS

Traffic counts were conducted at the study intersections on Thursday January 26th, 2017 from 7:00 AM to 9:00 AM and on Wednesday, January 25th, 2017 from 4:00 PM to 6:00 PM. Data was used from each intersection's respective morning and evening peak hours.

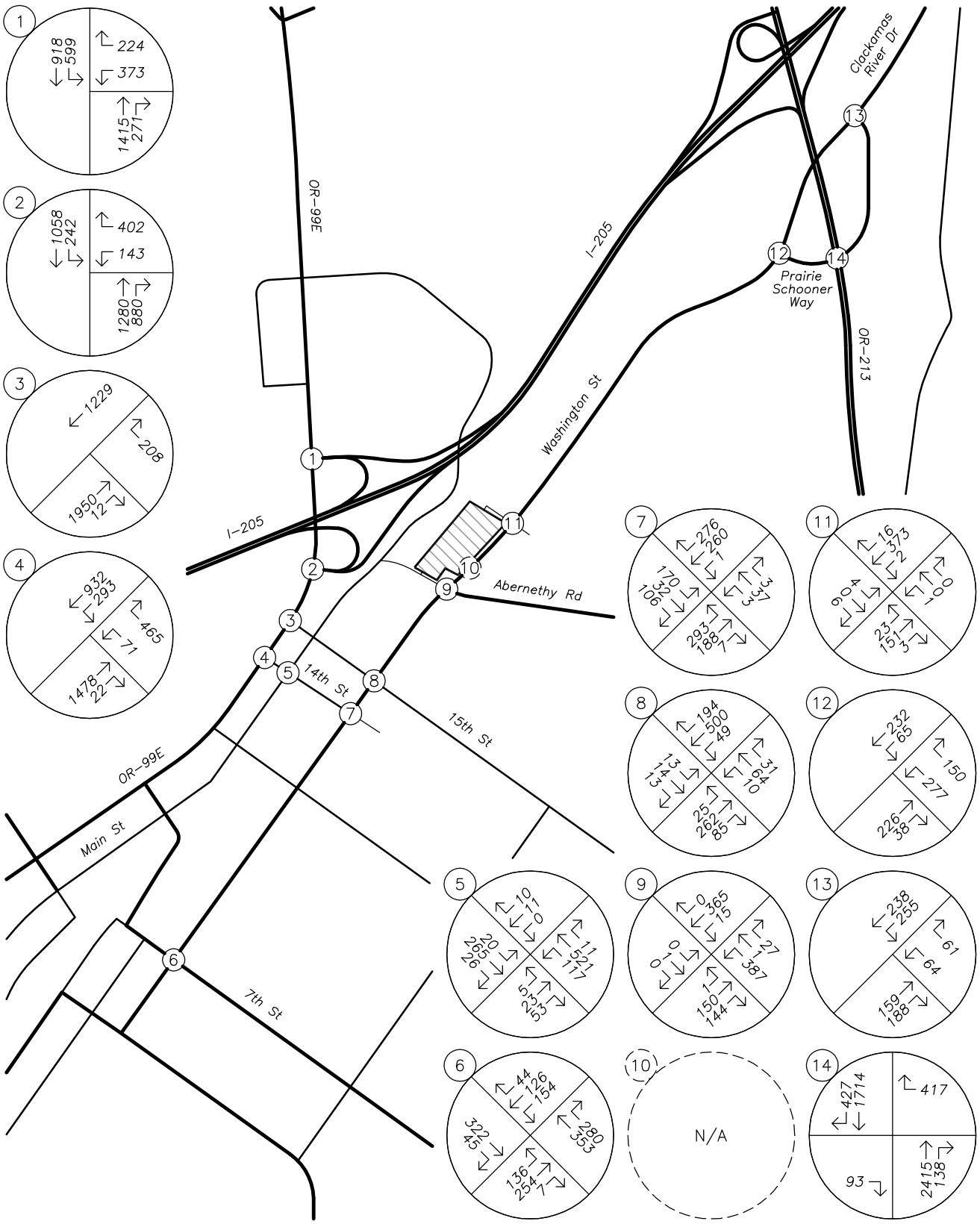
Figures 2 and 3 on pages 11 and 12 show the existing morning and evening peak hour traffic volumes at the study intersections, respectively.



VICINITY MAP

no scale

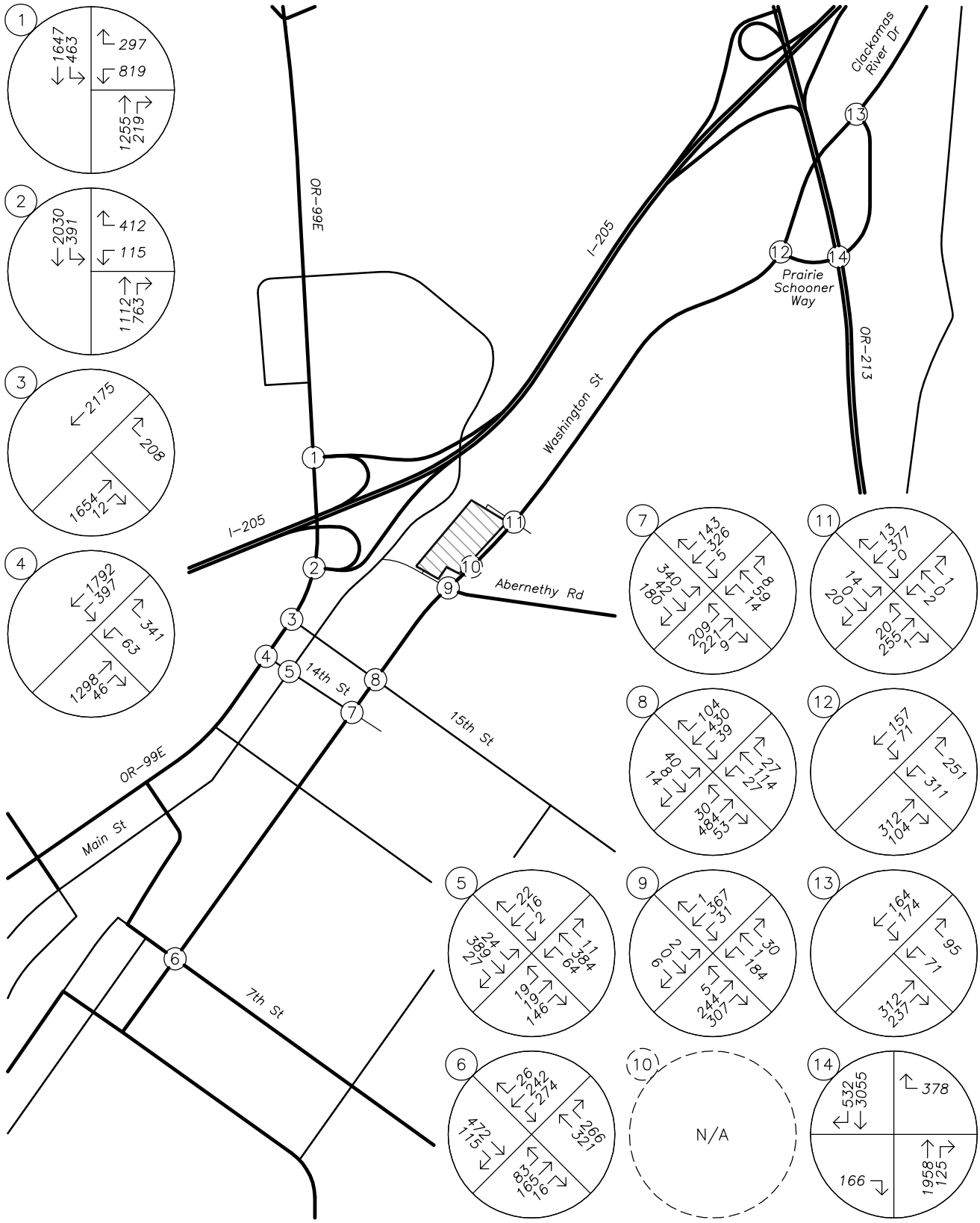
FIGURE 1



TRAFFIC VOLUMES
Existing Conditions
AM Peak Hour

no scale

FIGURE 2



TRAFFIC VOLUMES
Existing Conditions
PM Peak Hour

no scale

FIGURE 3

PAGE 12

SITE TRIPS

TRIP GENERATION

The proposed Abernethy Place Mixed-Use Development will include the construction of a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop. To estimate the number of trips that will be generated by the proposed development, trip rates from the *TRIP GENERATION MANUAL* were used. Data from land-use code 220, *Apartments*, land-use code 310, *Hotel*, land-use code 820, *Shopping Center*, and land-use code 936, *Coffee/Donut Shop without Drive-Through Window*, were used to estimate the proposed development's trip generation based on the number of rooms for the hotel, dwelling units for the apartment, and square-footage of gross floor area for the retail space and coffee shop.

Internal Trip Generation

Given the variety of land-uses that are proposed for development within the project site (including hotel, residential, retail, and restaurant land-uses), some trips generated by this development will likely be shared/internally captured by the proposed uses within the site and will not impact the nearby transportation system. Using the National Cooperative Highway Research Programs (NCHRP) Report 684, *Enhancing Internal Trip Capture Estimation for Mixed-Use Development*, internal capture rates for the proposed development were calculated for each land-use during the morning and evening peak hours.

According to Report 684, the proposed development is expected to internally capture approximately 9 percent of site trips during the morning peak hour and 28 percent of site trips during the evening peak hour. Due to the limited variety of on-site retail and restaurant uses, the calculated internal capture rate during the evening peak hour was manually reduced to 20 percent for the evening peak hour in order to maintain a conservative analysis.

Pass-by Trip Generation

Some of the proposed land-uses are expected to attract pass-by/diverted trips to the site. Pass-by trips are trips that leave an adjacent roadway to patronize a land-use and then continue in their original direction of travel. Similar to pass-by trips, diverted trips are trips that divert from a nearby roadway not adjacent to the site to patronize a land-use before continuing to their original destination. Pass-by trips do not add additional trips to the transportation system; however, they do add additional turning movements at site access intersections. Diverted trips may add additional turning movements at other nearby intersections. Pass-by trip rates were determined using data provided in the *TRIP GENERATION HANDBOOK*, 3rd Edition[1]. For the purposes of this analysis, pass-by and diverted trips were accounted for as the following:

- The proposed retail space has a pass-by trip rate of 34 percent of external trips generated based on data provided for land-use code 820 of the *TRIP GENERATION HANDBOOK*, 3rd Edition.

[1] Institute of Transportation Engineers (ITE), *TRIP GENERATION HANDBOOK*, 3rd Edition, 2014.

- The proposed coffee shop will utilize a pass-by/diverted trip rate of 82 percent for the morning peak hour and 73 percent for the evening peak hour. The calculated pass-by/diverted trip rates for the coffee shop are based on a trip generation study conducted at Starbucks facilities throughout Washington State in 2002.

Since the total number of pass-by trips which could be generated by the proposed uses exceeds the reasonable number of site trips that would be expected to divert from Washington Street, additional trips were treated as diverted-linked trips and drawn from through traffic traveling along Abernethy Road and the northbound travel lanes along Highway 99E. It is assumed that no more than five percent of the through traffic along Washington Street will enter the site as pass-by trips. An additional five percent of the through traffic along Abernethy road was assumed to divert to the site, and the remaining diverted trips were drawn from the northbound through traffic along OR-99E.

Trip Generation Analysis Results

The trip generation calculations show that the proposed development is projected to generate a net new total of 159 site trips during the morning peak hour and 151 site trips during the evening peak hour. The trip generation estimates of the proposed development are summarized in Table 2 below.

It should be noted that the development is proposed to occur in two phases. Phase 1 will consist of the 99-room hotel, while phase 2 will consist of all other proposed uses. Development of Phase 1 (prior to Phase 2) will result in a net increase of 52 trips during the morning peak hour and 59 trips during the evening peak hour, since the internal capture rates will not apply when only one use is located on the site. Development of Phase 2 will result in a net addition of 107 additional trips during the morning peak hour and 92 trips during the evening peak hour, resulting in the total projected site trips previously described.

Detailed trip generation and internal capture calculations as well as the Starbucks trip generation study are included in the technical appendix to this report.

Table 2 - Proposed Development Trip Generation Summary									
	ITE Code	Size	Morning Peak Hour In	Out	Total	Evening Peak Hour In	Out	Total	Weekday Total
Phase 1									
Hotel	310	99 units	31	21	52	30	29	59	808
Phase 1 + Phase 2									
Apartments	210	131 units	13	54	67	53	28	81	872
Internal Capture		*9% (20%)*	*1*	*5*	*6*	*11*	*6*	*17*	*174*
Net New Trips			12	49	61	42	22	64	698
Hotel	310	99 units	31	21	52	30	29	59	808
Internal Capture		*9% (20%)*	*3*	*2*	*5*	*6*	*6*	*12*	*162*
Net New Trips			28	19	47	24	23	47	646
Retail Space	820	9,500 sq.ft.	6	3	9	17	18	35	406
Internal Capture		*9% (20%)*	*1*	*0*	*1*	*3*	*4*	*7*	*81*
Pass-by Trips		*34% (34%)*	*1*	*1*	*2*	*5*	*5*	*10*	*110*
Net New Trips			4	2	6	9	9	18	215
Coffee Shop	936	2,500 sq.ft.	138	133	271	51	51	102	165
Internal Capture		*9% (20%)*	*12*	*12*	*24*	*10*	*10*	*20*	*33*
Pass-by Trips		*82% (73%)*	*101*	*101*	*202*	*30*	*30*	*60*	*96*
Net New Trips			25	20	45	11	11	22	36
Total Trip Generation			**188**	**211**	**399**	**151**	**126**	**277**	**2,251**
Total Internal Capture			***17***	***19***	***36***	***30***	***26***	***56***	***450***
Total Pass-by Trips			***102***	***102***	***204***	***35***	***35***	***70***	***206***
Total Net New Trips			**69**	**90**	**159**	**86**	**65**	**151**	**1,595**

* AM Peak Hour (PM Peak Hour and Weekday)

TRIP DISTRIBUTION

The directional distribution of primary site trips to/from the project site was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at study intersections.

The following trip distribution was estimated and used for analysis:

- Approximately 30 percent of primary trips will travel to/from the north along OR-213;
- Approximately 15 percent of primary trips will travel to/from the east along Abernethy Road;
- Approximately 12 percent of primary trips will travel to/from the north along OR-99E;
- Approximately 10 percent of primary trips will travel to/from the southeast along 7th Street;
- Approximately 9 percent of primary trips will travel to/from the southwest along Washington Street;
- Approximately 6 percent of primary trips will travel to/from the northeast along Interstate 205 (I-205);
- Approximately 5 percent of primary trips will travel to/from the northeast along Clackamas River Drive;
- Approximately 5 percent of primary trips will travel to/from the southeast along 15th Street;
- Approximately 4 percent of primary trips will travel to/from the southwest along Main Street;
- Approximately 2 percent of primary trips will travel to/from the southwest along OR-99E; and
- Approximately 2 percent of primary trips will travel to/from the southwest along I-205.

The proposed development is planned to have three points of access to the subject site from Washington Street: the west leg of the intersection of Abernethy Road at Washington Street, a proposed site access on Washington Street approximately 200 feet northeast of Abernethy Road, and at the existing Amtrak Station access driveway. Based on the site layout, primary trips to and from the site are anticipated to utilize site access points as follows:

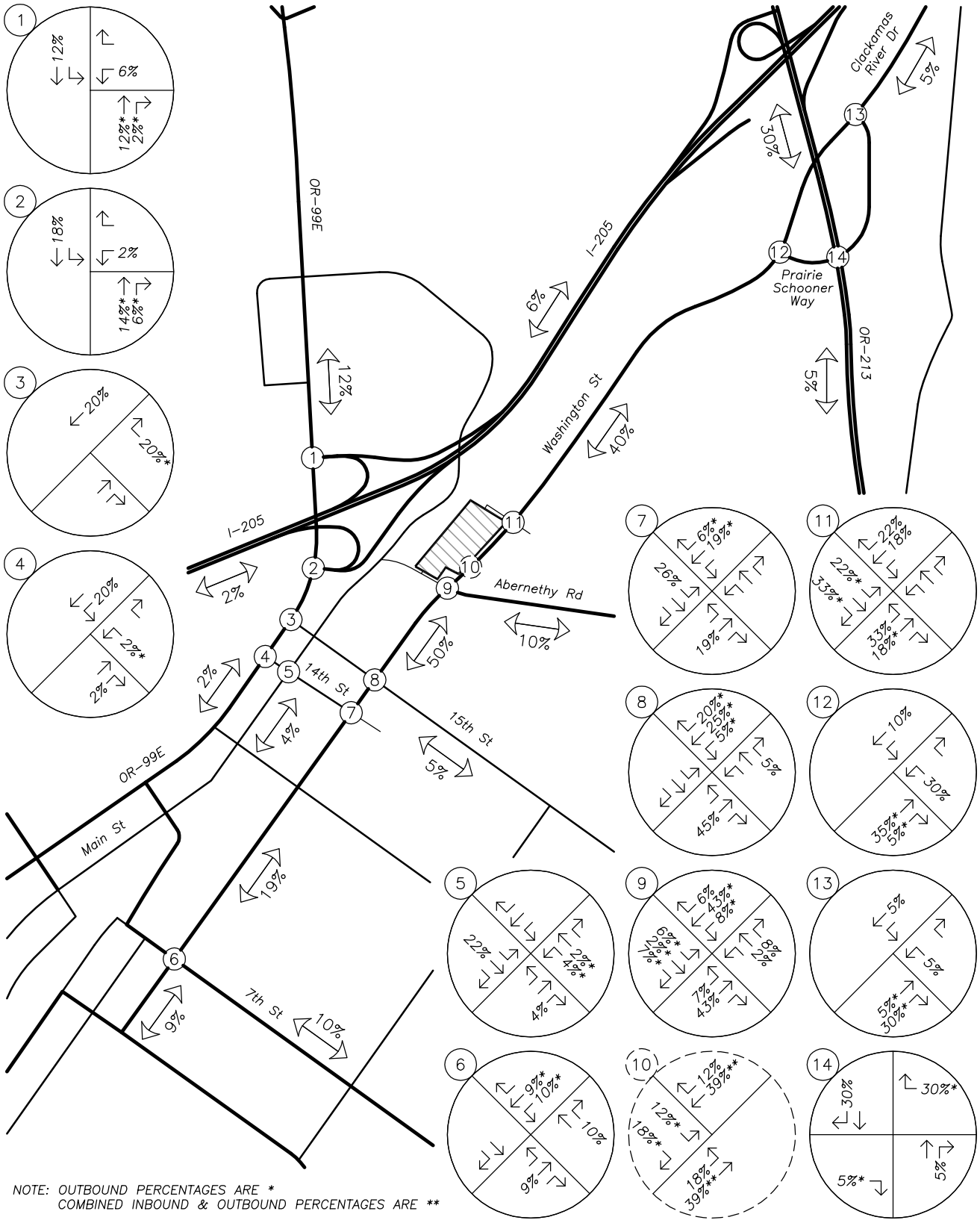
- Approximately 15 percent of primary trips will utilize the access at the intersection of Abernethy Road at Washington Street;
- Approximately 30 percent of primary trips will utilize the proposed access along Washington Street; and
- Approximately 55 percent of primary trips will utilize the Amtrak access along Washington Street.

The trip distribution percentages utilized for the primary site trips generated by the proposed development are shown in Figure 4 on page 18.

The proposed mixed-use building, which will include a coffee shop and retail space, is located within the northeastern section of the project site. Since only these two land-uses are expected to generate pass-by trips, it is anticipated that pass-by trips to and from the site will utilize site access points as follows:

- Approximately 50 percent of pass-by trips will utilize the proposed access along Washington Street; and
- Approximately 50 percent of pass-by trips will utilize the Amtrak access along Washington Street.

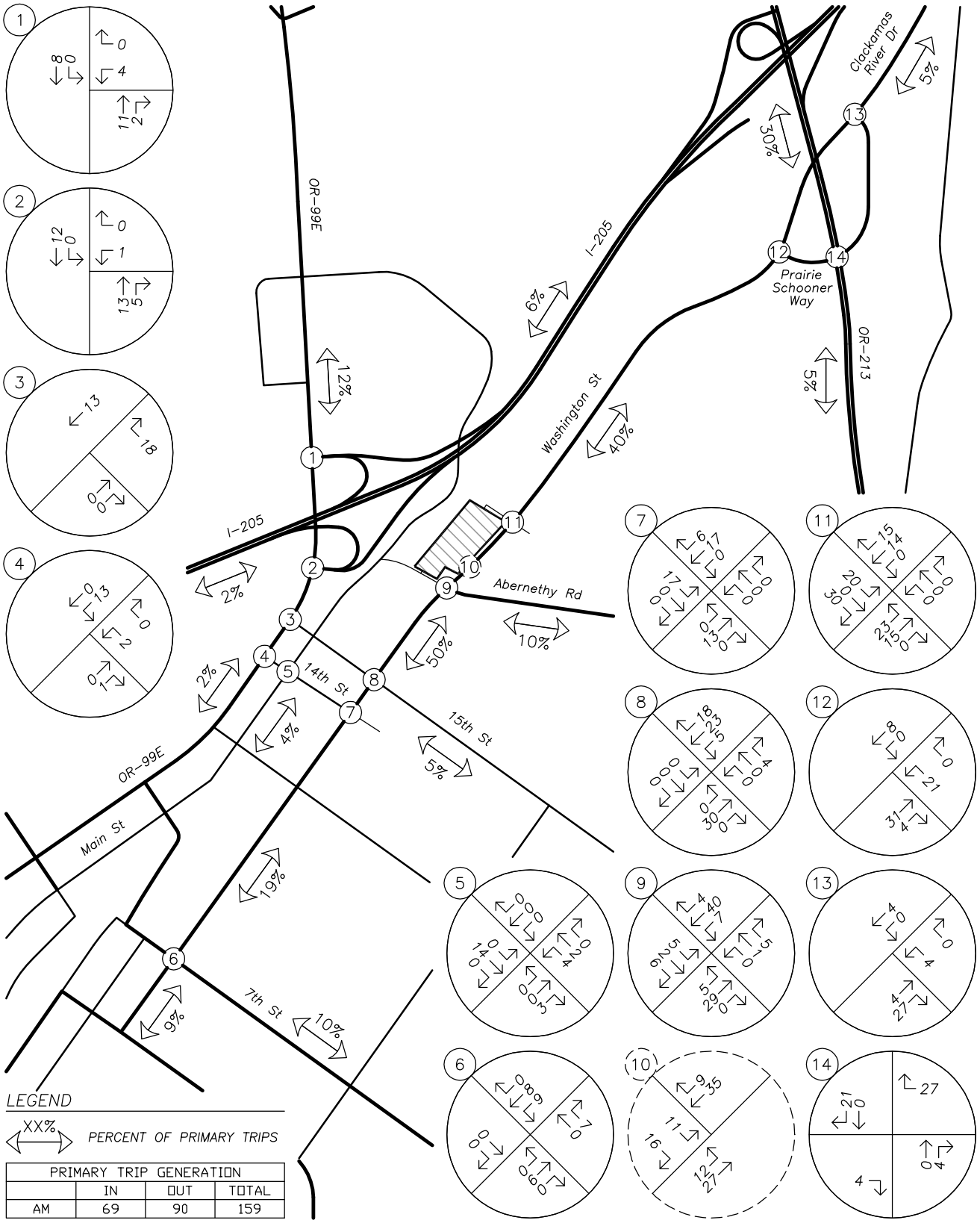
The trip assignment for primary site trips generated by the proposed development are shown in Figure 5 on page 19 for the morning peak hour and in Figure 6 on page 20 for the evening peak hour. The trip assignment for pass-by site trips generated by the proposed coffee shop and retail space are shown in Figure 7 on page 21 for the morning peak hour and in Figure 8 on page 22 for the evening peak hour. The total site trip assignment of trips generated by the proposed development are shown in Figure 9 on page 23 for the morning peak hour and in Figure 10 on page 24 for the evening peak hour.



SITE TRIP DISTRIBUTION
Inbound & Outbound Percentages – Primary Trips
AM & PM Peak Hours

no scale

FIGURE 4

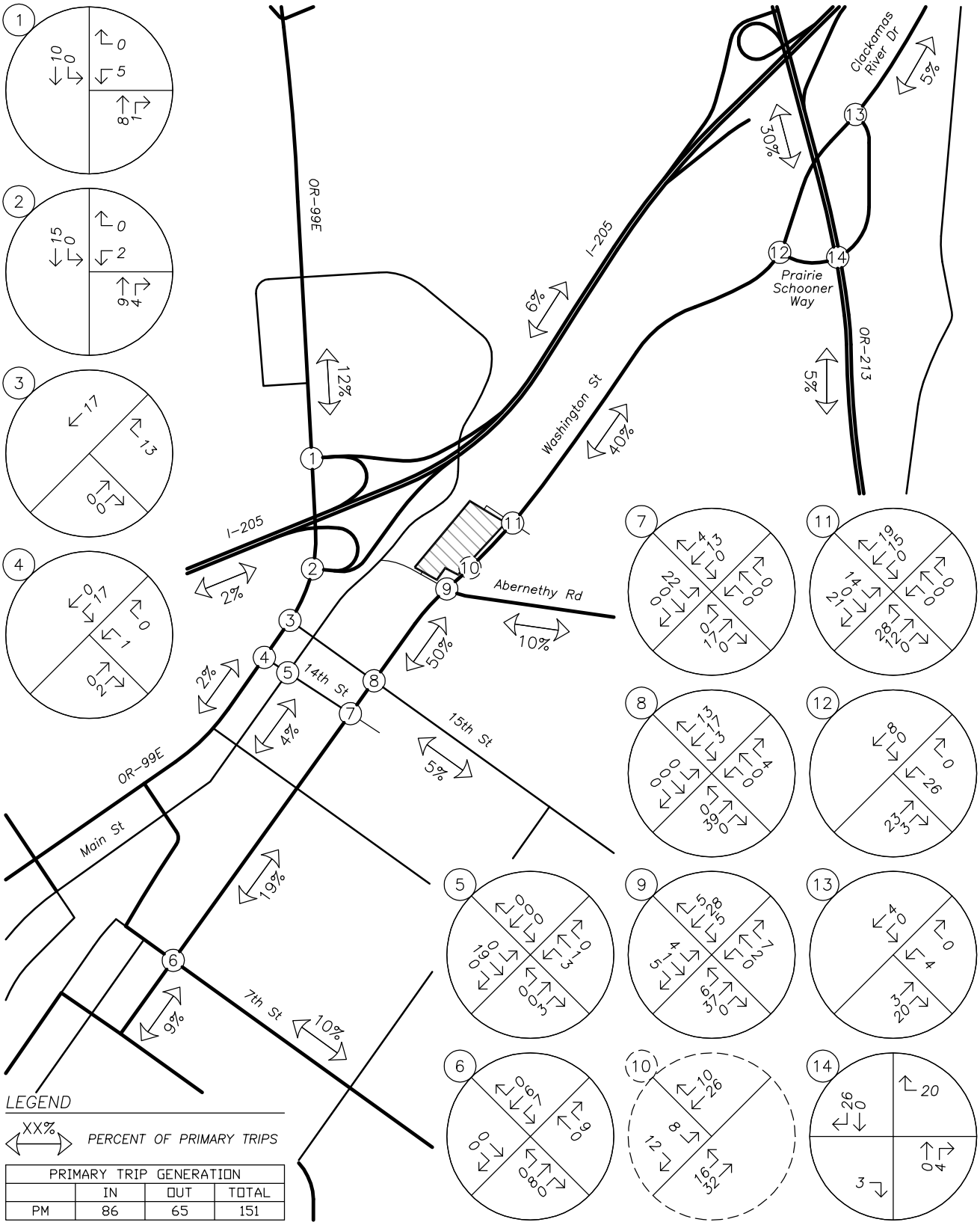


PRIMARY TRIP GENERATION			
	IN	OUT	TOTAL
AM	69	90	159

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Primary Site Trips
AM Peak Hour

no scale

FIGURE 5

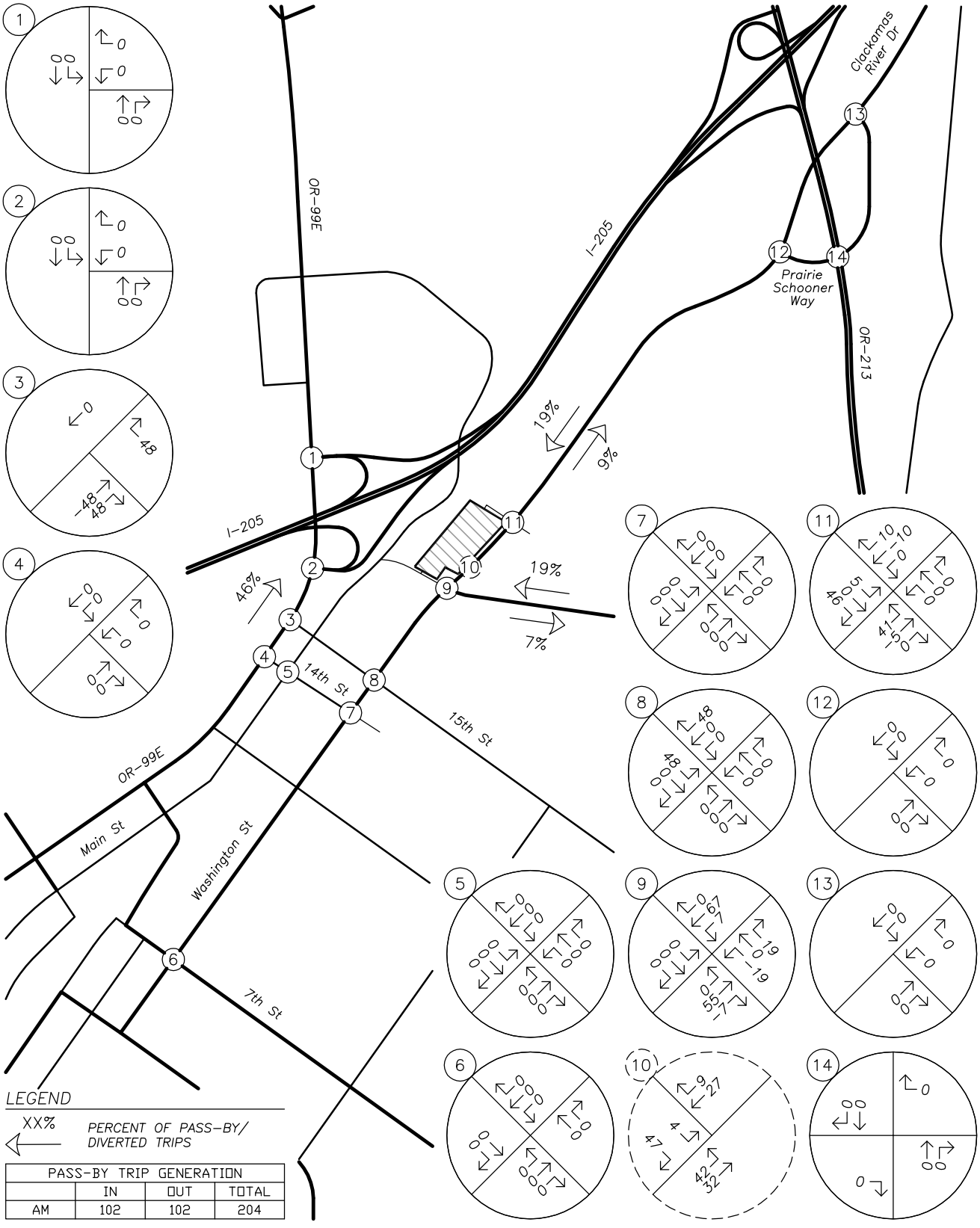


PRIMARY TRIP GENERATION			
	IN	OUT	TOTAL
PM	86	65	151

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Primary Site Trips
PM Peak Hour

no scale

FIGURE 6

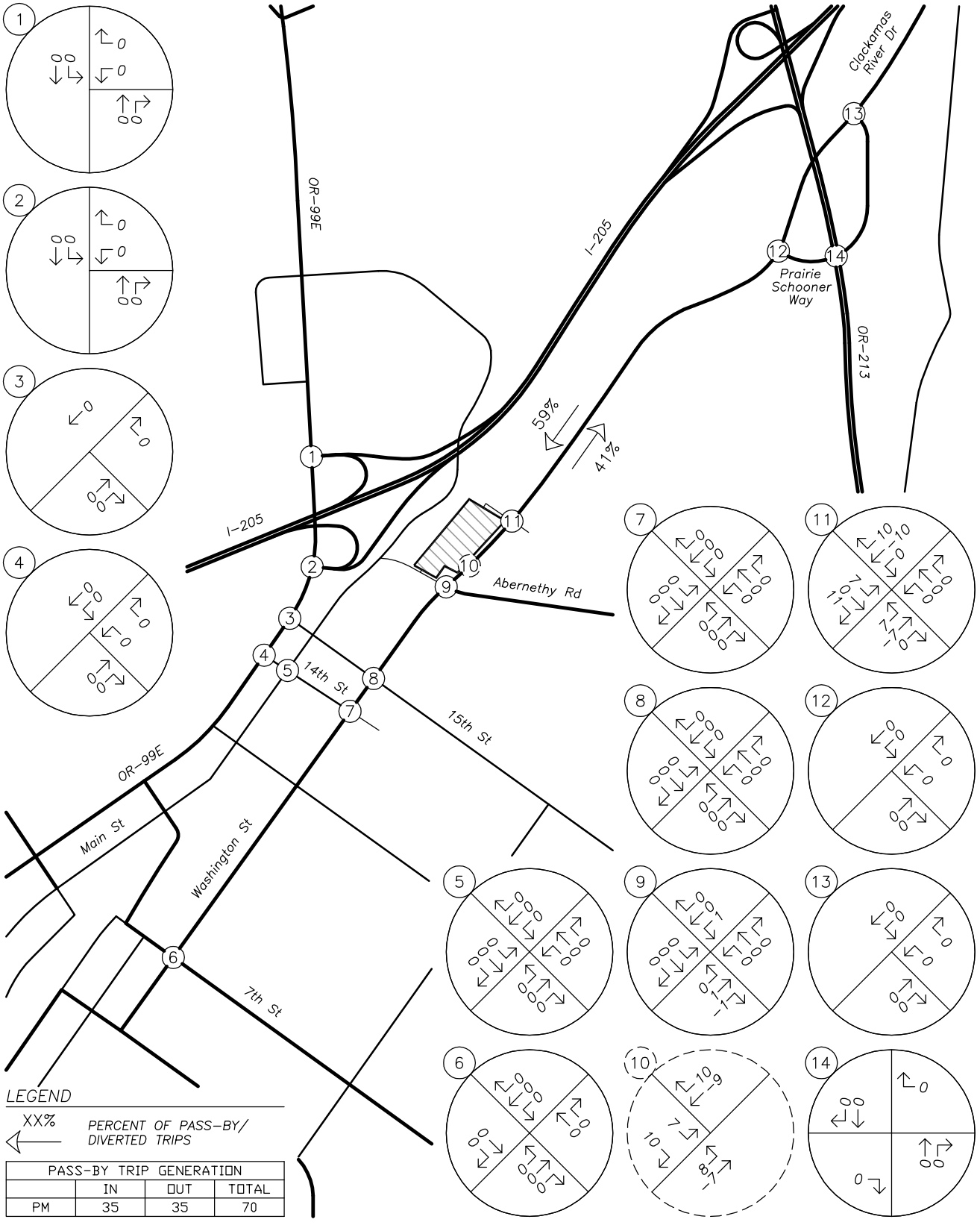


PASS-BY TRIP GENERATION			
	IN	OUT	TOTAL
AM	102	102	204

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Pass-by Site Trips
AM Peak Hour

no scale

FIGURE 7

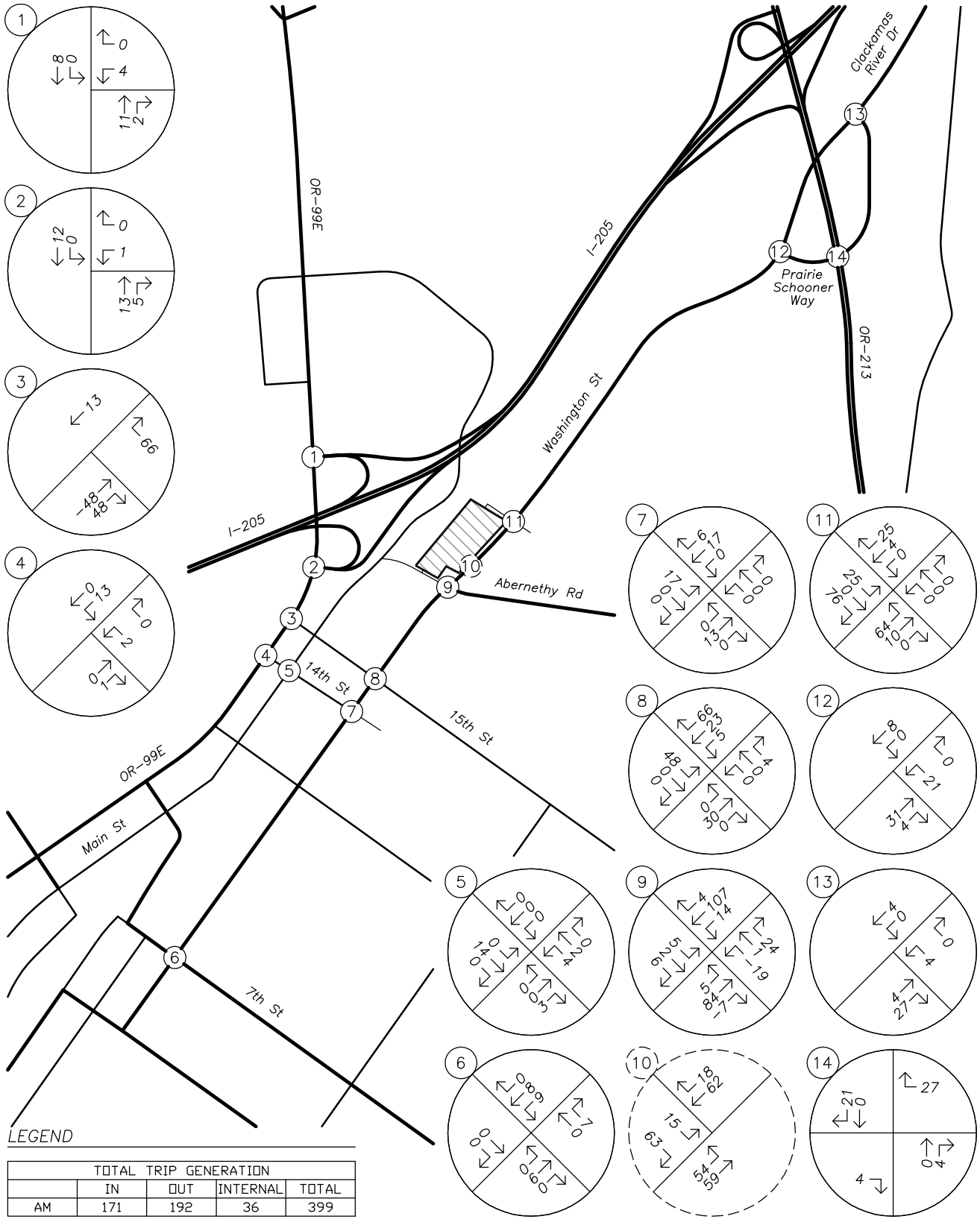


PASS-BY TRIP GENERATION			
	IN	OUT	TOTAL
PM	35	35	70

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Pass-by Site Trips
PM Peak Hour

no scale

FIGURE 8

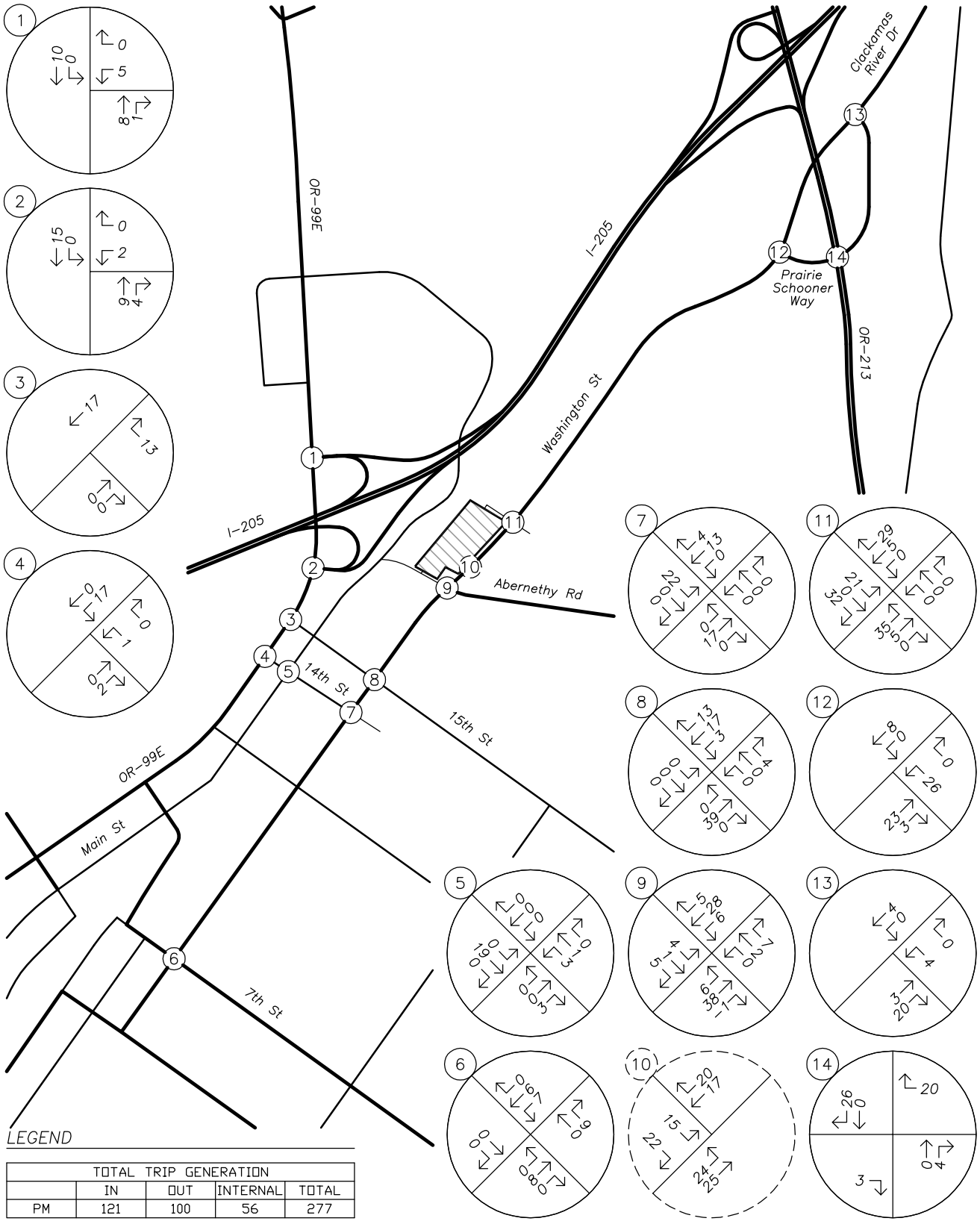


TOTAL TRIP GENERATION				
	IN	OUT	INTERNAL	TOTAL
AM	171	192	36	399

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Total Site Trips
AM Peak Hour

no scale

FIGURE 9



TOTAL TRIP GENERATION				
	IN	OUT	INTERNAL	TOTAL
PM	121	100	56	277

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Total Site Trips
PM Peak Hour

no scale

FIGURE 10

OPERATIONAL ANALYSIS

BACKGROUND VOLUMES

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required.

In order to calculate the future traffic volumes for non-ODOT facilities, a compounded growth rate of two percent per year for an assumed build-out condition of five years was applied to the measured existing traffic volumes to approximate year 2022 background conditions.

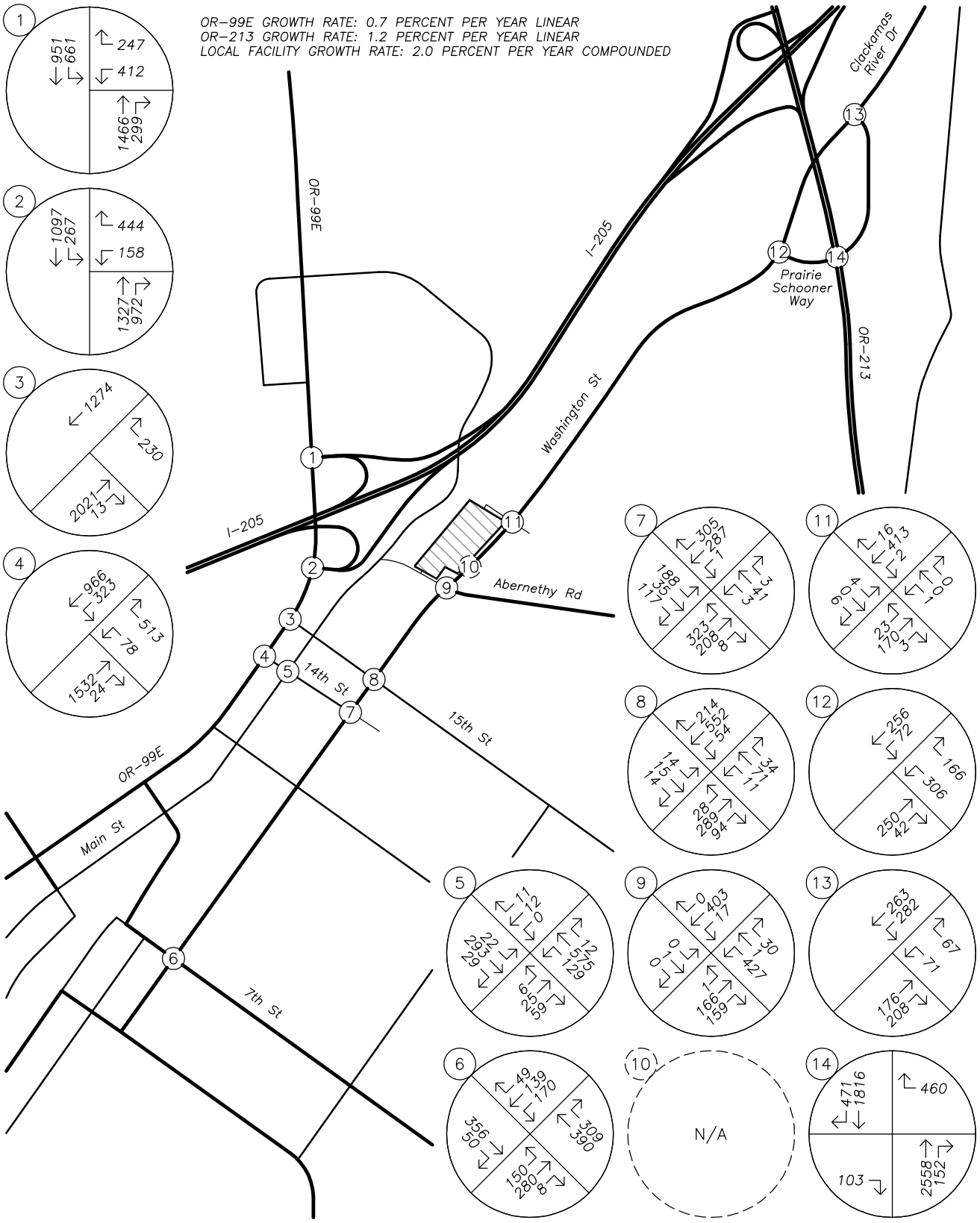
To estimate the future traffic volumes for ODOT facilities, a linear growth rates of 0.7 percent per year and 1.2 percent per year were calculated for the traffic volumes along OR-99E and OR-213, respectively, using ODOT's 2035 Future Volume Tables. This growth rate was applied to the measured existing traffic volumes over a five-year period to determine year 2022 background traffic volumes for the through traffic traveling along both ODOT roadways. A compounded growth rate of two percent per year for an assumed build-out condition of five years was applied to all other turning movement traffic volumes at study intersections along these ODOT roadways.

Figure 11 on page 26 and Figure 12 on page 27 show the projected year 2022 background traffic volumes at the study intersections during the morning and evening peak hours, respectively.

BACKGROUND VOLUMES PLUS SITE TRIPS

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2022 background traffic volumes to obtain the expected 2022 background volumes plus site trips.

Figure 13 on page 28 and Figure 14 on page 29 show the projected year 2022 peak hour background traffic volumes plus proposed development site trips at the study intersections during the morning and evening peak hours, respectively.

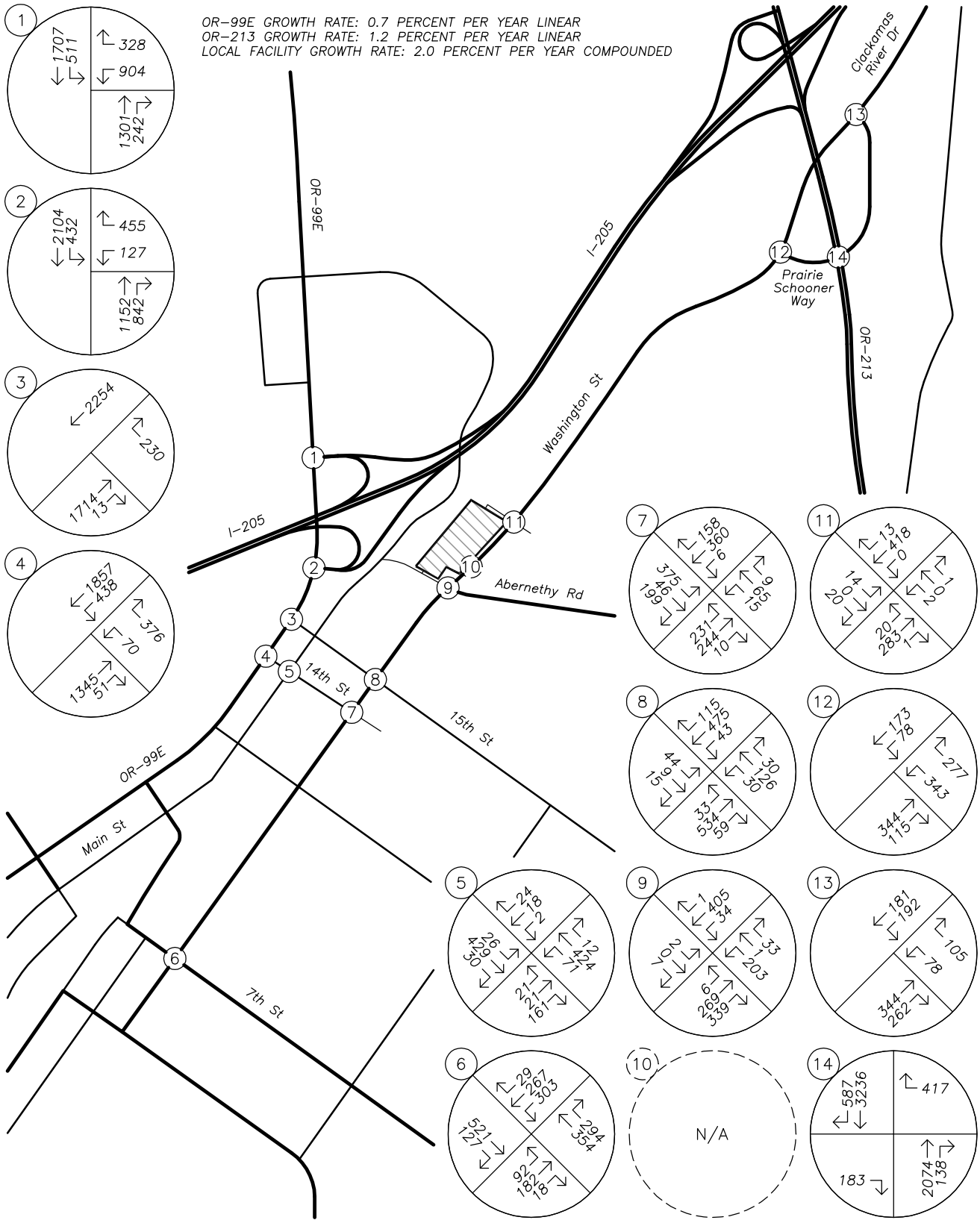


TRAFFIC VOLUMES
Year 2022 Background Conditions
AM Peak Hour

no scale

FIGURE 11

PAGE 26

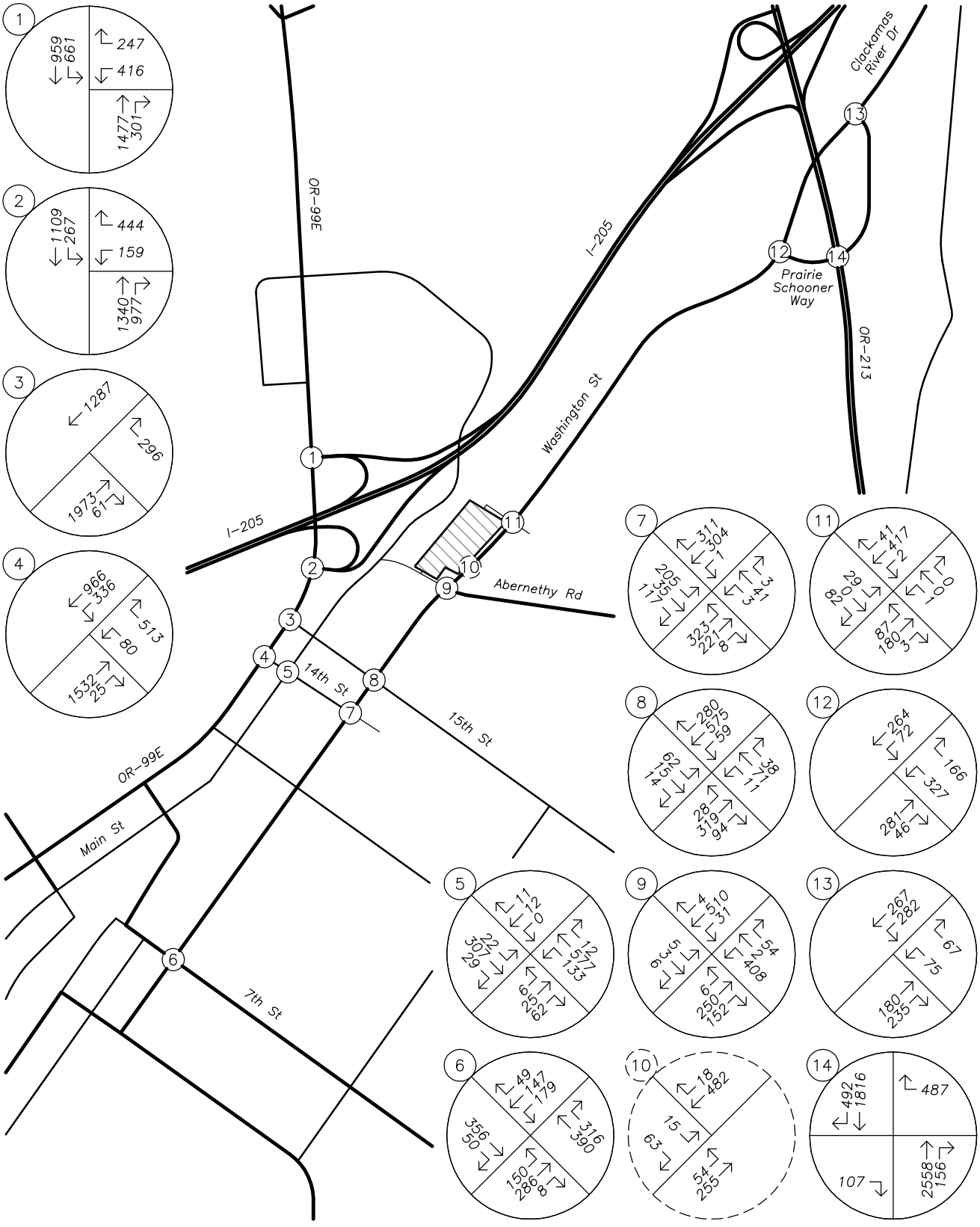


TRAFFIC VOLUMES
Year 2022 Background Conditions
PM Peak Hour

no scale

FIGURE 12

PAGE 27

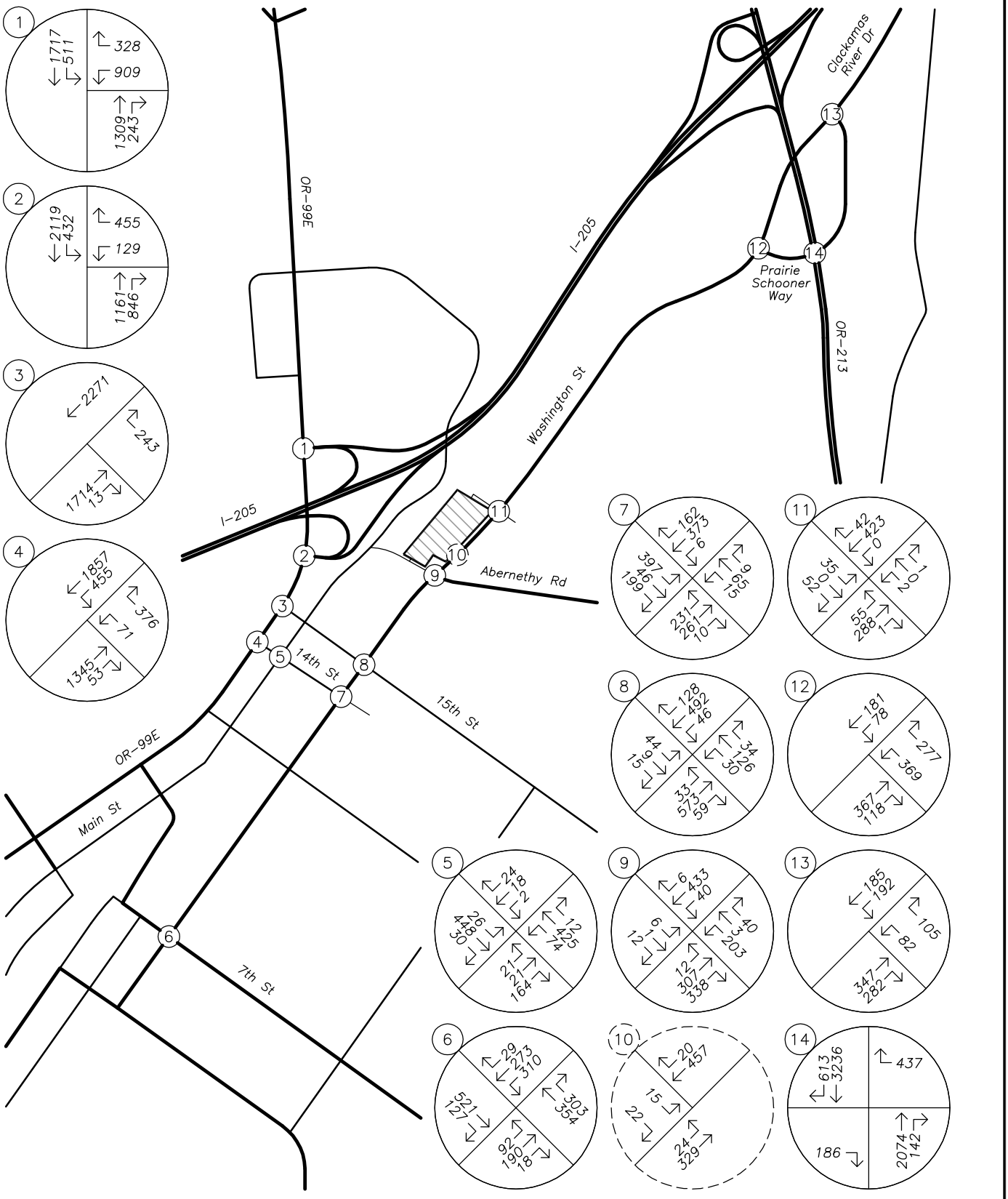


TRAFFIC VOLUMES
Year 2022 Background Conditions plus Site Trips
AM Peak Hour

no scale

FIGURE 13

PAGE 28



TRAFFIC VOLUMES
Year 2022 Background Conditions plus Site Trips
PM Peak Hour

no scale

FIGURE 14

CAPACITY ANALYSIS

A capacity and delay analysis was conducted for each of the study intersections. The analysis was conducted according to the signalized and unsignalized intersection analysis methodologies in the *HIGHWAY CAPACITY MANUAL* (HCM). The level-of-service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The v/c ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

Per Section 12.04.205 of the *Oregon City Municipal Code*, the following minimum acceptable operation standards apply when evaluating traffic impacts associated with the proposed land uses:

- For intersections within the Regional Center, a maximum v/c ratio of 1.10 is permissible during the peak hour, provided that during the second hour the v/c ratio is 0.99 or less. For signalized intersections, these standards apply to the intersection as a whole. For unsignalized intersections, these standards apply to the major-street approaches only. There is no performance standard for unsignalized minor street approaches.
- For intersections outside the Regional Center but designated on the Arterial and Throughway Network, a maximum v/c ratio of 0.99 shall be maintained. This standard applies to signalized intersections as a whole, and to the major-street approaches at unsignalized intersections. There is no performance standard for unsignalized minor street approaches.
- Signalized intersections located outside the Regional Center (Downtown Community Plan) boundaries and not designated on the Arterial and Throughway Network shall operate at LOS D or better for the intersection as a whole, no approach shall operate worse than LOS E, and the intersection shall operate with a v/c ratio no higher than 1.0 for the sum of critical movements.
- Unsignalized intersections located outside the Regional Center (Downtown Community Plan) boundaries and not designated on the Arterial and Throughway Network shall operate at LOS E or better for all approaches serving more than 20 peak hour vehicles. LOS F will be tolerated at movements serving no more than 20 vehicles during the peak hour.
- Until the City adopts new performance measures that identify alternative mobility targets, the City exempts proposed development that is permitted, either conditionally, outright, or through a detailed development master plan approval from compliance with the above mobility standards for identified intersections, including the intersections of OR-99E at the I-205 eastbound and westbound ramp terminals.

According to the City of Oregon City's Downtown Community Plan, the Regional Center encompasses all of the study intersections operating under City jurisdiction, except for Clackamas River Drive at Washington Street. Clackamas River Drive is, however, designated on the Arterial and Throughway Network.

The I-205 southbound ramps intersection at OR-99E is projected to operate with a v/c ratio of 1.02 during the morning peak hour and a v/c ratio of 0.98 during the evening peak hour under year 2022 background conditions. With the addition of site trips from the proposed development, the

intersection is projected to continue to operate with a v/c ratio of 1.02 during the morning peak and the v/c ratio is projected to increase to 0.99 during the evening peak hour.

The I-205 northbound ramps intersection at OR-99E is projected to operate with a v/c ratio of 0.90 during the morning peak hour and a v/c ratio of 0.81 during the evening peak hour under year 2022 background traffic conditions. With the addition of site trips from the proposed development, the intersection is projected to operate with a v/c ratio of 0.91 during the morning peak hour and 0.81 during the evening peak hour.

Under year 2022 background conditions the intersection of 15th Street at OR-99E is projected to operate with a v/c ratio of 0.85 during the morning peak hour and 0.71 during the evening peak hour. With the addition of site trips from the proposed development the intersection is projected to operate with a v/c ratio of 0.95 during the morning peak hour and 0.71 during the evening peak hour.

The intersection of 14th Street at OR-99E operates with a v/c ratio of 0.96 or less during the morning peak hour and 0.85 or less during the evening peak hour for all analysis scenarios.

The intersection of 14th Street at Main Street currently operates at LOS C with v/c ratios of 0.20 during the morning peak hour and 0.26 during the evening peak hour. Under year 2022 background conditions, the intersection is projected to operate at LOS E with a v/c ratio of 0.29 or less during the morning peak hour and at LOS E with a v/c ratio of 0.32 or less during the evening peak hour, regardless the addition of proposed development trips.

The intersection of 7th Street at Washington Street operates at LOS C with v/c ratios or 0.72 or less during the morning peak hour and 0.75 or less during the evening peak hour for all analysis scenarios.

The intersection of 14th Street at Washington Street is projected to operate at LOS C with v/c ratios of 0.86 or less during the morning peak hour and 0.89 or less during the evening peak hour through year 2022 background conditions. Upon build-out of the proposed development, the intersection is projected to operate at LOS D with v/c ratios of 0.90 during the morning peak hour and 0.95 during the evening peak hour.

The intersection of 15th Street at Washington Street operates at LOS B with v/c ratios of 0.79 or less during the morning peak hour and 0.64 or less during the evening peak hour for all analysis scenarios.

The intersection of Abernethy Road at Washington Street operates at LOS B with a v/c ratio of 0.82 or less during the morning peak hour and at LOS A with a v/c ratio of 0.55 or less during the evening peak hour for all analysis scenarios.

Upon build-out of the proposed development, the proposed site access intersection at Washington Street is projected to operate at LOS B with v/c ratios of 0.32 during the morning peak hour and 0.31 during the evening peak hour.

The Amtrak station access intersection at Washington Street currently operates at LOS B with a v/c ratio of 0.25 during both the morning and evening peak hours. Under year 2022 background

conditions, the intersection is projected to operate at LOS C with v/c ratios of 0.28 or less during the morning peak hour and 0.30 or less during the evening peak hour, regardless the addition of proposed development trips.

The intersection of Prairie Schooner Way at Washington Street operates at LOS A with a v/c ratio of 0.39 or less during the morning peak hour and at LOS B with a v/c ratio of 0.46 or less during the evening peak hour for all analysis scenarios.

The intersection of Clackamas River Drive at Washington Street operates at LOS B with v/c ratios of 0.62 or less during the morning peak hour and at level of service A with v/c ratios of 0.44 or less during the evening peak hour for all analysis scenarios.

The intersection of OR-213 at Clackamas River Drive operates at LOS B with v/c ratios of 0.84 or less during the morning peak hour and 0.90 or less during the evening peak hour for all analysis scenarios.

The v/c, delay, and LOS results of the capacity analysis are shown in Tables 3 and 4 for the morning and evening peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Based on the results of the operational analysis, all intersections are projected to operate acceptably per Oregon City standards through year 2022 either with or without the addition of site trips from the proposed development.

The intersections operating under ODOT jurisdiction are also projected to meet ODOT's respective performance standards, with the exception of OR 99-E at the I-205 ramp terminals. However, these intersections are specifically exempted from operational standards pursuant to OCMC 12.04.205(D).

Table 3 - Capacity Analysis Summary						
	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay	V/C	In	Out	Total
1. I-205 SB Ramps at OR-99E						
Existing Conditions	D	40	0.95	C	28	0.91
2022 Background Conditions	D	52	1.02	D	36	0.98
2022 Background plus Site Conditions	D	53	1.02	D	37	0.99
2. I-205 NB Ramps at OR-99E						
Existing Conditions	C	21	0.78	B	17	0.71
2022 Background Conditions	C	27	0.90	B	20	0.81
2022 Background plus Site Conditions	C	27	0.91	B	20	0.81
3. 15th St at OR-99E						
Existing Conditions	D	32	0.82	C	21	0.68
2022 Background Conditions	E	42	0.85	C	24	0.71
2022 Background plus Site Conditions	F	76	0.96	D	26	0.71
4. 14th St at OR-99E						
Existing Conditions	C	23	0.90	B	15	0.80
2022 Background Conditions	C	27	0.96	B	17	0.83
2022 Background plus Site Conditions	C	28	0.96	B	18	0.85
5. 14th St at Main St						
Existing Conditions	D	35	0.20	D	30	0.26
2022 Background Conditions	E	46	0.28	E	39	0.30
2022 Background plus Site Conditions	E	49	0.29	E	41	0.32
6. 7th St at Washington St						
Existing Conditions	C	20	0.65	C	21	0.68
2022 Background Conditions	C	22	0.71	C	24	0.74
2022 Background plus Site Conditions	C	23	0.72	C	24	0.75
7. 14th St at Washington St						
Existing Conditions	C	25	0.78	C	26	0.80
2022 Background Conditions	C	31	0.86	C	34	0.89
2022 Background plus Site Conditions	D	36	0.90	D	38	0.95
8. 15th St at Washington St						
Existing Conditions	B	11	0.66	B	11	0.58
2022 Background Conditions	B	11	0.70	B	13	0.62
2022 Background plus Site Conditions	B	17	0.79	B	14	0.64
9. Abernethy Rd at Washington St						
Existing Conditions	B	13	0.70	A	7	0.49
2022 Background Conditions	B	16	0.76	A	8	0.53
2022 Background plus Site Conditions	B	18	0.82	A	8	0.55

Table 4 - Capacity Analysis Summary (Continued)						
	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay	V/C	In	Out	Total
10. Site Access at Washington St						
2022 Background plus Site Conditions	B	15	0.32	B	15	0.31
11. Amtrak Station Access at Washington St						
Existing Conditions	B	15	0.25	B	14	0.25
2022 Background Conditions	C	16	0.27	C	15	0.28
2022 Background plus Site Conditions	C	23	0.29	C	18	0.30
12. Prairie Schooner Way at Washington St						
Existing Conditions	A	9	0.33	B	10	0.38
2022 Background Conditions	A	9	0.36	B	11	0.43
2022 Background plus Site Conditions	A	10	0.39	B	11	0.46
13. Clackamas River Dr at Washington St						
Existing Conditions	B	11	0.55	A	8	0.39
2022 Background Conditions	B	12	0.62	A	9	0.43
2022 Background plus Site Conditions	B	13	0.62	A	9	0.44
14. OR-213 at Clackamas River Dr						
Existing Conditions	B	10	0.77	B	11	0.84
2022 Background Conditions	B	12	0.83	B	14	0.89
2022 Background plus Site Conditions	B	12	0.84	B	14	0.90

Although not recommended in conjunction with the proposed development, it should be noted that according to Oregon City's Transportation System Plan (TSP), there is an identified project which would improve intersection operation at the intersection of OR-99E and the I-205 southbound ramps. The proposed improvement consists of installation of a second southbound left-turn lane, as well as providing a second eastbound receiving lane to accommodate the added turn lane. With installation of the additional turn lane, the intersection would be projected to operate with v/c ratios below 0.85 during the morning and evening peak hours either with or without the addition of site trips from the proposed development.

SAFETY ANALYSIS

CRASH DATA ANALYSIS

Using data obtained from the ODOT's Crash Analysis and Reporting Unit, a review of the most recent available five years of crash history (from January 2011 to December 2015) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak period represents 10 percent of average daily traffic (ADT) at the intersection. Crash rates in excess of one to two crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

I-205 Southbound Ramps Intersection at OR-99E

The I-205 southbound ramps intersection at OR-99E had 47 reported crashes during the analysis period. The crashes consisted of 25 rear-end collisions, 19 turning-movement collisions, one fixed-object collision, one collision involving a pedestrian, and one collision involving a bicyclist. Of the crashes reported, 20 were classified as "Property Damage Only" (*PDO*), 20 were classified as "Possible Injury – Complaint of Pain" (*Injury C*), six were classified as "Non-Incapacitating Injury" (*Injury B*), and one was classified as "Incapacitating Injury – Bleeding, Broken Bones" (*Injury A*). The crash rate at the intersection was calculated to be 0.55 CMEV.

Three of the reported crashes at the intersection involved a pedestrian, bicyclist, or was classified as an *Injury A* collision. The crash involving a pedestrian occurred when the driver of a westbound right-turning passenger car failed to yield right-of-way to a pedestrian who was utilizing some form of conveyance other than walking while in an intersection crosswalk. The driver of the vehicle had conducted a right-turn after coming to a stop at the intersection. The pedestrian sustained injuries consistent with *Injury B* classification while the driver of the vehicles was uninjured. The crash involving a bicyclist occurred when the driver of a westbound right-turning passenger car struck a southbound bicyclist who was traveling on the roadway shoulder against the flow of traffic. The bicyclist had disregarded the traffic signal and had entered the intersection illegally. The bicyclist sustained injuries consistent with *Injury B* classification while the driver of the vehicle was uninjured. The crash which resulted in injuries consistent with *Injury A* classification occurred when the driver of a northbound passenger car disregarded the traffic signal and collided with a westbound left-turning passenger car. The driver of the northbound vehicle sustained injuries while the other driver was uninjured.

I-205 Northbound Ramps Intersection at OR-99E

The I-205 northbound ramps intersection at OR-99E had 42 reported crashes during the analysis period. The crashes consisted of 28 rear-end collisions and 14 turning-movement collisions. Of the crashes reported, 23 were classified as *PDO*, 17 were classified as *Injury C*, one was classified as *Injury B*, and one was classified as *Injury A*. The crash rate at the intersection was calculated to be 0.48 CMEV.

One of the reported crashes at intersection was classified as an *Injury A* collision. The crash occurred when the driver of a westbound right-turning vehicle was following too close and rear-ended another passenger car that had stopped at the intersection. The driver of the vehicle that was rear-ended sustained injuries while the other driver was uninjured.

15th Street at OR-99E

The intersection of 15th Street at OR-99E had 20 reported crashes during the analysis period. The crashes consisted of 14 rear-end collisions, five turning-movement collisions, and one collision involving a bicyclist. Of the crashes reported, six were classified as *PDO*, 12 were classified as *Injury C*, one was classified as *Injury B*, and one was classified as *Injury A*. The crash rate at the intersection was calculated to be 0.27 CMEV.

One of the reported crashes at the intersection was classified as an *Injury A* collision. The crash occurred when the driver of a northwest-bound right-turning passenger car failed to yield right-of-way to a bicyclist crossing through the intersection. The driver of the passenger car had proceeded through the intersection after stopping, however had their vision obscured by some roadside obstruction. The bicyclist sustained injuries while the driver of the vehicle was uninjured.

14th Street at OR-99E

The intersection of 14th Street at OR-99E had 49 reported crashes during the analysis period. The crashes consisted of 24 turning-movement collisions, 23 rear-end collisions, and two collisions involving bicyclists. Of the crashes reported, 15 were classified as *PDO*, 25 were classified as *Injury C*, and nine were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.68 CMEV.

Two of the reported crashes at the intersection involved a bicyclist. One of the bicycle related crashes occurred when the driver of a southwest-bound left-turning passenger car was struck by a bicyclist who disregarded the traffic signal and had entered the intersection illegally. The driver of the vehicle was uninjured while the bicyclist sustained injuries consistent with *Injury B* classification. The second bicycle related crash occurred when the driver of a northeast-bound right-turning passenger car failed to yield right-of-way to a bicyclist. The driver of the vehicle was uninjured while the bicyclist sustained injuries consistent with *Injury B* classification.

14th Street at Main Street

The intersection of 14th Street at Main Street had 30 reported crashes during the analysis period. The crashes consisted of 21 angle-type collisions, six turning-movement collisions, two collisions involving bicyclists, and one collision involving a pedestrian. Of the crashes reported, 15 were

classified as *PDO*, 11 were classified as *Injury C*, and four were classified as *Injury B*. The crash rate at the intersection was calculated to be 1.46 CMEV.

Based on the calculated crash rate being in excess of one crash per million entering vehicles, additional investigation regarding the safety of the intersection is appropriate. It was noted that Oregon City's Transportation System Plan includes a recommendation to convert this intersection to all-way stop control as mitigation for the high incidence of crashes at the intersection. The intersection crash history shows five or more crashes per year that are susceptible to correction by installation of all-way stop control for each of the three most recent years analyzed (2013, 2014 and 2015). Accordingly, all-way stop control is both warranted and recommended based on the crash history. No other specific safety mitigations are recommended based on the crash history. A more detailed discussion of this potential safety mitigation including operational and queuing impacts is provided on page 40.

7th Street at Washington Street

The intersection of 7th Street at Washington Street had nine reported crashes during the analysis period. The crashes consisted of four angle-type collisions, four turning-movement collisions, and one rear-end collision. Of the crashes reported, five were classified as *PDO* and four were classified as *Injury C*. The crash rate at the intersection was calculated to be 0.25 CMEV.

14th Street at Washington Street

The intersection of 14th at Washington Street had nine reported crashes during the analysis period. The crashes consisted of four turning-movement collisions, three rear-end collisions, one fixed-object collision, and one angle-type collision. Of the crashes reported, four were classified as *PDO* and five were classified as *Injury C*. The crash rate at the intersection was calculated to be 0.32 CMEV.

15th Street at Washington Street

The intersection of 15th Street at Washington Street had 20 reported crashes during the analysis period. The crashes consisted of ten turning-movement collisions, six angle-type collisions, three rear-end collisions, and one collision involving a bicyclist. Of the crashes reported, nine were classified as *PDO*, nine were classified as *Injury C*, and two were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.80 CMEV.

One of the reported crashes at the intersection involved a bicyclist. The crash occurred when the driver of a southeast-bound left-turning passenger car failed to yield right-of-way to a bicyclist. The driver of the passenger car had their vision obscured by some roadside obstruction. The bicyclist sustained injuries consistent with *Injury C* classification while the driver of the vehicle was uninjured.

Abernethy Road at Washington Street

The intersection of Abernethy Road at Washington Street had no reported crashes during the analysis period.

Amtrak Station Access at Washington Street

The Amtrak station access intersection at Washington Street had no reported crashes during the analysis period.

Prairie Schooner Way at Washington Street

The intersection of Prairie Schooner Way at Washington Street had three reported crashes during the analysis period. All three crashes were turning-movement collisions, two of which were classified as *PDO* while one was classified as *Injury B*. Since the intersection was recently constructed near the end of year 2012, the crash rate was calculated to be 0.23 CMEV based on three years of complete crash history.

Clackamas River Drive at Washington Street

The intersection of Clackamas River Drive at Washington Street had two reported crashes during the analysis period. One of the crashes was a rear-end collision while the other was a turning-movement collision. Both crashes were classified as *PDO*. Since the intersection was recently constructed near the end of year 2012, the crash rate was calculated to be 0.17 CMEV based on three years of complete crash history.

OR-213 at Clackamas River Drive

The intersection of OR-213 at Clackamas River Drive was recently reconstructed near the end of year 2012. Prior to reconstruction, the intersection allowed full turning-movements for all approaches. Currently, the intersection allows only right-in/right-out movements for the minor-street approaches while bi-directional traffic along the major-street is separated by a raised median.

Since significant changes to traffic controls had occurred at the intersection, it's reasonable to assume that crash patterns have also significantly changed. Prior to reconstruction of the intersection, over a duration of two years (between 2011 and 2012) a total of 19 crashes were reported at the intersection. After construction was completed, over a duration of three years (between 2013 and 2015) a total of 15 crashes were reported. Based on this information, on average 9.5 crashes per year had occurred at the intersection prior to reconstruction while 5.0 crashes per year had occurred after construction had ended. In order to more accurately assess safety at the intersection, only three years of crash data between years 2013 and 2015 was reviewed instead of five years.

Based on the three years of crash history, the intersection had 15 reported crashes during the analysis period. The crashes consisted of eight rear-end collisions, two turning-movement collisions, two overturning collisions, one angle-type collision, one fixed-object collision, and one sideswipe collision. Of the crashes reported, four were classified as *PDO*, eight were classified as *Injury C*, and three were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.22 CMEV.

Based on the detailed crash data for the study intersections, it is recommended that the intersection of 14th Street at Main Street be converted to all-way stop control. No other specific mitigations are recommended for the study area intersections based on the crash history.

SIGHT DISTANCE

Sight distance was examined for the proposed site access intersection along Washington Street. The proposed access will be located at/near the existing driveway access that currently serves tax lot 1300 of the project site. Intersection sight distance was measured and evaluated in accordance with the standards established in *A Policy on Geometric Design of Highways and Streets*[2]. According to AASHTO, the driver's eye is assumed to be 15 feet from the near edge of the nearest travel lane of the intersecting street and at a height of 3.5 feet above the approach street pavement. The major-street approaching vehicle driver's eye-height is assumed to be 3.5 feet above the cross-street pavement.

The posted speed along Washington Street changes between 25 mph and 35 mph at the proposed access location; 25 mph to the southwest of the proposed access and 35 mph to the northeast. Based on the posted speeds along Washington Street, the minimum required intersection sight distances for maintaining relatively uninterrupted traffic flow along the roadway are 280 feet for northeast-bound approaching vehicles and 390 for southwest-bound approach vehicles. At the proposed site access, intersection sight distance was measured to be in excess of 700 feet to the northeast and 378 feet to the southwest, limited by a crest in the vertical curvature of the roadway.

Based on the detailed analysis, adequate sight distance is available for the proposed site access intersection. No sight distance mitigation is necessary or recommended.

WARRANT ANALYSIS

Left-turn lane and traffic signal warrants were examined for the study intersections where such treatments would be applicable.

A left-turn refuge lane is primarily a safety consideration for the major street, removing left-turning vehicles from the through traffic stream. The left-turn lane warrants used were developed from the National Cooperative Highway Research Project's (NCHRP) Report 457. Turn lane warrants were evaluated based on the number of advancing and opposing vehicles as well as the number of turning vehicles, the travel speed, and the number of through lanes.

Left-turn lane warrants are project to be met for the following two intersection approaches:

- Northeast-bound approach at the intersection of 14th Street at Main Street under existing conditions during the morning and evening peak hours.
- Northwest-bound approach at the site access intersection at Washington Street under year 2022 build-out conditions during the morning peak hour.

The intersection of 14th Street at Main Street is included within Oregon City's TSP and is planned for conversion to all-way stop control in the short-term. Typically, conversion of an intersection to all-way stop control means that the left-turn lane warrants are no longer applicable. However, based on

[2] American Association of State Highways and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 6th Edition, 2011.

the operational analysis of intersection operation under all-way stop control it is recommended that a northwest-bound left-turn lane be provided at the intersection even under all-way stop control in order to ensure that all approaches will continue to operate within capacity.

Traffic signal warrants were examined for unsignalized stop-controlled study intersections to determine whether the installation of any new traffic signal will be warranted at the intersections upon completion of the proposed development and change in zoning. Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met for any of the unsignalized stop-controlled study intersections under any of the analysis scenarios.

ACCESS SPACING STANDARDS

The proposed development will either construct a new access near or utilize an existing access driveway, which currently serves tax lot 1300 of the project site, located along Washington Street. In order to assess whether access spacing standards can be met at the proposed access location, code section 12.04.195 – *Spacing Standards* from Oregon City's municipal code was referenced.

According to Table 12.04.195.B – *Minimum Driveway Spacing Standards*, the *"minimum distance from a street corner to a driveway of all uses and minimum distance between driveways for uses other than single and two-family dwellings"* along Minor Arterial roadways shall be 175 feet. The nearest driveways/public roadways to the project site along northwestern side of Washington Street are the Amtrak station access immediately to the northeast and an automotive repair shop's driveway approximately 75 feet to the southwest. The project site has approximately 520 feet of frontage along Washington Street, 245 feet of which could have a site access built while satisfying City access spacing standards. Therefore, a proposed site access may be constructed along Washington Street while meeting Oregon City standards.

MITIGATION ANALYSIS

Although the operational analysis did not demonstrate the need for any operational mitigation in order to meet city standards, the high historical crash rate for the intersection of 14th Street at Main Street is indicative of the need for safety mitigation.

In conformance with the city's Transportation System Plan, the intersection was identified as a candidate location for conversion to all-way stop control. Providing all-way stop control would be expected to reduce the frequency of the reported crash types. However, introduction of stop signs along 14th Street could also result in increased queue lengths. Given the short distance between Main Street and OR-99E along 14th Street, special consideration of the potential capacity and queuing impacts of all-way stop control is appropriate at this location.

Based on the operational analysis, conversion to all-way stop control absent other improvements would be projected to result in eastbound queues on 14th Street backing up onto OR-99E. Installation of eastbound and westbound left-turn lanes along 14th Street at Main Street was also determined to be insufficient to mitigate queueing and capacity concerns along the 14th Street corridor with stop control at Main Street.

In order to improve operation and reduce queue lengths, two additional improvements are recommended in conjunction with conversion to all-way stop control. The first is to convert the eastbound and westbound approaches on 14th Street at Main Street to each have a shared left/through lane and a shared through/right lane. This lane configuration provides two eastbound lanes in which through traffic can queue, significantly increasing the available eastbound queue storage between Main Street and OR-99E. With two receiving lanes, the eastbound storage is sufficient to accommodate platoons of vehicles making southbound left turns from OR-99E onto 14th Street. This improvement thus ensures that acceptable operation can be maintained during the evening peak hour, when eastbound volumes are highest on 14th Street.

The second improvement addresses operation during the morning peak hour. Even with two westbound lanes provided along 14th Street, long queues would be projected to develop in the right lane since most eastbound drivers turn right onto OR-99E. Introduction of all-way stop control would limit the number of vehicles that could enter OR-99E during the green indication, since vehicles that currently could be served may be stuck at the stop sign at Main Street. In order to balance traffic volumes between the two eastbound lanes and maximize the number of vehicles that can enter OR-99E during each green indication, it is recommended that the westbound approach on 14th Street to OR-99E be converted to have a shared left/right turn lane and a dedicated right turn lane.

A Synchro/SimTraffic analysis was conducted for the proposed improvements, including conversion to all-way stop control for safety as well as reconfiguration of the intersection approaches on 14th Street as described.

Based on the operational analysis, the intersection of Highway 99E at 14th Street is projected to operate at level of service C and with a v/c ratio of 0.94 during the morning peak hour under year 2022 traffic conditions with the addition of site trips from the proposed development and the proposed safety, queuing, and capacity improvements in place. During the evening peak hour, the intersection is projected to operate at level of service C with a v/c ratio of 0.91.

Under year 2022 traffic conditions with the addition of site trips from the proposed development and the proposed safety, capacity and queuing improvements in place, the intersection of 14th Street at Main Street is projected to operate at level of service C during the morning peak hour, with a v/c ratio of 0.72 for the critical approach. During the evening peak hour, the intersection is projected to operate at level of service C, with a v/c ratio of 0.54 for the critical movement. Notably, the v/c ratio for the eastbound 14th Street approaches is projected to be less than 0.50 during both the morning and evening peak hours.

Based on the queuing analysis, the average queue length projected on the eastbound 14th Street approach to Main Street was projected to be 70 feet during the morning peak hour and 84 feet during the evening peak hour. Observation of the queueing simulation showed that although the available queue storage eastbound often filled, the queues immediately clear following each cycle of the traffic signal at OR-99E, and the queues of southbound vehicles turning left from OR-99E onto 14th Street also clear regularly. Additionally, although westbound queues develop during the morning peak hour on 14th Street approaching Main Street, the queues do not extend to Washington Street and result in congestion on the local street network.

Based on the analysis, installation of all-way stop control can be recommended as a safety mitigation for the intersection of 14th Street at Main Street provided that the eastbound and westbound approaches on 14th Street approached Main Street are converted to each have a shared left/through lane and a shared through/right lane, and the westbound 14th Street approach to OR-99E is converted to have a shared left/right lane and a dedicated right-turn lane at the signal.

It should also be noted as an alternative to the above-recommended improvements that the city's Transportation System Plan also includes an alternative improvement consisting of conversion of 14th Street to one-way eastbound from OR-99E to John Adams Street and conversion of 15th Street to one-way westbound from Washington Street to OR-99E. This option would result in more significant changes to trip routing within the study area. It would also likely necessitate installation of a new traffic signal at the intersection of Highway 99E and 15th Street, since this would become the intersection that accommodates westbound left-turns onto OR-99E. Although this alternative improvement can be considered by the city and ODOT, the associated impacts and costs are well beyond what can reasonably be expected as mitigation for development of the subject property.

PROPORTIONALITY ANALYSIS

In order to determine the relative impacts of the proposed development at locations requiring mitigation, a proportionality analysis was prepared. Generally, any requested mitigation must have a logical connection or "nexus" to the proposed development, and the requested mitigation must be roughly proportional to the impacts of the proposed development.

For this project, two primary mitigations were recommended based on the safety analysis. These consist of installation of a northbound left-turn lane at the site access and a collection of improvements near the intersection of 14th Street and Main Street to improve safety while maintaining acceptable operation of the impacted intersections.

The northbound left-turn lane recommended at the site access serves site traffic and is located along the site frontage. Accordingly, there is a logical nexus between the proposed development and the safety mitigation. Since the access will serve exclusively site traffic, it is reasonable to request that the improvement be funded by the proposed development. Based on the analysis, this improvement should be constructed prior to occupancy of Phase 2 of the proposed development.

The improvements intended to address existing safety concerns at the intersection of 14th Street and Main Street are not directly contiguous to the site, and the proposed development is not causing the safety problem since it is occurring under existing conditions. However, the site will add trips through the intersection. Accordingly, there is also a logical nexus between this improvement need and the proposed development.

In order to assess the proportionate impacts of the proposed development on the intersection, traffic volumes were considered for existing and year 2022 conditions. These volumes were compared to the projected number of site trips added to the intersection under Phase 1 development of the 99-room hotel as well as at full site build-out. Currently, the intersection accommodates 1,062 entering vehicles during the morning peak hour and 1,123 entering vehicles during the evening peak hour. Under year 2022 background plus site trips conditions, the intersection is projected to accommodate

1,196 entering vehicles during the morning peak hour and 1,265 entering vehicles during the evening peak hour.

Based on the site trip generation and distribution, Phase 1 of the proposed development would be projected to add 8 site trips to the intersection during the morning peak hour and 10 site trips during the evening peak hour. At full site build-out, the development is projected to add 23 trips to the intersection during the morning peak hour and 26 trips during the evening peak hour in total.

Based on the analysis, the added trips from Phase 1 are projected to represent less than one percent of the traffic passing through the intersection under year 2022 conditions, and the total impact from Phases 1 and 2 is projected to represent two percent of the traffic passing through the intersection.

Often, proportionality analysis is conducted not based on the total intersection volumes as compared to the site traffic volumes, but instead on the portion of the projected traffic increase that is attributable to the proposed development. In this case, it is probably not appropriate to assess relative impacts in this manner, since the historical safety problem is entirely attributable to existing traffic rather than the projected traffic increases. Nevertheless, if the proportionality analysis were conducted based on only the projected increase in trips, the proposed development would represent 6% of the increase during the morning peak hour and 7% of the increase during the evening peak hour for Phase 1. The cumulative impact of Phases 1 and 2 would represent 17% of the increased traffic volumes during the morning peak hour and 18% of the increase during the evening peak hour.

Based on this analysis, it is reasonable to conclude that the proposed development should not be solely responsible for the costs associated with the recommended safety improvements for the intersection of 14th Street at Main Street. If the city desires to require mitigation from the proposed development, it may therefore be appropriate to request a proportionate share payment based on the impacts of the proposed development rather than requesting construction of the recommended improvements.

CONCLUSIONS

Based on the operational analysis, all study area intersections are projected to operate acceptably per Oregon City code standards through 2022 either with or without the addition of site trips from the proposed development.

Based on the crash analysis, the intersection of 14th Street at Main Street was identified as having a high crash rate. It is recommended that the intersection be converted to all-way stop control to address this safety concern. It is recommended that concurrent with conversion to all-way stop control the eastbound and westbound approaches on 14th Street be converted to have a shared left/through lane and a shared through/right lane. Additionally, it is recommended that the westbound approach to Highway 99E be converted to have a shared left/right turn lane and a dedicated right-turn lane. With these improvements in place, it is anticipated that the safety of the intersection will be improved while maintaining acceptable operation of the affected intersections.

It should be noted that the city's Transportation System Plan includes an alternative improvement that could address safety concerns at the intersection of 14th Street and Main Street, consisting of conversion of 14th Street to one-way eastbound from OR-99E to John Adams Street and conversion of 15th Street to one-way westbound from Washington Street to OR-99E. This alternative treatment would likely necessitate installation of a new traffic signal for the intersection of Highway 99E at 15th Street.

Intersection sight distance is adequate at the site access intersections. No sight distance mitigation is recommended.

Based on the left-turn lane warrant analysis, installation of a northbound left-turn lane on Washington Street at the site access is recommended in conjunction with development of Phase 2.

Since the westbound 14th Street approach to Main Street currently meets left-turn lane warrants, it is recommended that a northwest-bound left-turn lane be provided even if the intersection is not converted to all-way stop control.

Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met for any of the unsignalized stop-controlled study intersections under any of the analysis scenarios.

The proposed site access intersection at Washington Street can be constructed to meet the minimum access spacing standards required by the Oregon City Municipal Code.

Based on the proportionality analysis, it was determined that a requirement to construct a left-turn lane serving the site access would be proportionate to the impacts of the proposed development. However, a requirement for construction of safety improvements at the intersection of 14th Street and Main Street would not proportionate to the impacts of the development. If the city desires to require mitigation from the proposed development, it may therefore be appropriate to request a proportionate share payment based on the impacts of the proposed development rather than requesting construction of the recommended improvements.

APPENDIX



ABERNETHY PLACE MASTER PLAN

OREGON CITY, OREGON

0 15' 30' 60'

HILL ARCHITECTS

MIXED USE CONCEPTUAL SITE PLAN **1.1**

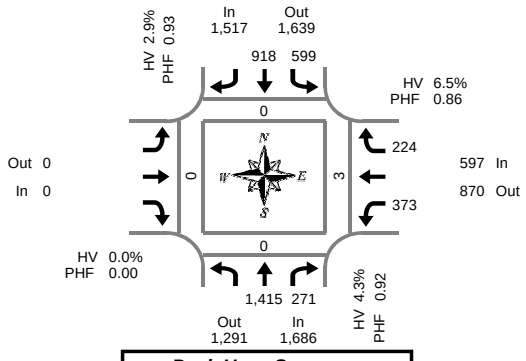
NOVEMBER 4, 2016

1750 BLANKENSHIP ROAD • SUITE 400 • WEST LINN • OREGON 97068

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Total Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 SB Ramp

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	101	36	0		47	56		0				0	37		18	0	295	0	0	2	0
7:05 AM	95	33	0		44	81		0				0	19		19	0	291	0	0	0	0
7:10 AM	89	24	0		55	67		1				0	23		13	0	271	0	0	0	0
7:15 AM	106	28	0		46	63		0				0	37		12	0	292	0	0	1	0
7:20 AM	107	20	0		51	67		0				0	30		21	0	296	0	0	0	0
7:25 AM	92	21	0		61	61		0				0	29		9	0	273	0	0	0	0
7:30 AM	128	27	0		45	66		0				0	34		9	0	309	0	0	0	0
7:35 AM	145	15	0		50	73		0				0	26		23	0	332	0	0	2	0
7:40 AM	112	17	0		56	85		0				0	30		18	0	318	0	0	0	0
7:45 AM	136	25	0		44	86		0				0	43		22	0	356	0	0	0	0
7:50 AM	145	21	0		52	86		0				0	20		25	0	349	0	0	0	0
7:55 AM	115	17	0		48	92		0				0	30		27	0	329	0	0	0	0
8:00 AM	128	27	0		42	87		0				0	47		22	0	353	0	0	0	0
8:05 AM	112	29	0		49	85		0				0	24		23	0	322	0	0	0	0
8:10 AM	88	22	0		46	69		0				0	23		21	0	269	0	0	1	0
8:15 AM	102	18	0		32	74		0				0	33		32	0	291	0	0	0	0
8:20 AM	87	20	0		31	85		0				0	22		27	0	272	0	0	0	0
8:25 AM	76	17	0		35	79		0				0	21		17	0	245	0	0	1	0
8:30 AM	97	17	0		44	81		0				0	45		23	0	307	0	0	0	0
8:35 AM	77	13	0		48	81		0				0	33		30	0	282	0	0	0	0
8:40 AM	79	16	0		44	73		0				0	31		30	0	273	0	0	0	0
8:45 AM	105	22	0		41	74		0				0	46		26	0	314	0	0	0	0
8:50 AM	97	18	0		35	80		0				0	31		31	0	292	0	0	1	0
8:55 AM	79	14	0		36	55		0				0	25		22	0	231	0	0	0	0
Total Survey	2,498	517	0		1,082	1,806		1				0	739		520	0	7,162	0	0	8	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	285	93	0		146	204		1				0	79		50	0	857	0	0	2	0
7:15 AM	305	69	0		158	191		0				0	96		42	0	861	0	0	1	0
7:30 AM	385	59	0		151	224		0				0	90		50	0	959	0	0	2	0
7:45 AM	396	63	0		144	264		0				0	93		74	0	1,034	0	0	0	0
8:00 AM	328	78	0		137	241		0				0	94		66	0	944	0	0	1	0
8:15 AM	265	55	0		98	238		0				0	76		76	0	808	0	0	1	0
8:30 AM	253	46	0		136	235		0				0	109		83	0	862	0	0	0	0
8:45 AM	281	54	0		112	209		0				0	102		79	0	837	0	0	1	0
Total Survey	2,498	517	0		1,082	1,806		1				0	739		520	0	7,162	0	0	8	0

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,686	1,291	2,977	0	1,517	1,639	3,156	1	0	0	0	0	597	870	1,467	0	3,800	0	0	3	0
%HV	4.3%				2.9%				0.0%				6.5%				4.1%				
PHF	0.92				0.93				0.00				0.86				0.92				

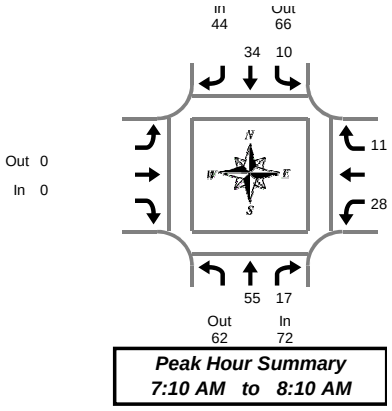
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		1,415	271	1,686	599	918		1,517				0	373		224	597	3,800
%HV	NA	3.9%	6.3%	4.3%	1.7%	3.7%	NA	2.9%	NA	NA	NA	0.0%	7.5%	NA	4.9%	6.5%	4.1%
PHF		0.89	0.93	0.92	0.95	0.87		0.93				0.00	0.92		0.76	0.86	0.92

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	1,371	284	0		599	883		1				0	358		216	0	3,711	0	0	5	0
7:15 AM	1,414	269	0		590	920		0				0	373		232	0	3,798	0	0	4	0
7:30 AM	1,374	255	0		530	967		0				0	353		266	0	3,745	0	0	4	0
7:45 AM	1,242	242	0		515	978		0				0	372		299	0	3,648	0	0	2	0
8:00 AM	1,127	233	0		483	923		0				0	381		304	0	3,451	0	0	3	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 SB Ramp

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		3	2	5	0	3		3				0	2		3	5	13
7:05 AM		1	1	2	2	3		5				0	1		0	1	8
7:10 AM		1	2	3	1	2		3				0	1		1	2	8
7:15 AM		6	0	6	0	3		3				0	1		2	3	12
7:20 AM		4	2	6	0	6		6				0	2		0	2	14
7:25 AM		4	1	5	1	2		3				0	2		0	2	10
7:30 AM		5	4	9	1	2		3				0	3		0	3	15
7:35 AM		5	1	6	1	1		2				0	1		3	4	12
7:40 AM		5	0	5	1	3		4				0	2		1	3	12
7:45 AM		4	1	5	0	3		3				0	2		2	4	12
7:50 AM		6	2	8	1	2		3				0	2		0	2	13
7:55 AM		5	0	5	2	3		5				0	6		1	7	17
8:00 AM		6	0	6	0	2		2				0	3		0	3	11
8:05 AM		4	4	8	2	5		7				0	3		1	4	19
8:10 AM		6	3	9	0	7		7				0	1		1	2	18
8:15 AM		9	2	11	0	4		4				0	3		3	6	21
8:20 AM		6	2	8	2	5		7				0	3		3	6	21
8:25 AM		5	0	5	3	7		10				0	3		0	3	18
8:30 AM		5	2	7	0	5		5				0	3		1	4	16
8:35 AM		3	0	3	1	1		2				0	3		1	4	9
8:40 AM		3	0	3	2	5		7				0	5		3	8	18
8:45 AM		5	2	7	4	4		8				0	3		2	5	20
8:50 AM		1	2	3	1	7		8				0	2		0	2	13
8:55 AM		4	0	4	2	3		5				0	1		1	2	11
Total Survey		106	33	139	27	88		115				0	58		29	87	341

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		5	5	10	3	8		11				0	4		4	8	29
7:15 AM		14	3	17	1	11		12				0	5		2	7	36
7:30 AM		15	5	20	3	6		9				0	6		4	10	39
7:45 AM		15	3	18	3	8		11				0	10		3	13	42
8:00 AM		16	7	23	2	14		16				0	7		2	9	48
8:15 AM		20	4	24	5	16		21				0	9		6	15	60
8:30 AM		11	2	13	3	11		14				0	11		5	16	43
8:45 AM		10	4	14	7	14		21				0	6		3	9	44
Total Survey		106	33	139	27	88		115				0	58		29	87	341

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound I-205 SB Ramp			Westbound I-205 SB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	72	62	134	44	66	110	0	0	0	39	27	66	155
PHF	0.90			0.79			0.00			0.70			0.82

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		55	17	72	10	34		44				0	28		11	39	155
PHF		0.81	0.61	0.90	0.63	0.77		0.79				0.00	0.58		0.46	0.70	0.82

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

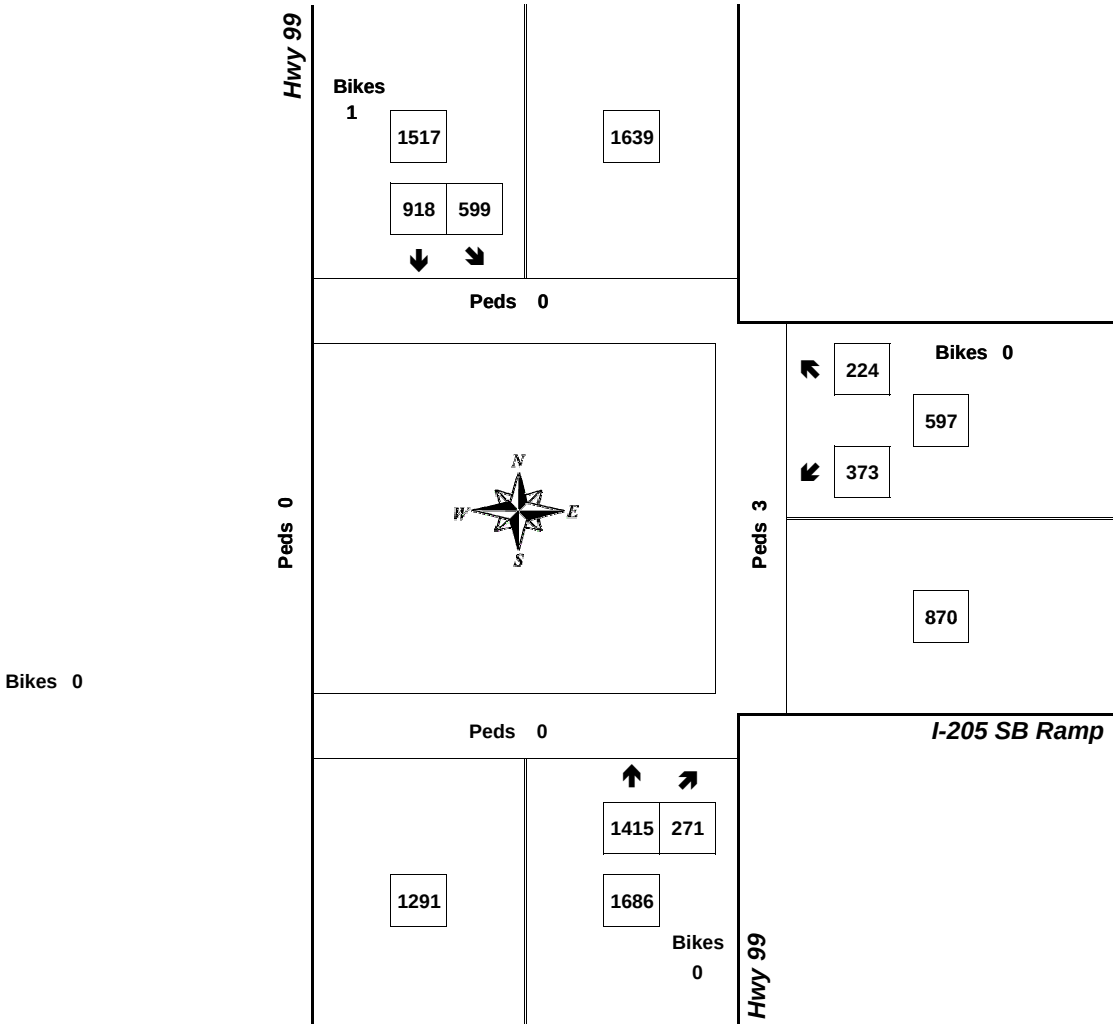
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		49	16	65	10	33		43				0	25		13	38	146
7:15 AM		60	18	78	9	39		48				0	28		11	39	165
7:30 AM		66	19	85	13	44		57				0	32		15	47	189
7:45 AM		62	16	78	13	49		62				0	37		16	53	193
8:00 AM		57	17	74	17	55		72				0	33		16	49	195

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & I-205 SB Ramp

7:10 AM to 8:10 AM
Thursday, January 26, 2017

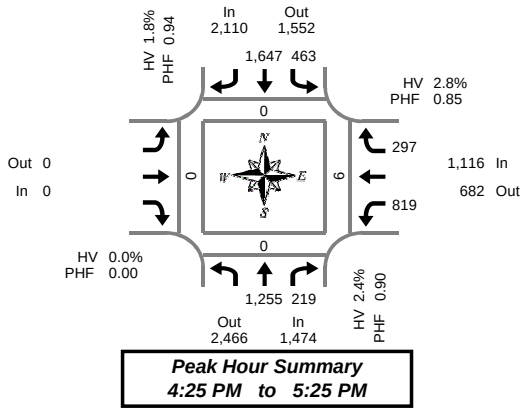


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.86	6.5%	597
NB	0.92	4.3%	1,686
SB	0.93	2.9%	1,517
Intersection	0.92	4.1%	3,800

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 SB Ramp

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:25 PM to 5:25 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	74	20	0		46	123		0				0	74		33	0	370	0	0	0	0
4:05 PM	117	17	0		39	137		0				0	47		27	0	384	0	0	1	0
4:10 PM	117	16	0		40	137		0				0	82		21	0	413	0	0	1	0
4:15 PM	95	19	0		44	117		0				0	86		16	0	377	0	0	0	0
4:20 PM	85	15	0		38	119		0				0	73		28	0	358	0	0	0	0
4:25 PM	110	17	0		42	162		0				0	76		32	0	439	0	0	1	0
4:30 PM	97	22	0		37	135		0				0	74		23	0	388	0	0	0	0
4:35 PM	76	19	0		41	123		0				0	88		36	0	383	0	0	0	0
4:40 PM	110	17	0		38	169		0				0	53		22	0	409	0	0	0	0
4:45 PM	101	18	0		44	147		0				0	60		21	0	391	0	0	0	0
4:50 PM	107	16	0		23	121		0				0	71		16	0	354	0	0	0	0
4:55 PM	82	8	1		38	112		0				0	81		24	0	345	0	0	0	0
5:00 PM	122	16	0		45	141		0				0	54		26	0	404	0	0	1	0
5:05 PM	109	16	0		35	142		0				0	73		25	0	400	0	0	0	0
5:10 PM	113	26	0		35	116		0				0	66		22	0	378	0	0	1	0
5:15 PM	101	21	0		44	140		0				0	69		25	0	400	0	0	1	0
5:20 PM	127	23	0		41	139		0				0	54		25	0	409	0	0	2	0
5:25 PM	113	25	0		29	121		0				0	61		20	0	369	0	0	1	0
5:30 PM	73	23	0		42	98		0				0	81		26	0	343	0	0	0	0
5:35 PM	108	16	0		48	147		0				0	52		19	0	390	0	0	0	0
5:40 PM	104	15	0		30	133		0				0	63		18	0	363	0	0	0	0
5:45 PM	105	20	0		35	112		0				0	77		23	0	372	0	0	1	0
5:50 PM	87	13	0		46	102		0				0	70		24	0	342	0	0	0	0
5:55 PM	106	10	0		39	117		0				0	64		18	0	354	0	0	1	0
Total Survey	2,439	428	1		939	3,110		0				0	1,649		570	0	9,135	0	0	11	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	308	53	0		125	397		0				0	203		81	0	1,167	0	0	2	0
4:15 PM	290	51	0		124	398		0				0	235		76	0	1,174	0	0	1	0
4:30 PM	283	58	0		116	427		0				0	215		81	0	1,180	0	0	0	0
4:45 PM	290	42	1		105	380		0				0	212		61	0	1,090	0	0	0	0
5:00 PM	344	58	0		115	399		0				0	193		73	0	1,182	0	0	2	0
5:15 PM	341	69	0		114	400		0				0	184		70	0	1,178	0	0	4	0
5:30 PM	285	54	0		120	378		0				0	196		63	0	1,096	0	0	0	0
5:45 PM	298	43	0		120	331		0				0	211		65	0	1,068	0	0	2	0
Total Survey	2,439	428	1		939	3,110		0				0	1,649		570	0	9,135	0	0	11	0

Peak Hour Summary
4:25 PM to 5:25 PM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,474	2,466	3,940	1	2,110	1,552	3,662	0	0	0	0	0	1,116	682	1,798	0	4,700	0	0	6	0
%HV		2.4%				1.8%				0.0%				2.8%			2.3%				
PHF		0.90				0.94				0.00				0.85			0.97				

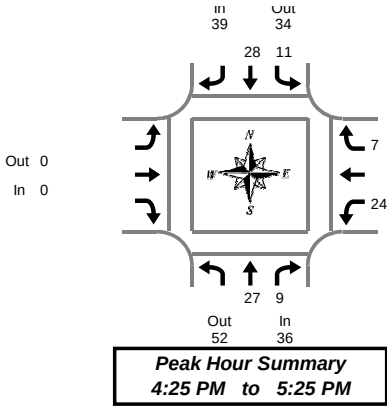
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,255	219	1,474		463	1,647		2,110				0	819		297	1,116	4,700
%HV	NA	2.2%	4.1%	2.4%	2.4%	1.7%	NA	1.8%	NA	NA	NA	0.0%	2.9%	NA	2.4%	2.8%	2.3%
PHF		0.91	0.78	0.90	0.94	0.94		0.94				0.00	0.86		0.82	0.85	0.97

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	1,171	204	1		470	1,602		0				0	865		299	0	4,611	0	0	3	0
4:15 PM	1,207	209	1		460	1,604		0				0	855		291	0	4,626	0	0	3	0
4:30 PM	1,258	227	1		450	1,606		0				0	804		285	0	4,630	0	0	6	0
4:45 PM	1,260	223	1		454	1,557		0				0	785		267	0	4,546	0	0	6	0
5:00 PM	1,268	224	0		469	1,508		0				0	784		271	0	4,524	0	0	8	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 SB Ramp

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:25 PM to 5:25 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		1	0	1	0	3		3				0	4		1	5	9
4:05 PM		2	1	3	2	4		6				0	3		0	3	12
4:10 PM		2	2	4	3	4		7				0	0		0	0	11
4:15 PM		4	2	6	0	2		2				0	1		2	3	11
4:20 PM		0	2	2	1	4		5				0	3		1	4	11
4:25 PM		6	1	7	3	2		5				0	2		1	3	15
4:30 PM		5	1	6	1	4		5				0	1		1	2	13
4:35 PM		1	0	1	2	1		3				0	3		0	3	7
4:40 PM		2	0	2	2	1		3				0	2		1	3	8
4:45 PM		1	2	3	0	2		2				0	3		1	4	9
4:50 PM		1	0	1	0	3		3				0	1		0	1	5
4:55 PM		1	0	1	1	3		4				0	0		0	0	5
5:00 PM		1	1	2	1	3		4				0	1		0	1	7
5:05 PM		1	0	1	0	4		4				0	2		0	2	7
5:10 PM		2	0	2	0	1		1				0	4		0	4	7
5:15 PM		3	1	4	0	1		1				0	3		3	6	11
5:20 PM		3	3	6	1	3		4				0	2		0	2	12
5:25 PM		3	0	3	0	3		3				0	3		0	3	9
5:30 PM		1	1	2	0	2		2				0	1		0	1	5
5:35 PM		1	0	1	0	3		3				0	1		1	2	6
5:40 PM		3	0	3	1	2		3				0	1		0	1	7
5:45 PM		2	0	2	0	2		2				0	1		1	2	6
5:50 PM		0	1	1	1	0		1				0	2		1	3	5
5:55 PM		2	0	2	2	2		4				0	0		0	0	6
Total Survey		48	18	66	21	59		80				0	44		14	58	204

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		5	3	8	5	11		16				0	7		1	8	32
4:15 PM		10	5	15	4	8		12				0	6		4	10	37
4:30 PM		8	1	9	5	6		11				0	6		2	8	28
4:45 PM		3	2	5	1	8		9				0	4		1	5	19
5:00 PM		4	1	5	1	8		9				0	7		0	7	21
5:15 PM		9	4	13	1	7		8				0	8		3	11	32
5:30 PM		5	1	6	1	7		8				0	3		1	4	18
5:45 PM		4	1	5	3	4		7				0	3		2	5	17
Total Survey		48	18	66	21	59		80				0	44		14	58	204

Heavy Vehicle Peak Hour Summary
4:25 PM to 5:25 PM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound I-205 SB Ramp			Westbound I-205 SB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	36	52	88	39	34	73	0	0	0	31	20	51	106
PHF	0.64			0.75			0.00			0.65			0.76

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		27	9	36	11	28		39				0	24		7	31	106
PHF		0.56	0.56	0.64	0.46	0.70		0.75				0.00	0.67		0.58	0.65	0.76

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

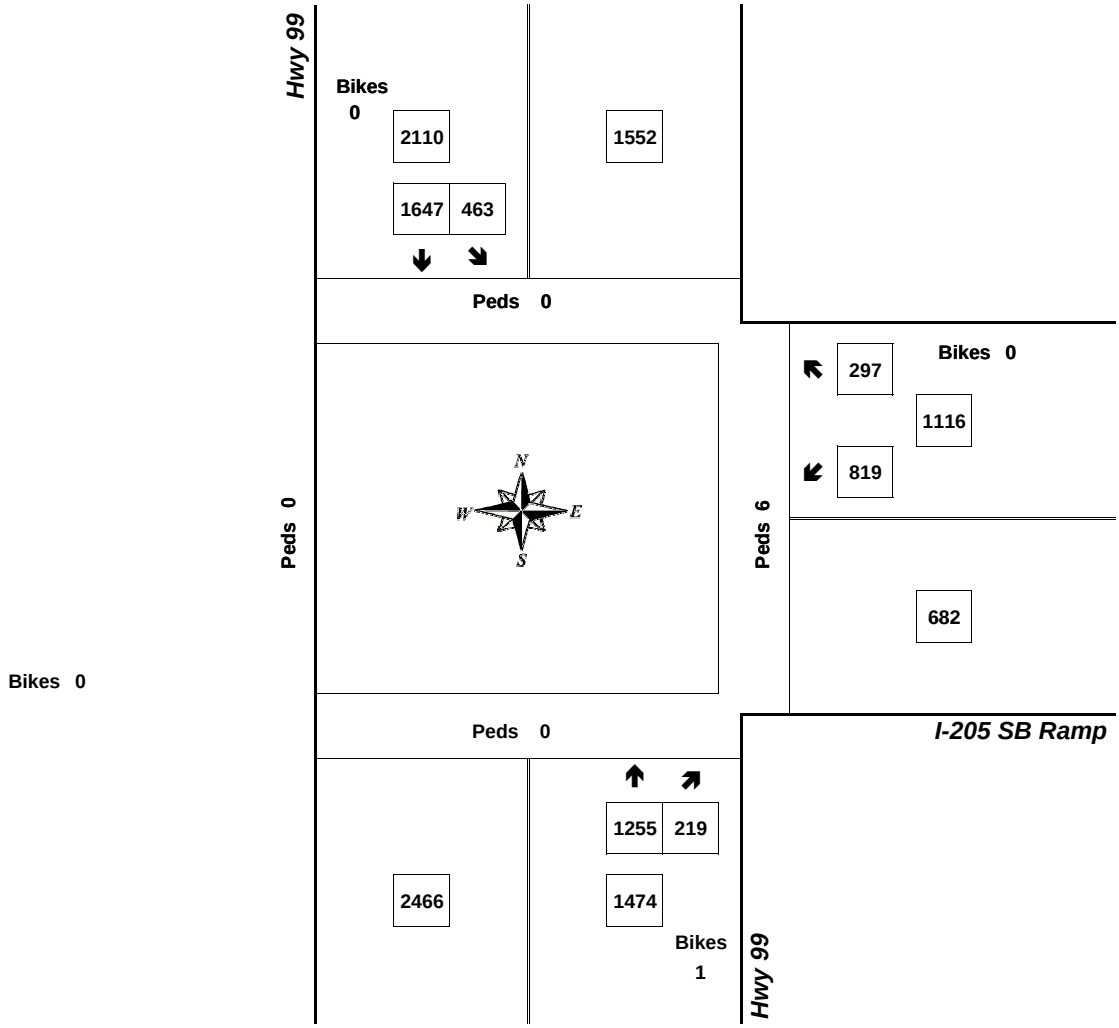
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		26	11	37	15	33		48				0	23		8	31	116
4:15 PM		25	9	34	11	30		41				0	23		7	30	105
4:30 PM		24	8	32	8	29		37				0	25		6	31	100
4:45 PM		21	8	29	4	30		34				0	22		5	27	90
5:00 PM		22	7	29	6	26		32				0	21		6	27	88

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & I-205 SB Ramp

4:25 PM to 5:25 PM
Wednesday, January 25, 2017

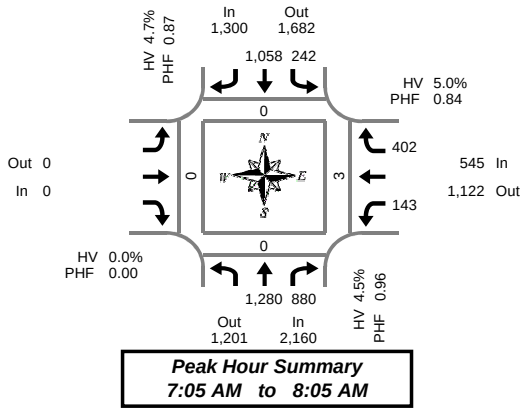


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.85	2.8%	1,116
NB	0.90	2.4%	1,474
SB	0.94	1.8%	2,110
Intersection	0.97	2.3%	4,700

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Hwy 99 & I-205 NB Ramp

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	105	69	0		15	61		0				0	9		27	0	286	0	0	0	0
7:05 AM	103	87	0		26	70		0				0	8		26	0	320	0	0	0	0
7:10 AM	92	73	0		31	83		0				0	4		24	0	307	0	0	1	0
7:15 AM	102	77	0		13	80		1				0	11		25	0	308	0	0	0	0
7:20 AM	102	78	0		18	76		0				0	7		32	0	313	0	0	0	0
7:25 AM	92	81	0		17	88		0				0	11		32	0	321	0	0	0	0
7:30 AM	113	72	0		18	72		0				0	11		42	0	328	0	0	0	0
7:35 AM	121	81	0		15	80		0				0	11		42	0	350	0	0	0	0
7:40 AM	104	69	0		22	97		0				0	13		38	0	343	0	0	2	0
7:45 AM	128	56	0		16	103		0				0	19		39	0	361	0	0	0	0
7:50 AM	117	68	0		25	85		0				0	20		31	0	346	0	0	0	0
7:55 AM	104	71	0		18	115		0				0	13		31	0	352	0	0	0	0
8:00 AM	102	67	0		23	109		0				0	15		40	0	356	0	0	0	0
8:05 AM	101	60	0		15	100		0				0	12		31	0	319	0	0	0	0
8:10 AM	88	62	0		25	80		0				0	18		28	0	301	0	0	0	0
8:15 AM	90	56	0		13	93		0				0	5		31	0	288	0	0	0	0
8:20 AM	78	76	0		19	77		0				0	12		38	0	300	0	0	0	0
8:25 AM	66	51	0		23	98		0				0	22		37	0	297	0	0	0	0
8:30 AM	73	66	0		23	98		0				0	13		27	0	300	0	0	1	0
8:35 AM	66	53	0		15	100		0				0	9		30	0	273	0	0	0	0
8:40 AM	63	36	0		20	78		0				0	10		40	0	247	0	0	0	0
8:45 AM	87	53	0		31	91		0				0	23		31	0	316	0	0	0	0
8:50 AM	77	54	0		20	93		0				0	12		35	0	291	0	0	1	0
8:55 AM	60	46	0		16	75		0				0	12		39	0	248	0	0	0	0
Total Survey	2,234	1,562	0		477	2,102		1				0	300		796	0	7,471	0	0	5	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	300	229	0		72	214		0				0	21		77	0	913	0	0	1	0
7:15 AM	296	236	0		48	244		1				0	29		89	0	942	0	0	0	0
7:30 AM	338	222	0		55	249		0				0	35		122	0	1,021	0	0	2	0
7:45 AM	349	195	0		59	303		0				0	52		101	0	1,059	0	0	0	0
8:00 AM	291	189	0		63	289		0				0	45		99	0	976	0	0	0	0
8:15 AM	234	183	0		55	268		0				0	39		106	0	885	0	0	0	0
8:30 AM	202	155	0		58	276		0				0	32		97	0	820	0	0	1	0
8:45 AM	224	153	0		67	259		0				0	47		105	0	855	0	0	1	0
Total Survey	2,234	1,562	0		477	2,102		1				0	300		796	0	7,471	0	0	5	0

Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	2,160	1,201	3,361	0	1,300	1,682	2,982	1	0	0	0	0	545	1,122	1,667	0	4,005	0	0	3	0
%HV	4.5%				4.7%				0.0%				5.0%				4.6%				
PHF	0.96				0.87				0.00				0.84				0.95				

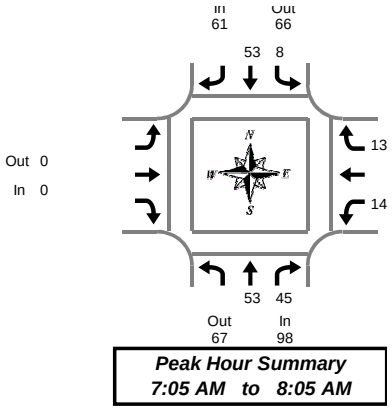
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,280	880	2,160		242	1,058		1,300				0	143		402	545	4,005
%HV	NA	4.1%	5.1%	4.5%	3.3%	5.0%	NA	4.7%	NA	NA	NA	0.0%	9.8%	NA	3.2%	5.0%	4.6%
PHF		0.91	0.93	0.96	0.86	0.86		0.87				0.00	0.69		0.82	0.84	0.95

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	1,283	882	0		234	1,010		1				0	137		389	0	3,935	0	0	3	0
7:15 AM	1,274	842	0		225	1,085		1				0	161		411	0	3,998	0	0	2	0
7:30 AM	1,212	789	0		232	1,109		0				0	171		428	0	3,941	0	0	2	0
7:45 AM	1,076	722	0		235	1,136		0				0	168		403	0	3,740	0	0	1	0
8:00 AM	951	680	0		243	1,092		0				0	163		407	0	3,536	0	0	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 NB Ramp

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:05 AM to 8:05 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		3	3	6	1	3		4				0	0		1	1	11
7:05 AM		2	1	3	1	3		4				0	1		1	2	9
7:10 AM		3	1	4	0	4		4				0	0		0	0	8
7:15 AM		3	5	8	1	3		4				0	2		1	3	15
7:20 AM		6	3	9	0	10		10				0	0		1	1	20
7:25 AM		1	4	5	1	3		4				0	1		3	4	13
7:30 AM		9	1	10	0	4		4				0	1		0	1	15
7:35 AM		5	3	8	0	2		2				0	1		1	2	12
7:40 AM		4	5	9	2	3		5				0	1		2	3	17
7:45 AM		4	3	7	0	3		3				0	3		0	3	13
7:50 AM		7	4	11	2	2		4				0	1		2	3	18
7:55 AM		3	8	11	1	10		11				0	2		0	2	24
8:00 AM		6	7	13	0	6		6				0	1		2	3	22
8:05 AM		7	8	15	3	3		6				0	2		1	3	24
8:10 AM		7	1	8	3	7		10				0	2		3	5	23
8:15 AM		8	3	11	0	7		7				0	0		3	3	21
8:20 AM		5	4	9	1	4		5				0	1		4	5	19
8:25 AM		2	5	7	1	9		10				0	3		5	8	25
8:30 AM		3	5	8	1	7		8				0	1		1	2	18
8:35 AM		2	5	7	1	5		6				0	2		1	3	16
8:40 AM		1	2	3	0	8		8				0	0		2	2	13
8:45 AM		5	4	9	0	5		5				0	3		1	4	18
8:50 AM		3	6	9	0	9		9				0	1		1	2	20
8:55 AM		2	6	8	1	4		5				0	1		2	3	16
Total Survey		101	97	198	20	124		144				0	30		38	68	410

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		8	5	13	2	10		12				0	1		2	3	28
7:15 AM		10	12	22	2	16		18				0	3		5	8	48
7:30 AM		18	9	27	2	9		11				0	3		3	6	44
7:45 AM		14	15	29	3	15		18				0	6		2	8	55
8:00 AM		20	16	36	6	16		22				0	5		6	11	69
8:15 AM		15	12	27	2	20		22				0	4		12	16	65
8:30 AM		6	12	18	2	20		22				0	3		4	7	47
8:45 AM		10	16	26	1	18		19				0	5		4	9	54
Total Survey		101	97	198	20	124		144				0	30		38	68	410

Heavy Vehicle Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound I-205 NB Ramp			Westbound I-205 NB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	98	67	165	61	66	127	0	0	0	27	53	80	186
PHF	0.70			0.73			0.00			0.75			0.73

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		53	45	98	8	53		61				0	14		13	27	186
PHF		0.74	0.59	0.70	0.50	0.74		0.73				0.00	0.58		0.65	0.75	0.73

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

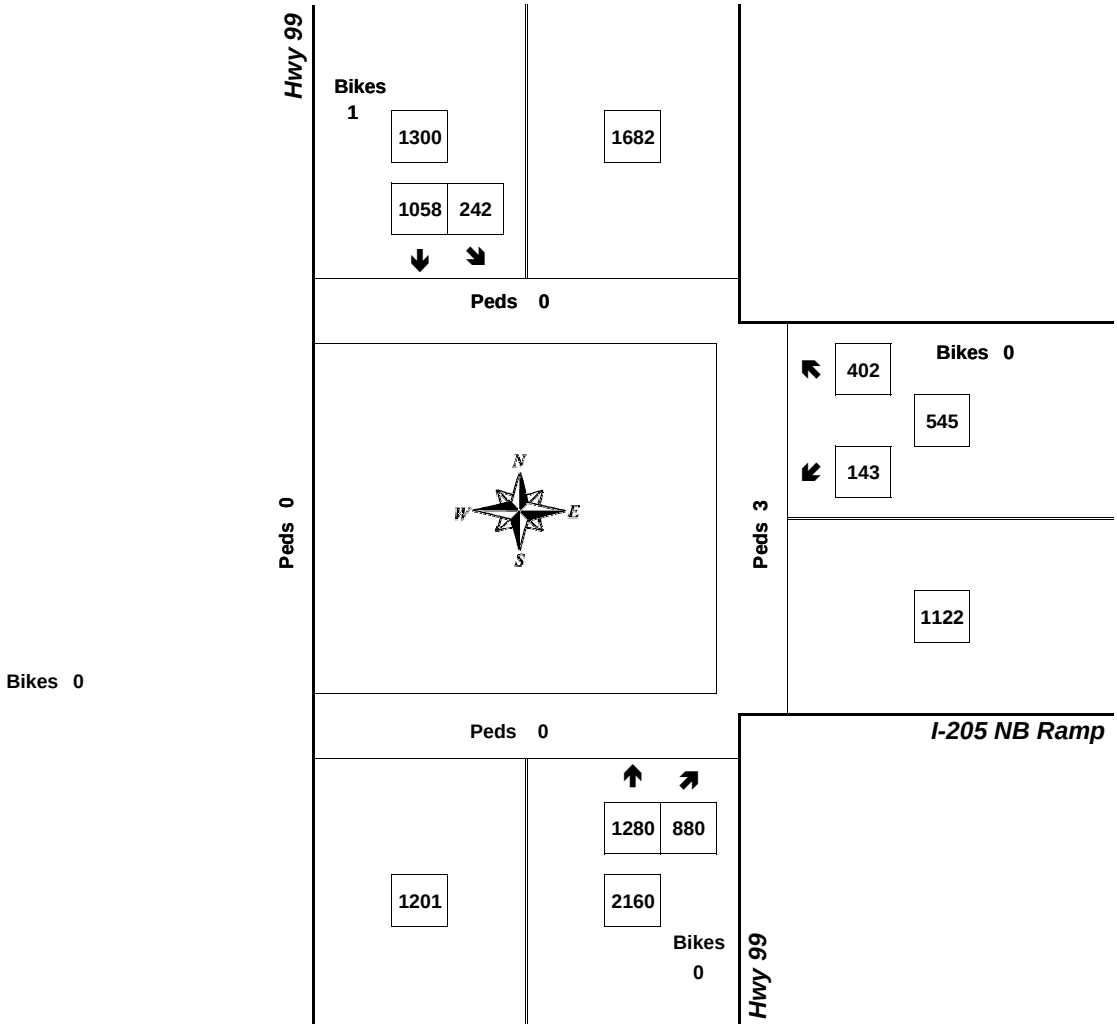
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		50	41	91	9	50		59				0	13		12	25	175
7:15 AM		62	52	114	13	56		69				0	17		16	33	216
7:30 AM		67	52	119	13	60		73				0	18		23	41	233
7:45 AM		55	55	110	13	71		84				0	18		24	42	236
8:00 AM		51	56	107	11	74		85				0	17		26	43	235

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & I-205 NB Ramp

7:05 AM to 8:05 AM
Thursday, January 26, 2017

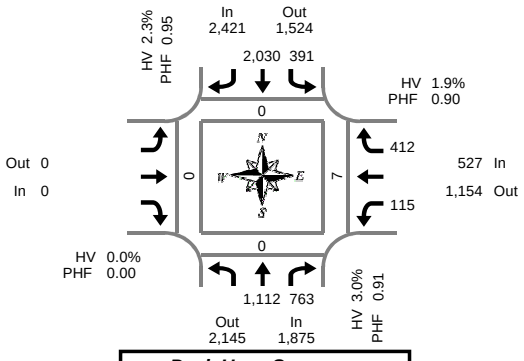


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.84	5.0%	545
NB	0.96	4.5%	2,160
SB	0.87	4.7%	1,300
Intersection	0.95	4.6%	4,005

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Hwy 99 & I-205 NB Ramp

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:30 PM to 5:30 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	73	59	0		33	175		0				0	12		38	0	390	0	0	1	0
4:05 PM	89	64	0		30	150		0				0	9		47	0	389	0	0	1	0
4:10 PM	89	67	0		21	171		0				0	6		36	0	390	0	0	0	0
4:15 PM	97	56	0		57	168		0				0	8		35	0	421	0	0	0	0
4:20 PM	60	75	0		31	175		0				0	15		44	0	400	0	0	0	0
4:25 PM	89	61	0		28	185		0				0	6		36	0	405	0	0	1	0
4:30 PM	106	60	0		25	163		0				0	15		31	0	400	0	0	0	0
4:35 PM	87	68	0		42	172		0				0	9		35	0	413	0	0	0	0
4:40 PM	85	57	0		48	185		0				0	6		39	0	420	0	0	0	0
4:45 PM	78	69	0		28	153		0				0	15		40	0	383	0	0	1	0
4:50 PM	96	53	0		21	155		0				0	10		29	0	364	0	0	0	0
4:55 PM	62	62	0		47	167		0				0	16		35	0	389	0	0	1	0
5:00 PM	97	57	0		33	181		0				0	11		45	0	424	0	0	0	0
5:05 PM	94	76	0		20	161		0				0	10		28	0	389	0	0	1	0
5:10 PM	98	57	0		38	164		0				0	6		45	0	408	0	0	1	0
5:15 PM	94	59	0		35	182		0				0	10		30	0	410	0	0	0	0
5:20 PM	108	76	0		23	177		0				0	2		27	0	413	0	0	0	0
5:25 PM	107	69	0		31	170		0				0	5		28	0	410	0	0	3	0
5:30 PM	80	61	0		35	162		0				0	4		39	0	381	0	0	0	0
5:35 PM	81	68	0		32	175		0				0	8		30	0	394	0	0	0	0
5:40 PM	95	70	0		16	174		0				0	4		36	0	395	0	0	1	0
5:45 PM	86	47	0		45	155		0				0	10		28	0	371	0	0	0	0
5:50 PM	67	48	0		45	156		0				0	8		33	0	357	0	0	0	0
5:55 PM	70	50	0		32	159		0				0	2		32	0	345	0	0	0	0
Total Survey	2,088	1,489	0		796	4,035		0				0	207		846	0	9,461	0	0	11	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	251	190	0		84	496		0				0	27		121	0	1,169	0	0	2	0
4:15 PM	246	192	0		116	528		0				0	29		115	0	1,226	0	0	1	0
4:30 PM	278	185	0		115	520		0				0	30		105	0	1,233	0	0	0	0
4:45 PM	236	184	0		96	475		0				0	41		104	0	1,136	0	0	2	0
5:00 PM	289	190	0		91	506		0				0	27		118	0	1,221	0	0	2	0
5:15 PM	309	204	0		89	529		0				0	17		85	0	1,233	0	0	3	0
5:30 PM	256	199	0		83	511		0				0	16		105	0	1,170	0	0	1	0
5:45 PM	223	145	0		122	470		0				0	20		93	0	1,073	0	0	0	0
Total Survey	2,088	1,489	0		796	4,035		0				0	207		846	0	9,461	0	0	11	0

Peak Hour Summary
4:30 PM to 5:30 PM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,875	2,145	4,020	0	2,421	1,524	3,945	0	0	0	0	0	527	1,154	1,681	0	4,823	0	0	7	0
%HV	3.0%				2.3%				0.0%				1.9%				2.6%				
PHF	0.91				0.95				0.00				0.90				0.98				

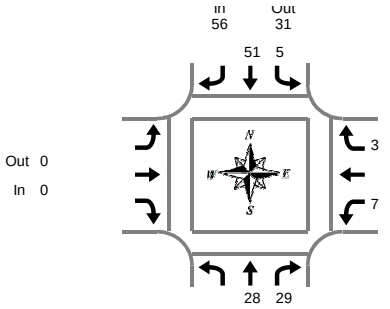
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		1,112	763	1,875	391	2,030		2,421				0	115		412	527	4,823
%HV	NA	2.5%	3.8%	3.0%	1.3%	2.5%	NA	2.3%	NA	NA	NA	0.0%	6.1%	NA	0.7%	1.9%	2.6%
PHF		0.90	0.94	0.91	0.83	0.96		0.95				0.00	0.70		0.87	0.90	0.98

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	1,011	751	0		411	2,019		0				0	127		445	0	4,764	0	0	5	0
4:15 PM	1,049	751	0		418	2,029		0				0	127		442	0	4,816	0	0	5	0
4:30 PM	1,112	763	0		391	2,030		0				0	115		412	0	4,823	0	0	7	0
4:45 PM	1,090	777	0		359	2,021		0				0	101		412	0	4,760	0	0	8	0
5:00 PM	1,077	738	0		385	2,016		0				0	80		401	0	4,697	0	0	6	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 NB Ramp

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:30 PM to 5:30 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		1	3	4	1	7		8				0	2		0	2	14
4:05 PM		3	4	7	2	7		9				0	1		0	1	17
4:10 PM		4	2	6	1	1		2				0	0		0	0	8
4:15 PM		4	3	7	1	4		5				0	1		0	1	13
4:20 PM		2	2	4	0	5		5				0	2		1	3	12
4:25 PM		5	4	9	2	5		7				0	0		1	1	17
4:30 PM		4	1	5	0	4		4				0	2		1	3	12
4:35 PM		3	5	8	1	5		6				0	1		0	1	15
4:40 PM		1	2	3	1	2		3				0	0		0	0	6
4:45 PM		3	1	4	0	4		4				0	1		0	1	9
4:50 PM		1	1	2	0	3		3				0	0		0	0	5
4:55 PM		1	4	5	1	4		5				0	1		0	1	11
5:00 PM		1	3	4	0	5		5				0	0		0	0	9
5:05 PM		2	2	4	0	6		6				0	0		0	0	10
5:10 PM		1	1	2	0	4		4				0	0		1	1	7
5:15 PM		4	3	7	0	2		2				0	1		0	1	10
5:20 PM		5	3	8	1	5		6				0	1		0	1	15
5:25 PM		2	3	5	1	7		8				0	0		1	1	14
5:30 PM		2	2	4	0	3		3				0	0		0	0	7
5:35 PM		1	2	3	0	4		4				0	0		0	0	7
5:40 PM		4	1	5	0	3		3				0	0		0	0	8
5:45 PM		1	2	3	0	2		2				0	2		0	2	7
5:50 PM		2	2	4	0	3		3				0	0		1	1	8
5:55 PM		0	1	1	0	3		3				0	0		0	0	4
Total Survey		57	57	114	12	98		110				0	15		6	21	245

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		8	9	17	4	15		19				0	3		0	3	39
4:15 PM		11	9	20	3	14		17				0	3		2	5	42
4:30 PM		8	8	16	2	11		13				0	3		1	4	33
4:45 PM		5	6	11	1	11		12				0	2		0	2	25
5:00 PM		4	6	10	0	15		15				0	0		1	1	26
5:15 PM		11	9	20	2	14		16				0	2		1	3	39
5:30 PM		7	5	12	0	10		10				0	0		0	0	22
5:45 PM		3	5	8	0	8		8				0	2		1	3	19
Total Survey		57	57	114	12	98		110				0	15		6	21	245

Heavy Vehicle Peak Hour Summary
4:30 PM to 5:30 PM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound I-205 NB Ramp			Westbound I-205 NB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	57	58	115	56	31	87	0	0	0	10	34	44	123
PHF	0.71			0.88			0.00			0.63			0.79

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		28	29	57	5	51		56				0	7		3	10	123
PHF		0.64	0.81	0.71	0.63	0.85		0.88				0.00	0.58		0.75	0.63	0.79

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

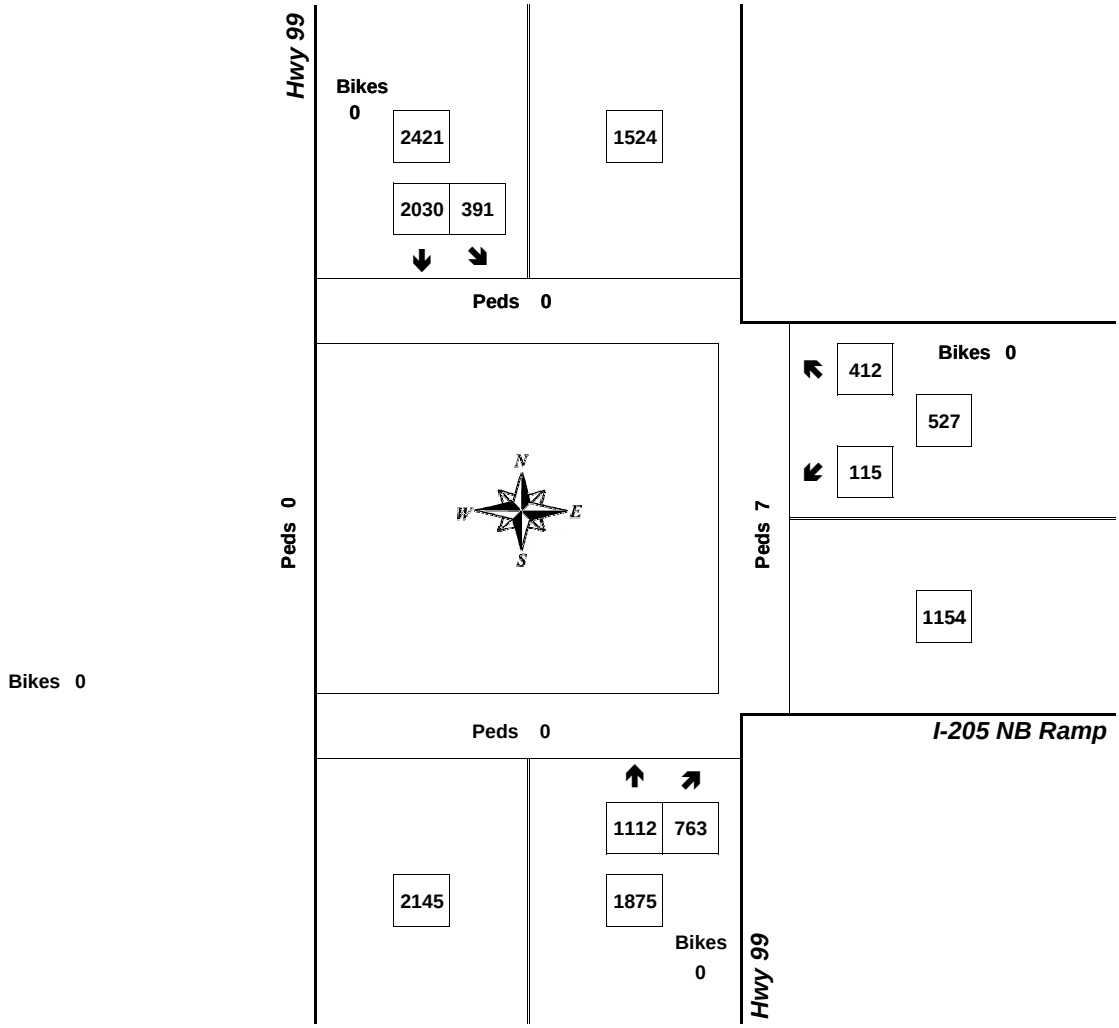
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		32	32	64	10	51		61				0	11		3	14	139
4:15 PM		28	29	57	6	51		57				0	8		4	12	126
4:30 PM		28	29	57	5	51		56				0	7		3	10	123
4:45 PM		27	26	53	3	50		53				0	4		2	6	112
5:00 PM		25	25	50	2	47		49				0	4		3	7	106

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & I-205 NB Ramp

4:30 PM to 5:30 PM
Wednesday, January 25, 2017



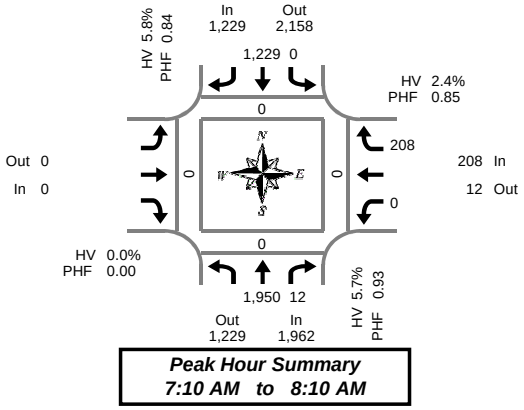
Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.90	1.9%	527
NB	0.91	3.0%	1,875
SB	0.95	2.3%	2,421
Intersection	0.98	2.6%	4,823

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Hwy 99 & 15th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM		153	1	0	0	69		0				0	0		17	0	240	0	0	0	0
7:05 AM		165	0	0	0	80		0				0	0		18	0	263	0	0	0	0
7:10 AM		149	1	0	0	89		0				0	0		22	0	261	0	0	0	0
7:15 AM		166	2	0	0	91		1				0	0		14	0	273	0	0	0	0
7:20 AM		161	1	0	0	81		0				0	0		12	0	255	0	0	0	0
7:25 AM		164	2	0	0	99		0				0	0		13	0	278	0	0	0	0
7:30 AM		173	1	0	0	82		0				0	0		14	0	270	0	0	0	0
7:35 AM		185	0	0	0	89		0				0	0		14	0	288	0	0	0	0
7:40 AM		159	0	0	0	110		0				0	0		23	0	292	0	0	0	0
7:45 AM		164	1	0	0	118		0				0	0		20	0	303	0	0	0	0
7:50 AM		165	1	0	0	103		0				0	0		18	0	287	0	0	0	0
7:55 AM		162	2	0	0	134		0				0	0		21	0	319	0	0	0	0
8:00 AM		160	0	0	0	120		0				0	0		20	0	300	0	0	0	0
8:05 AM		142	1	0	0	113		0				0	0		17	0	273	0	0	0	0
8:10 AM		131	1	0	0	99		0				0	0		21	0	252	0	0	0	0
8:15 AM		124	1	0	0	100		0				0	0		20	0	245	0	0	0	0
8:20 AM		127	0	0	0	89		0				0	0		20	0	236	0	0	0	0
8:25 AM		97	3	0	0	121		0				0	0		27	0	248	0	0	0	0
8:30 AM		122	0	0	0	115		0				0	0		21	0	258	0	0	0	0
8:35 AM		96	2	0	0	105		0				0	0		17	0	220	0	0	0	0
8:40 AM		75	2	0	0	92		0				0	0		25	0	194	0	0	0	0
8:45 AM		135	2	0	0	113		0				0	0		19	0	269	0	0	0	0
8:50 AM		97	1	0	0	104		0				0	0		22	0	224	0	0	0	0
8:55 AM		93	2	0	0	90		0				0	0		19	0	204	0	0	0	0
Total Survey		3,365	27	0	0	2,406		1				0	0		454	0	6,252	0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM		467	2	0	0	238		0				0	0		57	0	764	0	0	0	0
7:15 AM		491	5	0	0	271		1				0	0		39	0	806	0	0	0	0
7:30 AM		517	1	0	0	281		0				0	0		51	0	850	0	0	0	0
7:45 AM		491	4	0	0	355		0				0	0		59	0	909	0	0	0	0
8:00 AM		433	2	0	0	332		0				0	0		58	0	825	0	0	0	0
8:15 AM		348	4	0	0	310		0				0	0		67	0	729	0	0	0	0
8:30 AM		293	4	0	0	312		0				0	0		63	0	672	0	0	0	0
8:45 AM		325	5	0	0	307		0				0	0		60	0	697	0	0	0	0
Total Survey		3,365	27	0	0	2,406		1				0	0		454	0	6,252	0	0	0	0

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	
Volume	1,962	1,229	3,191	0	1,229	2,158	3,387	1	0	0	0	0	208	12	220	0	3,399
%HV		5.7%				5.8%				0.0%				2.4%			5.5%
PHF		0.93				0.84				0.00				0.85			0.93

Pedestrians Crosswalk			
North	South	East	West
0	0	0	0

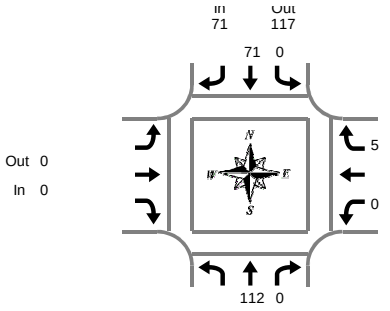
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		1,950	12	1,962	0	1,229		1,229				0	0		208	208	3,399
%HV	NA	5.7%	0.0%	5.7%	0.0%	5.8%	NA	5.8%	NA	NA	NA	0.0%	0.0%	NA	2.4%	2.4%	5.5%
PHF		0.93	0.60	0.93	0.00	0.84		0.84				0.00	0.00		0.85	0.85	0.93

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM		1,966	12	0	0	1,145		1				0	0		206	0	3,329	0	0	0	0
7:15 AM		1,932	12	0	0	1,239		1				0	0		207	0	3,390	0	0	0	0
7:30 AM		1,789	11	0	0	1,278		0				0	0		235	0	3,313	0	0	0	0
7:45 AM		1,565	14	0	0	1,309		0				0	0		247	0	3,135	0	0	0	0
8:00 AM		1,399	15	0	0	1,261		0				0	0		248	0	2,923	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & 15th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		6	0	6	0	3		3				0	0		1	1	10
7:05 AM		4	0	4	0	5		5				0	0		0	0	9
7:10 AM		3	0	3	0	3		3				0	0		0	0	6
7:15 AM		8	0	8	0	5		5				0	0		1	1	14
7:20 AM		10	0	10	0	9		9				0	0		0	0	19
7:25 AM		5	0	5	0	5		5				0	0		0	0	10
7:30 AM		10	0	10	0	6		6				0	0		1	1	17
7:35 AM		9	0	9	0	3		3				0	0		0	0	12
7:40 AM		8	0	8	0	5		5				0	0		1	1	14
7:45 AM		8	0	8	0	6		6				0	0		0	0	14
7:50 AM		15	0	15	0	3		3				0	0		0	0	18
7:55 AM		9	0	9	0	14		14				0	0		0	0	23
8:00 AM		13	0	13	0	7		7				0	0		1	1	21
8:05 AM		14	0	14	0	5		5				0	0		1	1	20
8:10 AM		8	0	8	0	9		9				0	0		0	0	17
8:15 AM		7	0	7	0	7		7				0	0		3	3	17
8:20 AM		6	0	6	0	4		4				0	0		3	3	13
8:25 AM		5	1	6	0	14		14				0	0		0	0	20
8:30 AM		8	0	8	0	8		8				0	0		0	0	16
8:35 AM		7	0	7	0	7		7				0	0		0	0	14
8:40 AM		1	0	1	0	8		8				0	0		2	2	11
8:45 AM		8	0	8	0	8		8				0	0		1	1	17
8:50 AM		6	0	6	0	10		10				0	0		3	3	19
8:55 AM		7	0	7	0	4		4				0	0		0	0	11
Total Survey		185	1	186	0	158		158				0	0		18	18	362

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		13	0	13	0	11		11				0	0		1	1	25
7:15 AM		23	0	23	0	19		19				0	0		1	1	43
7:30 AM		27	0	27	0	14		14				0	0		2	2	43
7:45 AM		32	0	32	0	23		23				0	0		0	0	55
8:00 AM		35	0	35	0	21		21				0	0		2	2	58
8:15 AM		18	1	19	0	25		25				0	0		6	6	50
8:30 AM		16	0	16	0	23		23				0	0		2	2	41
8:45 AM		21	0	21	0	22		22				0	0		4	4	47
Total Survey		185	1	186	0	158		158				0	0		18	18	362

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound			Westbound 15th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	112	71	183	71	117	188	0	0	0	5	0	5	188
PHF	0.76			0.68			0.00			0.63			0.73

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		112	0	112	0	71		71				0	0		5	5	188
PHF		0.76	0.00	0.76	0.00	0.68		0.68				0.00	0.00		0.63	0.63	0.73

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

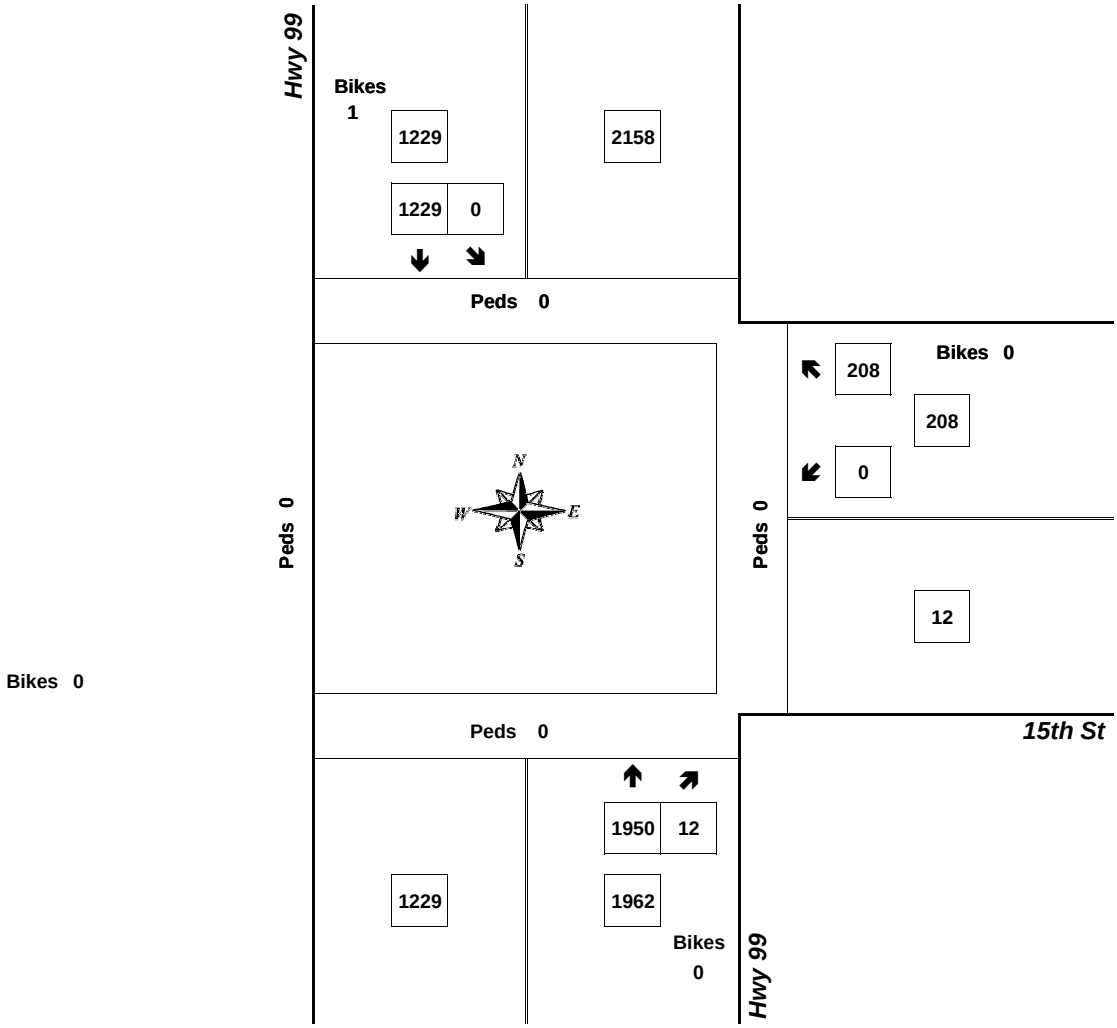
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		95	0	95	0	67		67				0	0		4	4	166
7:15 AM		117	0	117	0	77		77				0	0		5	5	199
7:30 AM		112	1	113	0	83		83				0	0		10	10	206
7:45 AM		101	1	102	0	92		92				0	0		10	10	204
8:00 AM		90	1	91	0	91		91				0	0		14	14	196

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & 15th St

7:10 AM to 8:10 AM
Thursday, January 26, 2017



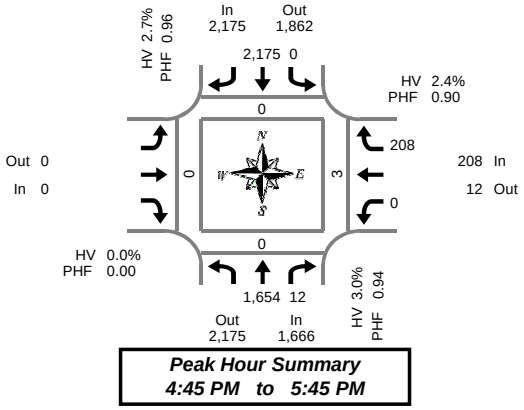
Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.85	2.4%	208
NB	0.93	5.7%	1,962
SB	0.84	5.8%	1,229
Intersection	0.93	5.5%	3,399

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 99 & 15th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	121	2	0		0	188		0				0	0		18	0	329	0	0	0	0
4:05 PM	122	2	0		0	154		0				0	0		21	0	299	0	0	1	0
4:10 PM	133	3	0		0	166		0				0	0		15	0	317	0	0	0	0
4:15 PM	143	0	0		0	173		0				0	0		20	0	336	0	0	0	0
4:20 PM	134	2	0		0	186		0				0	0		15	0	337	0	0	0	0
4:25 PM	116	2	0		0	188		0				0	0		21	0	327	0	0	1	0
4:30 PM	144	0	0		0	172		0				0	0		16	0	332	0	0	0	0
4:35 PM	140	0	0		0	185		0				0	0		18	0	343	0	0	0	0
4:40 PM	116	0	0		0	186		0				0	0		27	0	329	0	0	1	0
4:45 PM	125	0	0		0	168		0				0	0		18	0	311	0	0	0	0
4:50 PM	127	1	0		0	146		0				0	0		21	0	295	0	0	1	0
4:55 PM	125	1	0		0	182		0				0	0		19	0	327	0	0	0	0
5:00 PM	136	2	0		0	191		0				0	0		16	0	345	0	0	0	0
5:05 PM	153	1	0		0	180		0				0	0		15	0	349	0	0	1	0
5:10 PM	132	0	0		0	180		0				0	0		18	0	330	0	0	0	0
5:15 PM	133	2	0		0	197		0				0	0		17	0	349	0	0	0	0
5:20 PM	165	0	0		0	189		0				0	0		12	0	366	0	0	0	0
5:25 PM	143	1	0		0	180		0				0	0		21	0	345	0	0	0	0
5:30 PM	133	1	0		0	186		0				0	0		18	0	338	0	0	0	0
5:35 PM	134	2	0		0	188		0				0	0		19	0	343	0	0	0	0
5:40 PM	148	1	0		0	188		0				0	0		14	0	351	0	0	1	0
5:45 PM	117	1	0		0	165		0				0	0		13	0	296	0	0	0	0
5:50 PM	109	1	0		0	182		0				0	0		15	0	307	0	0	0	0
5:55 PM	90	4	0		0	165		0				0	0		15	0	274	0	0	0	0
Total Survey	3,139	29	0		0	4,285		0				0	0		422	0	7,875	0	0	6	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	376	7	0		0	508		0				0	0		54	0	945	0	0	1	0
4:15 PM	393	4	0		0	547		0				0	0		56	0	1,000	0	0	1	0
4:30 PM	400	0	0		0	543		0				0	0		61	0	1,004	0	0	1	0
4:45 PM	377	2	0		0	496		0				0	0		58	0	933	0	0	1	0
5:00 PM	421	3	0		0	551		0				0	0		49	0	1,024	0	0	1	0
5:15 PM	441	3	0		0	566		0				0	0		50	0	1,060	0	0	0	0
5:30 PM	415	4	0		0	562		0				0	0		51	0	1,032	0	0	1	0
5:45 PM	316	6	0		0	512		0				0	0		43	0	877	0	0	0	0
Total Survey	3,139	29	0		0	4,285		0				0	0		422	0	7,875	0	0	6	0

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,666	2,175	3,841	0	2,175	1,862	4,037	0	0	0	0	0	208	12	220	0	4,049	0	0	3	0
%HV	3.0%				2.7%				0.0%				2.4%				2.8%				
PHF	0.94				0.96				0.00				0.90				0.95				

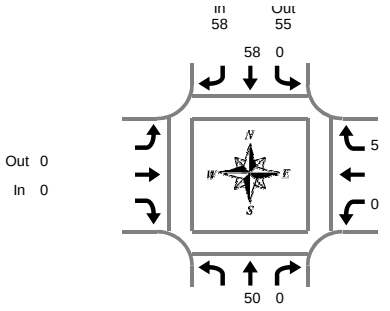
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,654	12	1,666		0	2,175		2,175				0	0		208	208	4,049
%HV	NA	3.0%	0.0%	3.0%	0.0%	2.7%	NA	2.7%	NA	NA	NA	0.0%	0.0%	NA	2.4%	2.4%	2.8%
PHF		0.94	0.75	0.94	0.00	0.96		0.96				0.00	0.00		0.90	0.90	0.95

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	1,546	13	0		0	2,094		0				0	0		229	0	3,882	0	0	4	0
4:15 PM	1,591	9	0		0	2,137		0				0	0		224	0	3,961	0	0	4	0
4:30 PM	1,639	8	0		0	2,156		0				0	0		218	0	4,021	0	0	3	0
4:45 PM	1,654	12	0		0	2,175		0				0	0		208	0	4,049	0	0	3	0
5:00 PM	1,593	16	0		0	2,191		0				0	0		193	0	3,993	0	0	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & 15th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:45 PM to 5:45 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		4	0	4	0	10		10				0	0		0	0	14
4:05 PM		7	1	8	0	8		8				0	0		0	0	16
4:10 PM		6	0	6	0	1		1				0	0		0	0	7
4:15 PM		8	0	8	0	4		4				0	0		1	1	13
4:20 PM		3	0	3	0	7		7				0	0		2	2	12
4:25 PM		8	0	8	0	5		5				0	0		1	1	14
4:30 PM		5	0	5	0	6		6				0	0		0	0	11
4:35 PM		7	0	7	0	6		6				0	0		1	1	14
4:40 PM		3	0	3	0	2		2				0	0		0	0	5
4:45 PM		3	0	3	0	7		7				0	0		1	1	11
4:50 PM		2	0	2	0	3		3				0	0		1	1	6
4:55 PM		4	0	4	0	6		6				0	0		1	1	11
5:00 PM		3	0	3	0	5		5				0	0		0	0	8
5:05 PM		5	0	5	0	5		5				0	0		0	0	10
5:10 PM		2	0	2	0	4		4				0	0		0	0	6
5:15 PM		6	0	6	0	3		3				0	0		0	0	9
5:20 PM		9	0	9	0	6		6				0	0		1	1	16
5:25 PM		5	0	5	0	7		7				0	0		0	0	12
5:30 PM		5	0	5	0	4		4				0	0		0	0	9
5:35 PM		2	0	2	0	5		5				0	0		0	0	7
5:40 PM		4	0	4	0	3		3				0	0		1	1	8
5:45 PM		3	0	3	0	4		4				0	0		0	0	7
5:50 PM		4	0	4	0	2		2				0	0		0	0	6
5:55 PM		1	0	1	0	2		2				0	0		0	0	3
Total Survey		109	1	110	0	115		115				0	0		10	10	235

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		17	1	18	0	19		19				0	0		0	0	37
4:15 PM		19	0	19	0	16		16				0	0		4	4	39
4:30 PM		15	0	15	0	14		14				0	0		1	1	30
4:45 PM		9	0	9	0	16		16				0	0		3	3	28
5:00 PM		10	0	10	0	14		14				0	0		0	0	24
5:15 PM		20	0	20	0	16		16				0	0		1	1	37
5:30 PM		11	0	11	0	12		12				0	0		1	1	24
5:45 PM		8	0	8	0	8		8				0	0		0	0	16
Total Survey		109	1	110	0	115		115				0	0		10	10	235

Heavy Vehicle Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound			Westbound 15th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	50	58	108	58	55	113	0	0	0	5	0	5	113
PHF	0.63			0.85			0.00			0.42			0.76

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		50	0	50	0	58		58				0	0		5	5	113
PHF		0.63	0.00	0.63	0.00	0.85		0.85				0.00	0.00		0.42	0.42	0.76

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

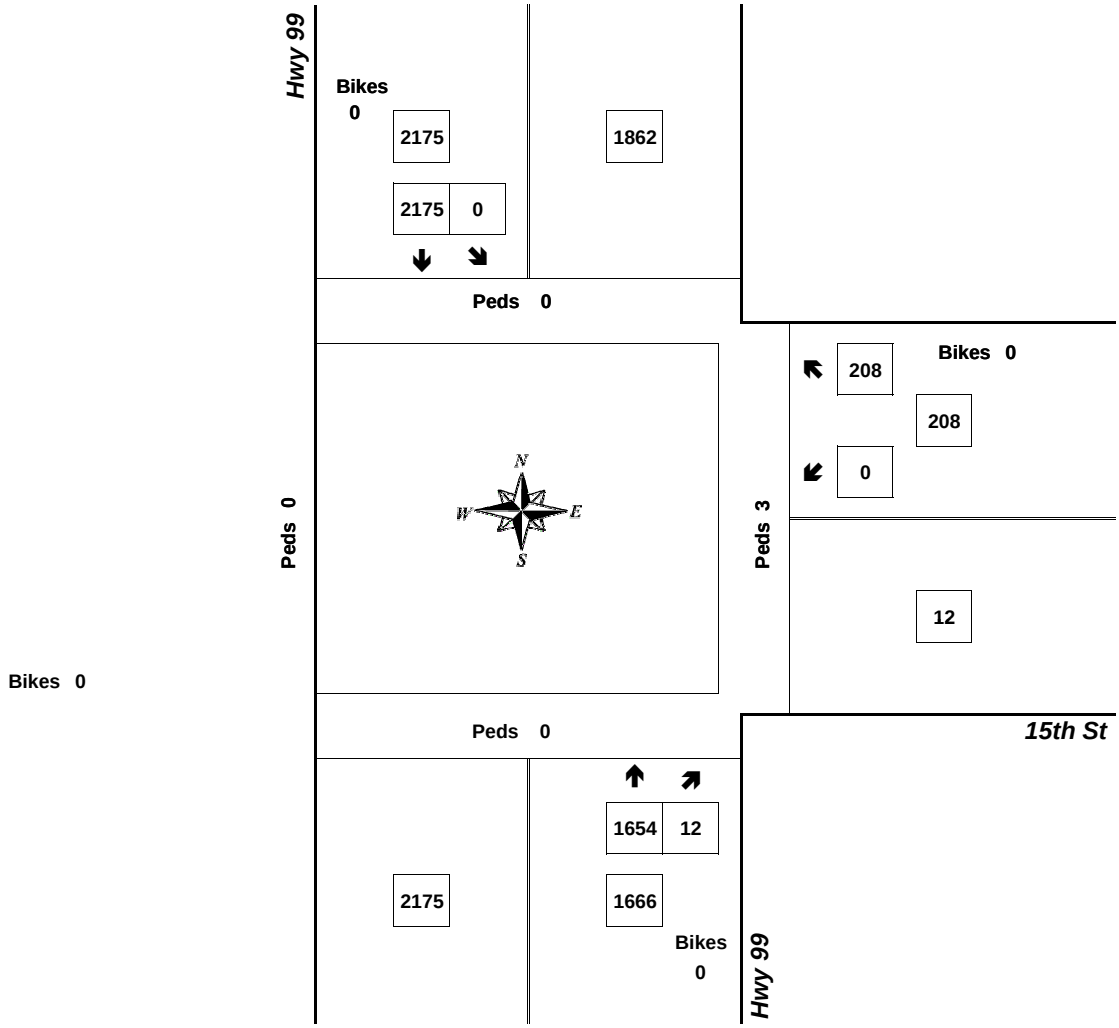
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		60	1	61	0	65		65				0	0		8	8	134
4:15 PM		53	0	53	0	60		60				0	0		8	8	121
4:30 PM		54	0	54	0	60		60				0	0		5	5	119
4:45 PM		50	0	50	0	58		58				0	0		5	5	113
5:00 PM		49	0	49	0	50		50				0	0		2	2	101

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & 15th St

4:45 PM to 5:45 PM
Wednesday, January 25, 2017

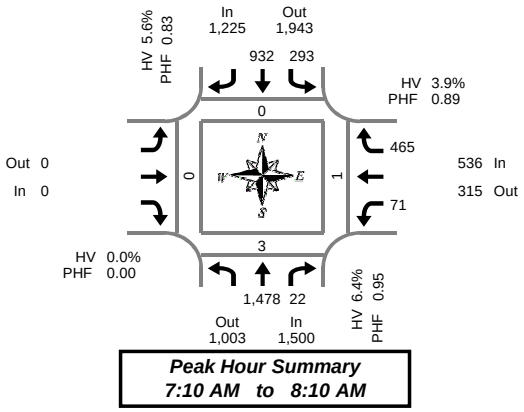


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.90	2.4%	208
NB	0.94	3.0%	1,666
SB	0.96	2.7%	2,175
Intersection	0.95	2.8%	4,049

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Hwy 99 & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	121	5	0		17	55		0				0	5		37	0	240	0	0	0	0
7:05 AM	141	1	0		19	58		0				0	2		25	0	246	0	0	0	0
7:10 AM	115	0	0		23	58		0				0	10		33	0	239	0	0	0	0
7:15 AM	123	3	0		19	79		0				0	6		39	0	269	0	0	0	0
7:20 AM	126	6	0		24	58		0				0	2		38	0	254	0	0	0	0
7:25 AM	116	1	0		25	72		0				0	8		50	0	272	0	0	0	0
7:30 AM	128	2	0		14	70		0				0	6		41	0	261	0	0	0	0
7:35 AM	146	1	0		21	67		0				0	3		41	0	279	0	0	0	0
7:40 AM	111	2	0		27	73		0				0	11		49	0	273	0	0	0	0
7:45 AM	127	1	0		29	95		0				0	6		38	0	296	0	2	0	0
7:50 AM	130	0	0		22	81		0				0	6		31	0	270	0	0	0	0
7:55 AM	115	2	0		42	93		0				0	5		44	0	301	0	0	0	0
8:00 AM	133	4	0		20	106		0				0	5		27	0	295	0	0	0	0
8:05 AM	108	0	0		27	80		0				0	3		34	0	252	0	1	1	0
8:10 AM	103	2	0		34	67		0				0	2		31	0	239	0	0	0	0
8:15 AM	96	9	0		25	74		0				0	5		25	0	234	0	1	0	0
8:20 AM	110	5	0		26	63		0				0	6		18	0	228	0	0	0	0
8:25 AM	73	1	0		38	87		0				0	6		26	0	231	0	0	0	0
8:30 AM	97	7	0		25	85		0				0	3		20	0	237	0	0	0	0
8:35 AM	83	4	0		27	78		0				0	7		18	0	217	0	0	0	0
8:40 AM	65	3	0		32	68		0				0	10		14	0	192	0	0	0	0
8:45 AM	111	7	0		24	94		0				0	4		26	0	266	0	0	0	0
8:50 AM	82	5	0		26	71		0				0	1		21	0	206	0	0	0	0
8:55 AM	73	3	0		34	64		0				0	6		21	0	201	0	0	0	0
Total Survey	2,633	74	0		620	1,796		0				0	128		747	0	5,998	0	4	1	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	377	6	0		59	171		0				0	17		95	0	725	0	0	0	0
7:15 AM	365	10	0		68	209		0				0	16		127	0	795	0	0	0	0
7:30 AM	385	5	0		62	210		0				0	20		131	0	813	0	0	0	0
7:45 AM	372	3	0		93	269		0				0	17		113	0	867	0	2	0	0
8:00 AM	344	6	0		81	253		0				0	10		92	0	786	0	1	1	0
8:15 AM	279	15	0		89	224		0				0	17		69	0	693	0	1	0	0
8:30 AM	245	14	0		84	231		0				0	20		52	0	646	0	0	0	0
8:45 AM	266	15	0		84	229		0				0	11		68	0	673	0	0	0	0
Total Survey	2,633	74	0		620	1,796		0				0	128		747	0	5,998	0	4	1	0

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,500	1,003	2,503	0	1,225	1,943	3,168	0	0	0	0	0	536	315	851	0	3,261	0	3	1	0
%HV	6.4%				5.6%				0.0%				3.9%				5.7%				
PHF	0.95				0.83				0.00				0.89				0.94				

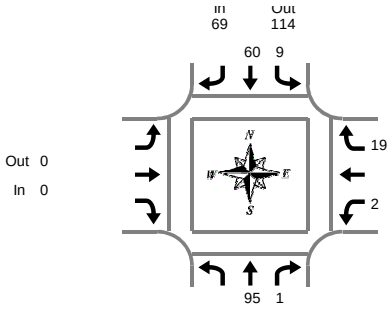
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,478	22	1,500		293	932		1,225				0	71		465	536	3,261
%HV	NA	6.4%	4.5%	6.4%	3.1%	6.4%	NA	5.6%	NA	NA	NA	0.0%	2.8%	NA	4.1%	3.9%	5.7%
PHF		0.95	0.55	0.95	0.79	0.83		0.83				0.00	0.77		0.88	0.89	0.94

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	1,499	24	0		282	859		0				0	70		466	0	3,200	0	2	0	0
7:15 AM	1,466	24	0		304	941		0				0	63		463	0	3,261	0	3	1	0
7:30 AM	1,380	29	0		325	956		0				0	64		405	0	3,159	0	4	1	0
7:45 AM	1,240	38	0		347	977		0				0	64		326	0	2,992	0	4	1	0
8:00 AM	1,134	50	0		338	937		0				0	58		281	0	2,798	0	2	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Hwy 99 & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		7	2	9	1	4		5				0	0		0	0	14
7:05 AM		3	0	3	0	5		5				0	0		0	0	8
7:10 AM		2	0	2	0	2		2				0	0		1	1	5
7:15 AM		8	0	8	0	6		6				0	0		0	0	14
7:20 AM		8	1	9	3	5		8				0	0		2	2	19
7:25 AM		2	0	2	1	5		6				0	1		3	4	12
7:30 AM		9	0	9	0	5		5				0	0		2	2	16
7:35 AM		6	0	6	0	3		3				0	0		2	2	11
7:40 AM		8	0	8	0	3		3				0	0		2	2	13
7:45 AM		7	0	7	2	6		8				0	0		1	1	16
7:50 AM		13	0	13	1	2		3				0	0		2	2	18
7:55 AM		10	0	10	0	12		12				0	1		1	2	24
8:00 AM		10	0	10	2	5		7				0	0		1	1	18
8:05 AM		12	0	12	0	6		6				0	0		2	2	20
8:10 AM		7	0	7	4	5		9				0	0		1	1	17
8:15 AM		7	0	7	1	4		5				0	0		0	0	12
8:20 AM		4	2	6	3	3		6				0	0		0	0	12
8:25 AM		6	0	6	3	10		13				0	0		0	0	19
8:30 AM		5	0	5	3	6		9				0	0		1	1	15
8:35 AM		6	0	6	0	6		6				0	1		1	2	14
8:40 AM		1	0	1	3	6		9				0	0		0	0	10
8:45 AM		4	0	4	1	7		8				0	0		3	3	15
8:50 AM		7	0	7	1	8		9				0	0		1	1	17
8:55 AM		6	0	6	2	4		6				0	1		0	1	13
Total Survey		158	5	163	31	128		159				0	4		26	30	352

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		12	2	14	1	11		12				0	0		1	1	27
7:15 AM		18	1	19	4	16		20				0	1		5	6	45
7:30 AM		23	0	23	0	11		11				0	0		6	6	40
7:45 AM		30	0	30	3	20		23				0	1		4	5	58
8:00 AM		29	0	29	6	16		22				0	0		4	4	55
8:15 AM		17	2	19	7	17		24				0	0		0	0	43
8:30 AM		12	0	12	6	18		24				0	1		2	3	39
8:45 AM		17	0	17	4	19		23				0	1		4	5	45
Total Survey		158	5	163	31	128		159				0	4		26	30	352

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	96	62	158	69	114	183	0	0	0	21	10	31	186
PHF	0.73			0.69			0.00			0.66			0.75

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		95	1	96	9	60		69				0	2		19	21	186
PHF		0.72	0.25	0.73	0.56	0.65		0.69				0.00	0.50		0.68	0.66	0.75

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

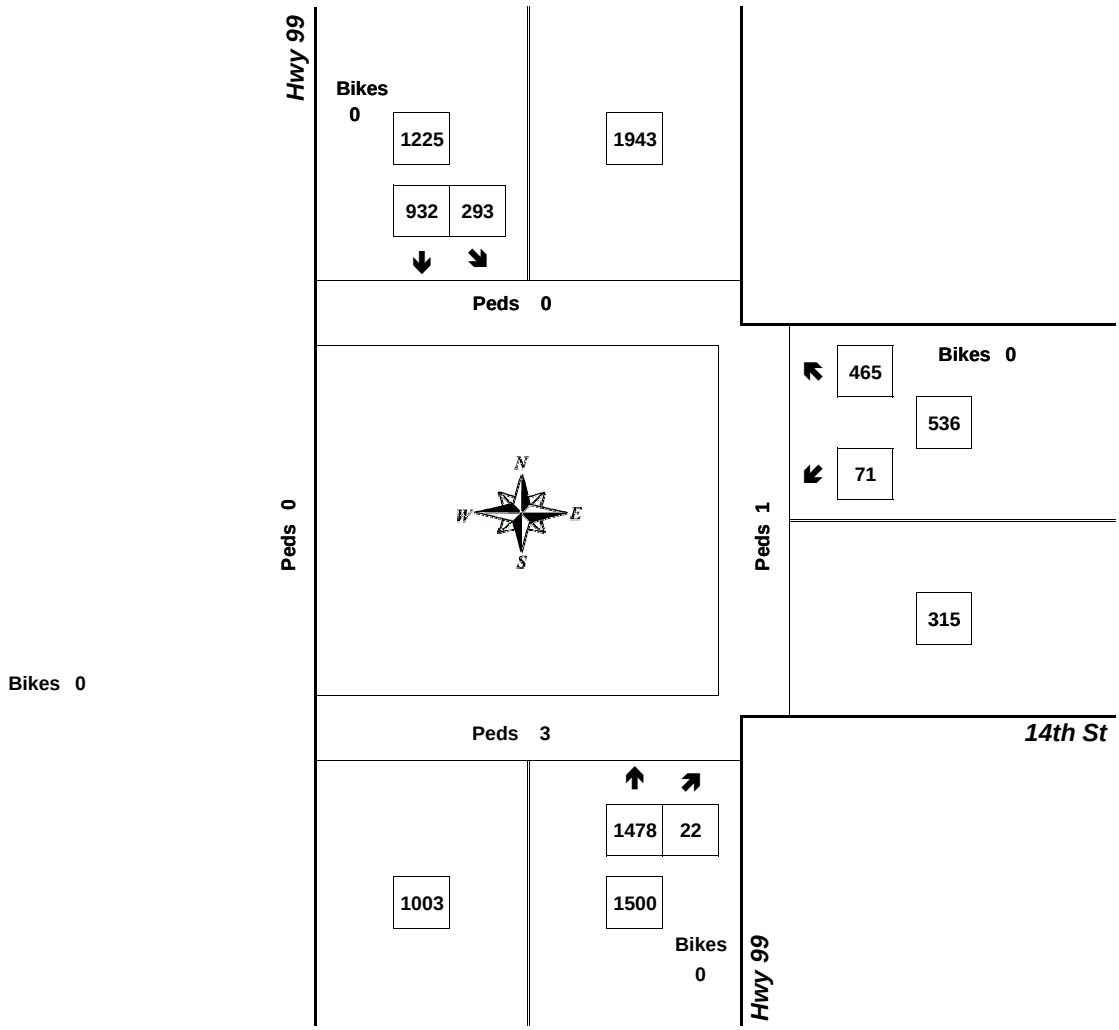
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		83	3	86	8	58		66				0	2		16	18	170
7:15 AM		100	1	101	13	63		76				0	2		19	21	198
7:30 AM		99	2	101	16	64		80				0	1		14	15	196
7:45 AM		88	2	90	22	71		93				0	2		10	12	195
8:00 AM		75	2	77	23	70		93				0	2		10	12	182

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & 14th St

7:10 AM to 8:10 AM
Thursday, January 26, 2017

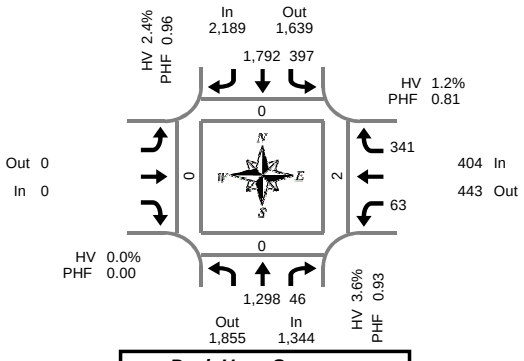


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.89	3.9%	536
NB	0.95	6.4%	1,500
SB	0.83	5.6%	1,225
Intersection	0.94	5.7%	3,261

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:40 PM to 5:40 PM

Hwy 99 & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	95	2	0		40	156		0				0	4		25	0	322	0	0	0	0
4:05 PM	95	4	0		34	131		0				0	5		33	0	302	0	0	1	0
4:10 PM	117	5	0		21	128		0				0	7		21	0	299	1	0	0	0
4:15 PM	106	3	0		35	154		0				0	7		32	0	337	0	0	0	0
4:20 PM	111	5	0		39	164		0				0	3		26	0	348	0	0	0	0
4:25 PM	103	3	0		32	143		0				0	5		17	0	303	0	0	0	0
4:30 PM	118	4	0		31	149		0				0	5		27	0	334	0	0	0	0
4:35 PM	99	1	0		36	153		0				0	5		37	0	331	0	0	0	0
4:40 PM	92	7	0		39	153		0				0	7		26	0	324	0	0	0	0
4:45 PM	104	2	0		32	144		0				0	5		23	0	310	0	0	0	0
4:50 PM	109	6	0		25	130		0				0	3		17	0	290	0	0	1	0
4:55 PM	96	5	0		38	154		0				0	8		31	0	332	0	0	0	0
5:00 PM	105	4	0		33	155		0				0	1		33	0	331	0	0	0	0
5:05 PM	126	5	0		22	149		0				0	6		31	0	339	0	0	1	0
5:10 PM	90	3	0		37	154		0				0	3		38	0	325	0	0	0	0
5:15 PM	107	3	0		30	160		0				0	7		32	0	339	0	0	0	0
5:20 PM	120	2	0		29	135		0				0	5		39	0	330	0	0	0	0
5:25 PM	120	4	0		33	153		0				0	2		27	0	339	0	0	0	0
5:30 PM	113	4	0		40	147		0				0	9		19	0	332	0	0	0	0
5:35 PM	116	1	0		39	158		0				0	7		25	0	346	0	0	0	0
5:40 PM	126	5	0		27	137		0				0	5		21	0	321	0	0	1	0
5:45 PM	98	3	0		38	139		0				0	2		21	0	301	0	0	0	0
5:50 PM	92	2	0		33	135		0				0	5		21	0	288	0	0	0	0
5:55 PM	75	6	0		37	125		0				0	5		16	0	264	0	0	0	0
Total Survey	2,533	89	0		800	3,506		0				0	121		638	0	7,687	1	0	4	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	307	11	0		95	415		0				0	16		79	0	923	1	0	1	0
4:15 PM	320	11	0		106	461		0				0	15		75	0	988	0	0	0	0
4:30 PM	309	12	0		106	455		0				0	17		90	0	989	0	0	0	0
4:45 PM	309	13	0		95	428		0				0	16		71	0	932	0	0	1	0
5:00 PM	321	12	0		92	458		0				0	10		102	0	995	0	0	1	0
5:15 PM	347	9	0		92	448		0				0	14		98	0	1,008	0	0	0	0
5:30 PM	355	10	0		106	442		0				0	21		65	0	999	0	0	1	0
5:45 PM	265	11	0		108	399		0				0	12		58	0	853	0	0	0	0
Total Survey	2,533	89	0		800	3,506		0				0	121		638	0	7,687	1	0	4	0

Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,344	1,855	3,199	0	2,189	1,639	3,828	0	0	0	0	0	404	443	847	0	3,937	0	0	2	0
%HV		3.6%				2.4%				0.0%				1.2%			2.7%				
PHF		0.93				0.96				0.00				0.81			0.97				

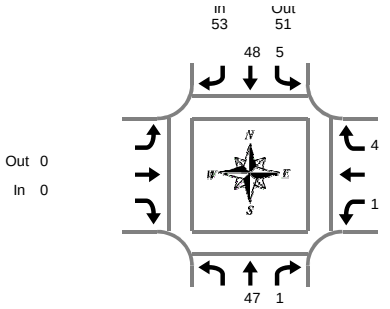
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,298	46	1,344		397	1,792		2,189				0	63		341	404	3,937
%HV	NA	3.6%	2.2%	3.6%	1.3%	2.7%	NA	2.4%	NA	NA	NA	0.0%	1.6%	NA	1.2%	1.2%	2.7%
PHF		0.92	0.77	0.93	0.89	0.97		0.96				0.00	0.88		0.78	0.81	0.97

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	1,245	47	0		402	1,759		0				0	64		315	0	3,832	1	0	2	0
4:15 PM	1,259	48	0		399	1,802		0				0	58		338	0	3,904	0	0	2	0
4:30 PM	1,286	46	0		385	1,789		0				0	57		361	0	3,924	0	0	2	0
4:45 PM	1,332	44	0		385	1,776		0				0	61		336	0	3,934	0	0	3	0
5:00 PM	1,288	42	0		398	1,747		0				0	57		323	0	3,855	0	0	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:40 PM to 5:40 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		4	0	4	1	8		9				0	0		0	0	13
4:05 PM		8	0	8	0	8		8				0	1		0	1	17
4:10 PM		6	0	6	0	3		3				0	1		0	1	10
4:15 PM		7	0	7	3	2		5				0	0		0	0	12
4:20 PM		3	0	3	0	6		6				0	0		0	0	9
4:25 PM		7	0	7	1	3		4				0	0		1	1	12
4:30 PM		3	0	3	1	7		8				0	0		2	2	13
4:35 PM		7	0	7	1	6		7				0	0		0	0	14
4:40 PM		3	0	3	0	2		2				0	0		0	0	5
4:45 PM		4	0	4	0	4		4				0	0		0	0	8
4:50 PM		2	0	2	1	4		5				0	0		0	0	7
4:55 PM		3	1	4	1	3		4				0	1		0	1	9
5:00 PM		4	0	4	1	5		6				0	0		0	0	10
5:05 PM		4	0	4	0	5		5				0	0		0	0	9
5:10 PM		2	0	2	0	4		4				0	0		0	0	6
5:15 PM		7	0	7	0	3		3				0	0		0	0	10
5:20 PM		5	0	5	1	4		5				0	0		4	4	14
5:25 PM		5	0	5	1	4		5				0	0		0	0	10
5:30 PM		5	0	5	0	5		5				0	0		0	0	10
5:35 PM		3	0	3	0	5		5				0	0		0	0	8
5:40 PM		4	0	4	1	2		3				0	0		0	0	7
5:45 PM		3	0	3	0	4		4				0	0		0	0	7
5:50 PM		3	0	3	0	2		2				0	0		1	1	6
5:55 PM		1	0	1	0	1		1				0	1		0	1	3
Total Survey		103	1	104	13	100		113				0	4		8	12	229

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		18	0	18	1	19		20				0	2		0	2	40
4:15 PM		17	0	17	4	11		15				0	0		1	1	33
4:30 PM		13	0	13	2	15		17				0	0		2	2	32
4:45 PM		9	1	10	2	11		13				0	1		0	1	24
5:00 PM		10	0	10	1	14		15				0	0		0	0	25
5:15 PM		17	0	17	2	11		13				0	0		4	4	34
5:30 PM		12	0	12	1	12		13				0	0		0	0	25
5:45 PM		7	0	7	0	7		7				0	1		1	2	16
Total Survey		103	1	104	13	100		113				0	4		8	12	229

Heavy Vehicle Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	48	49	97	53	51	104	0	0	0	5	6	11	106
PHF	0.71			0.88			0.00			0.31			0.78

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		47	1	48	5	48		53				0	1		4	5	106
PHF		0.69	0.25	0.71	0.42	0.86		0.88				0.00	0.25		0.25	0.31	0.78

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

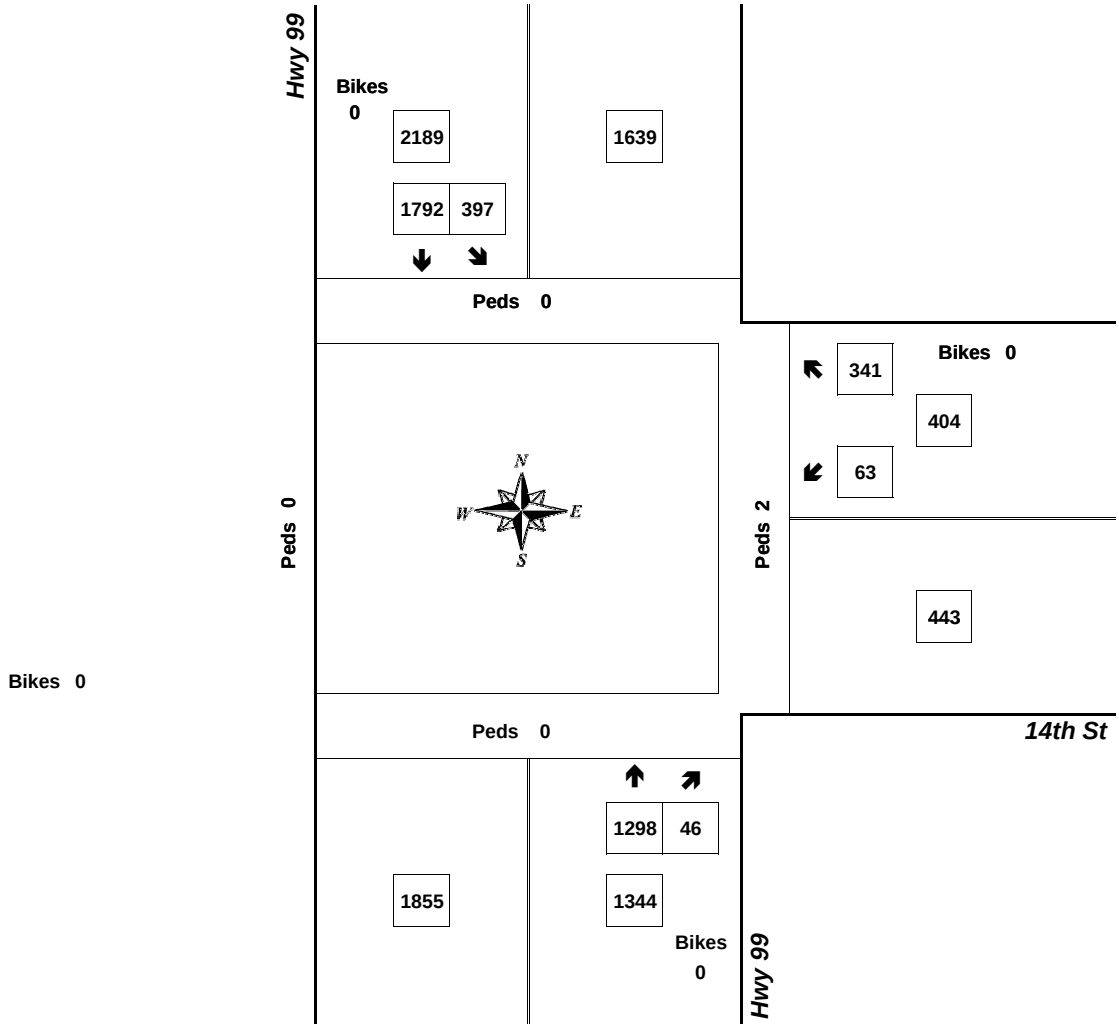
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		57	1	58	9	56		65				0	3		3	6	129
4:15 PM		49	1	50	9	51		60				0	1		3	4	114
4:30 PM		49	1	50	7	51		58				0	1		6	7	115
4:45 PM		48	1	49	6	48		54				0	1		4	5	108
5:00 PM		46	0	46	4	44		48				0	1		5	6	100

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & 14th St

4:40 PM to 5:40 PM
Wednesday, January 25, 2017

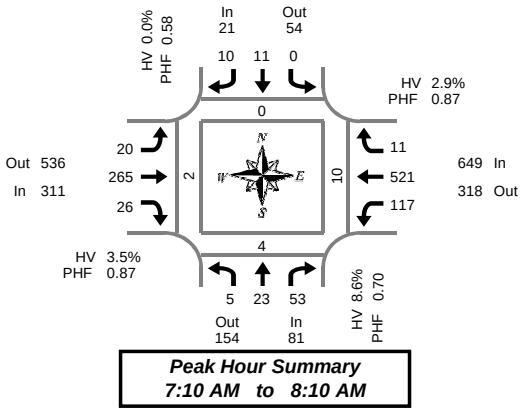


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.81	1.2%	404
NB	0.93	3.6%	1,344
SB	0.96	2.4%	2,189
Intersection	0.97	2.7%	3,937

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Main St & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	1	4	0	0	0	2	0	0	19	3	0	9	42	0	0	80	0	1	1	0
7:05 AM	1	0	4	0	0	1	0	0	3	17	0	0	9	29	1	0	65	0	1	1	0
7:10 AM	2	4	6	0	0	1	0	0	3	17	4	0	6	40	0	1	83	0	1	1	1
7:15 AM	0	0	2	0	0	1	0	0	1	21	1	0	14	44	0	0	84	0	0	0	0
7:20 AM	0	1	4	0	0	0	0	0	1	26	2	0	5	43	0	0	82	0	0	1	0
7:25 AM	0	3	2	0	0	1	1	0	2	20	2	0	11	57	1	0	100	0	0	0	0
7:30 AM	0	1	5	0	0	0	0	0	1	18	1	0	11	47	2	0	86	0	0	0	0
7:35 AM	0	0	3	0	0	1	1	0	1	21	0	0	12	44	1	0	84	0	2	1	0
7:40 AM	0	4	2	0	0	1	0	0	3	24	2	0	7	54	0	0	97	0	0	2	1
7:45 AM	0	1	7	0	0	2	1	0	1	23	6	0	6	42	1	0	90	0	0	0	0
7:50 AM	1	3	6	0	0	2	1	0	3	17	1	0	9	42	0	0	85	0	0	2	0
7:55 AM	0	4	7	0	0	1	2	0	1	32	5	0	11	43	3	0	109	0	0	1	0
8:00 AM	0	2	6	0	0	1	2	0	3	22	0	0	10	33	1	0	80	0	1	2	0
8:05 AM	2	0	3	0	0	0	2	0	0	24	2	0	15	32	2	0	82	0	0	0	0
8:10 AM	2	1	8	0	0	4	0	0	5	27	4	0	6	24	1	0	82	0	1	2	0
8:15 AM	0	0	2	0	0	0	1	0	3	30	2	0	6	33	0	0	77	0	1	1	0
8:20 AM	0	3	2	0	0	1	1	0	3	27	1	0	11	22	1	0	72	0	0	0	0
8:25 AM	1	1	3	0	0	2	0	1	9	29	1	0	6	30	1	0	83	0	0	0	0
8:30 AM	0	4	5	0	0	5	1	0	2	26	2	0	9	26	2	0	82	0	0	0	0
8:35 AM	1	3	5	0	0	3	1	0	5	21	4	0	9	22	2	0	76	0	0	0	1
8:40 AM	0	1	4	0	0	2	2	0	4	25	2	0	7	19	2	0	68	0	0	0	0
8:45 AM	4	1	7	0	1	1	0	0	0	28	3	0	13	28	3	0	89	1	0	1	1
8:50 AM	0	1	6	0	0	1	2	0	0	28	2	0	5	21	0	0	66	0	1	1	0
8:55 AM	0	1	3	0	0	1	2	1	7	26	5	0	9	25	0	0	79	2	0	0	0
Total Survey	14	40	106	0	1	32	22	2	61	568	55	0	216	842	24	1	1,981	3	9	17	4

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	3	5	14	0	0	2	2	0	6	53	7	0	24	111	1	1	228	0	3	3	1
7:15 AM	0	4	8	0	0	2	1	0	4	67	5	0	30	144	1	0	266	0	0	1	0
7:30 AM	0	5	10	0	0	2	1	0	5	63	3	0	30	145	3	0	267	0	2	3	1
7:45 AM	1	8	20	0	0	5	4	0	5	72	12	0	26	127	4	0	284	0	0	3	0
8:00 AM	4	3	17	0	0	5	4	0	8	73	6	0	31	89	4	0	244	0	2	4	0
8:15 AM	1	4	7	0	0	3	2	1	15	86	4	0	23	85	2	0	232	0	1	1	0
8:30 AM	1	8	14	0	0	10	4	0	11	72	8	0	25	67	6	0	226	0	0	0	1
8:45 AM	4	3	16	0	1	3	4	1	7	82	10	0	27	74	3	0	234	3	1	2	1
Total Survey	14	40	106	0	1	32	22	2	61	568	55	0	216	842	24	1	1,981	3	9	17	4

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	81	154	235	0	21	54	75	0	311	536	847	0	649	318	967	1	1,062	0	4	10	2
%HV	8.6%				0.0%				3.5%				2.9%				3.5%				
PHF	0.70				0.58				0.87				0.87				0.93				

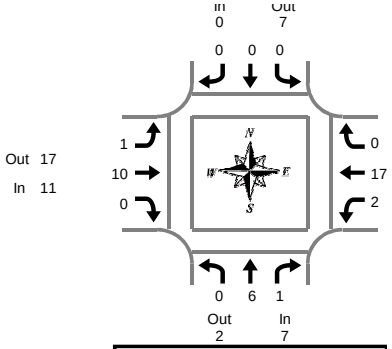
By Movement	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	5	23	53	81	0	11	10	21	20	265	26	311	117	521	11	649	1,062
%HV	0.0%	26.1%	1.9%	8.6%	0.0%	0.0%	0.0%	0.0%	5.0%	3.8%	0.0%	3.5%	1.7%	3.3%	0.0%	2.9%	3.5%
PHF	0.63	0.64	0.66	0.70	0.00	0.55	0.42	0.58	0.71	0.85	0.54	0.87	0.81	0.88	0.46	0.87	0.93

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	4	22	52	0	0	11	8	0	20	255	27	0	110	527	9	1	1,045	0	5	10	2
7:15 AM	5	20	55	0	0	14	10	0	22	275	26	0	117	505	12	0	1,061	0	4	11	1
7:30 AM	6	20	54	0	0	15	11	1	33	294	25	0	110	446	13	0	1,027	0	5	11	1
7:45 AM	7	23	58	0	0	23	14	1	39	303	30	0	105	368	16	0	986	0	3	8	1
8:00 AM	10	18	54	0	1	21	14	2	41	313	28	0	106	315	15	0	936	3	4	7	2

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Main St & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:20 AM	0	1	0	1	0	0	0	0	0	4	0	4	0	2	0	2	7
7:25 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	1	0	1	3
7:30 AM	0	0	1	1	0	0	0	0	0	1	0	1	1	2	0	3	5
7:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
7:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3
7:50 AM	0	2	0	2	0	0	0	0	1	0	0	1	0	2	0	2	5
7:55 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	1	0	2	3
8:00 AM	0	1	0	1	0	0	0	0	0	2	0	2	0	1	0	1	4
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:10 AM	0	1	1	2	0	0	0	0	1	3	0	4	0	1	0	1	7
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2
8:20 AM	0	1	0	1	0	0	0	0	1	5	0	6	0	0	0	0	7
8:25 AM	0	0	0	0	0	0	0	0	1	2	0	3	0	1	0	1	4
8:30 AM	0	1	1	2	0	0	0	0	1	1	0	2	0	1	0	1	5
8:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3
8:40 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	1	3	0	4	6
8:50 AM	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	4
8:55 AM	0	0	0	0	0	0	1	1	0	1	1	2	1	0	0	1	4
Total Survey	0	10	3	13	0	1	1	2	6	29	1	36	6	27	0	33	84

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	2	0	2	4
7:15 AM	0	2	0	2	0	0	0	0	0	5	0	5	0	4	0	4	11
7:30 AM	0	0	1	1	0	0	0	0	0	1	0	1	1	6	0	7	9
7:45 AM	0	3	0	3	0	0	0	0	1	2	0	3	1	4	0	5	11
8:00 AM	0	2	1	3	0	0	0	0	1	5	0	6	0	3	0	3	12
8:15 AM	0	1	0	1	0	0	0	0	2	8	0	10	1	1	0	2	13
8:30 AM	0	1	1	2	0	0	0	0	2	2	0	4	1	3	0	4	10
8:45 AM	0	1	0	1	0	1	1	2	0	4	1	5	2	4	0	6	14
Total Survey	0	10	3	13	0	1	1	2	6	29	1	36	6	27	0	33	84

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Main St			Southbound Main St			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	2	9	0	7	7	11	17	28	19	11	30	37
PHF	0.44			0.00			0.46			0.68			0.62

By Movement	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	6	1	7	0	0	0	0	1	10	0	11	2	17	0	19	37
PHF	0.00	0.38	0.25	0.44	0.00	0.00	0.00	0.00	0.25	0.42	0.00	0.46	0.50	0.71	0.00	0.68	0.62

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

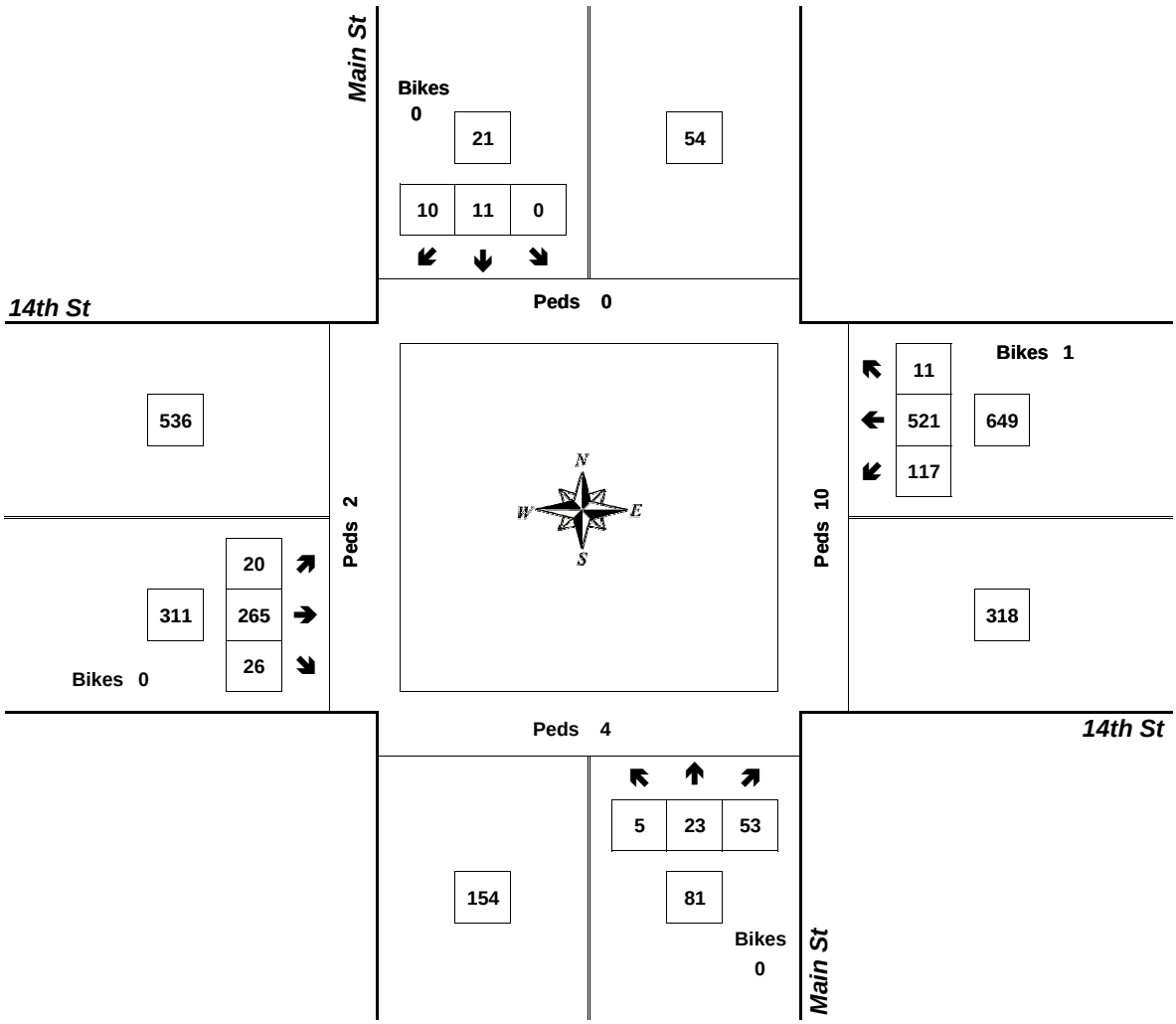
Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	5	1	6	0	0	0	0	1	10	0	11	2	16	0	18	35
7:15 AM	0	7	2	9	0	0	0	0	2	13	0	15	2	17	0	19	43
7:30 AM	0	6	2	8	0	0	0	0	4	16	0	20	3	14	0	17	45
7:45 AM	0	7	2	9	0	0	0	0	6	17	0	23	3	11	0	14	46
8:00 AM	0	5	2	7	0	1	1	2	5	19	1	25	4	11	0	15	49

Peak Hour Summary

Clay Carney
(503) 833-2740

Main St & 14th St

7:10 AM to 8:10 AM
Thursday, January 26, 2017

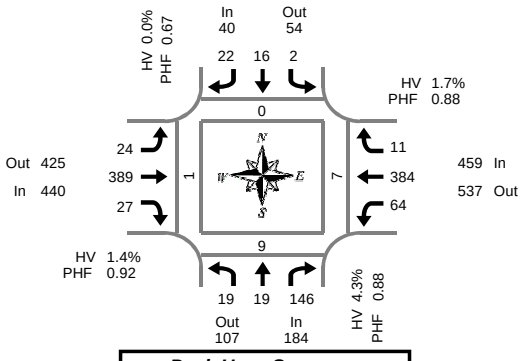


Approach	PHF	HV%	Volume
EB	0.87	3.5%	311
WB	0.87	2.9%	649
NB	0.70	8.6%	81
SB	0.58	0.0%	21
Intersection	0.93	3.5%	1,062

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:35 PM to 5:35 PM

Main St & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	5	2	8	0	1	3	1	0	1	37	3	0	8	23	4	0	96	0	0	1	1
4:05 PM	2	2	13	0	0	4	2	0	3	35	0	0	7	32	3	0	103	0	0	0	0
4:10 PM	2	1	10	0	0	1	1	0	2	25	0	0	4	28	2	0	76	0	1	1	1
4:15 PM	2	3	10	0	0	0	2	0	4	34	0	0	4	36	0	0	95	0	1	2	0
4:20 PM	4	1	9	0	1	1	1	0	3	40	2	0	1	19	3	0	85	0	0	2	0
4:25 PM	1	2	16	0	0	3	3	0	2	32	0	0	3	17	0	0	79	0	0	0	2
4:30 PM	0	3	18	0	0	1	3	0	2	28	2	0	5	34	0	0	96	1	0	1	0
4:35 PM	1	3	10	0	0	1	2	0	1	36	2	0	5	36	2	0	99	0	0	0	0
4:40 PM	0	0	10	0	0	2	2	0	1	42	3	0	4	30	3	0	97	0	1	2	0
4:45 PM	2	2	14	0	2	1	0	0	5	28	1	0	5	26	1	0	87	0	2	1	0
4:50 PM	2	3	9	0	0	3	1	0	1	26	2	0	4	24	1	1	76	0	1	0	0
4:55 PM	2	0	11	0	0	0	0	0	3	39	1	0	9	32	2	0	99	0	0	0	0
5:00 PM	2	1	14	0	0	1	0	0	2	30	6	2	2	35	0	0	93	0	0	0	0
5:05 PM	2	1	12	0	0	1	4	0	1	24	2	0	7	33	1	0	88	0	3	0	0
5:10 PM	3	2	15	0	0	2	3	0	0	36	3	0	6	36	1	0	107	0	2	2	1
5:15 PM	1	1	13	0	0	4	1	0	1	30	1	0	6	39	0	0	97	0	0	0	0
5:20 PM	1	2	13	0	0	1	4	0	3	26	1	0	7	36	0	0	94	0	0	0	0
5:25 PM	2	1	10	0	0	0	5	0	4	32	2	0	4	26	0	0	86	0	0	2	0
5:30 PM	1	3	15	0	0	0	0	0	2	40	3	0	5	31	0	0	100	0	0	0	0
5:35 PM	0	1	9	0	1	3	4	0	3	35	2	0	2	22	0	0	82	0	0	0	1
5:40 PM	2	1	9	0	0	2	2	0	1	30	1	0	6	20	0	0	74	0	0	0	0
5:45 PM	1	1	11	0	1	2	1	0	2	39	0	0	8	23	0	0	89	0	0	0	0
5:50 PM	1	2	16	0	0	2	0	0	3	35	2	0	9	24	1	0	95	0	0	1	1
5:55 PM	1	1	8	0	0	0	0	0	3	35	2	0	7	17	0	0	74	0	1	1	3
Total Survey	40	39	283	0	6	38	42	0	53	794	41	2	128	679	24	1	2,167	1	12	16	10

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	9	5	31	0	1	8	4	0	6	97	3	0	19	83	9	0	275	0	1	2	2
4:15 PM	7	6	35	0	1	4	6	0	9	106	2	0	8	72	3	0	259	0	1	4	2
4:30 PM	1	6	38	0	0	4	7	0	4	106	7	0	14	100	5	0	292	1	1	3	0
4:45 PM	6	5	34	0	2	4	1	0	9	93	4	0	18	82	4	1	262	0	3	1	0
5:00 PM	7	4	41	0	0	4	7	0	3	90	11	2	15	104	2	0	288	0	5	2	1
5:15 PM	4	4	36	0	0	5	10	0	8	88	4	0	17	101	0	0	277	0	0	2	0
5:30 PM	3	5	33	0	1	5	6	0	6	105	6	0	13	73	0	0	256	0	0	0	1
5:45 PM	3	4	35	0	1	4	1	0	8	109	4	0	24	64	1	0	258	0	1	2	4
Total Survey	40	39	283	0	6	38	42	0	53	794	41	2	128	679	24	1	2,167	1	12	16	10

Peak Hour Summary
4:35 PM to 5:35 PM

By Approach	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	184	107	291	0	40	54	94	0	440	425	865	2	459	537	996	1	1,123	0	9	7	1
%HV	4.3%				0.0%				1.4%				1.7%				2.0%				
PHF	0.88				0.67				0.92				0.88				0.94				

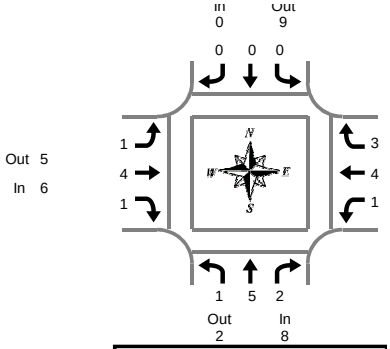
By Movement	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	19	19	146	184	2	16	22	40	24	389	27	440	64	384	11	459	1,123
%HV	5.3%	26.3%	1.4%	4.3%	0.0%	0.0%	0.0%	0.0%	4.2%	1.0%	3.7%	1.4%	1.6%	1.0%	27.3%	1.7%	2.0%
PHF	0.68	0.79	0.89	0.88	0.25	0.57	0.55	0.67	0.67	0.92	0.61	0.92	0.84	0.86	0.46	0.88	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	23	22	138	0	4	20	18	0	28	402	16	0	59	337	21	1	1,088	1	6	10	4
4:15 PM	21	21	148	0	3	16	21	0	25	395	24	2	55	358	14	1	1,101	1	10	10	3
4:30 PM	18	19	149	0	2	17	25	0	24	377	26	2	64	387	11	1	1,119	1	9	8	1
4:45 PM	20	18	144	0	3	18	24	0	26	376	25	2	63	360	6	1	1,083	0	8	5	2
5:00 PM	17	17	145	0	2	18	24	0	25	392	25	2	69	342	3	0	1,079	0	6	6	6

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Main St & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:35 PM to 5:35 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	1	2	0	0	0	0	0	1	0	1	2	0	0	2	5
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:15 PM	0	0	1	1	0	0	0	0	1	2	0	3	0	0	0	0	4
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
4:30 PM	0	2	0	2	0	0	0	0	1	0	0	1	0	2	0	2	5
4:35 PM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	2	2	4
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
4:50 PM	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
4:55 PM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:10 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
5:20 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	3	0	3	4
5:25 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:30 PM	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:45 PM	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:50 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Survey	1	10	5	16	0	0	0	0	3	9	1	13	3	11	3	17	46

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	1	2	0	0	0	0	0	1	0	1	2	2	0	4	7
4:15 PM	0	0	1	1	0	0	0	0	1	3	0	4	0	1	0	1	6
4:30 PM	0	2	1	3	0	0	0	0	1	1	0	2	0	2	2	4	9
4:45 PM	1	1	0	2	0	0	0	0	1	1	0	2	0	0	1	1	5
5:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	1	0	0	1	3
5:15 PM	0	1	0	1	0	0	0	0	0	1	1	2	0	4	0	4	7
5:30 PM	0	2	1	3	0	0	0	0	0	1	0	1	0	0	0	0	4
5:45 PM	0	2	1	3	0	0	0	0	0	0	0	0	0	2	0	2	5
Total Survey	1	10	5	16	0	0	0	0	3	9	1	13	3	11	3	17	46

Heavy Vehicle Peak Hour Summary
4:35 PM to 5:35 PM

By Approach	Northbound Main St			Southbound Main St			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	8	2	10	0	9	9	6	5	11	8	6	14	22
PHF	0.67			0.00			0.50			0.50			0.69

By Movement	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	5	2	8	0	0	0	0	1	4	1	6	1	4	3	8	22
PHF	0.25	0.63	0.50	0.67	0.00	0.00	0.00	0.00	0.25	0.50	0.25	0.50	0.25	0.25	0.25	0.50	0.69

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

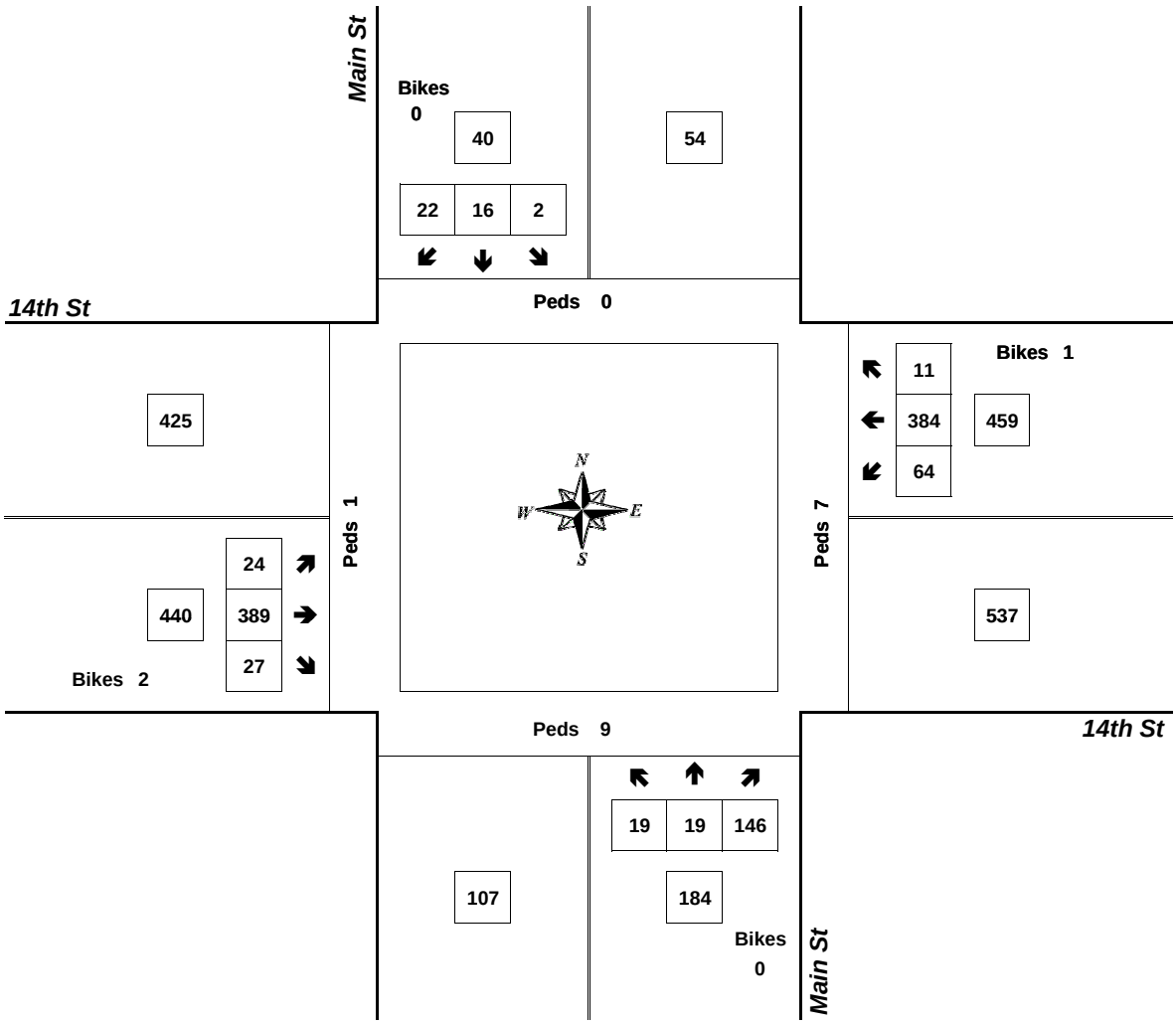
Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	4	3	8	0	0	0	0	3	6	0	9	2	5	3	10	27
4:15 PM	1	4	2	7	0	0	0	0	3	6	0	9	1	3	3	7	23
4:30 PM	1	5	1	7	0	0	0	0	2	4	1	7	1	6	3	10	24
4:45 PM	1	5	1	7	0	0	0	0	1	4	1	6	1	4	1	6	19
5:00 PM	0	6	2	8	0	0	0	0	0	3	1	4	1	6	0	7	19

Peak Hour Summary

Clay Carney
(503) 833-2740

Main St & 14th St

4:35 PM to 5:35 PM
Wednesday, January 25, 2017

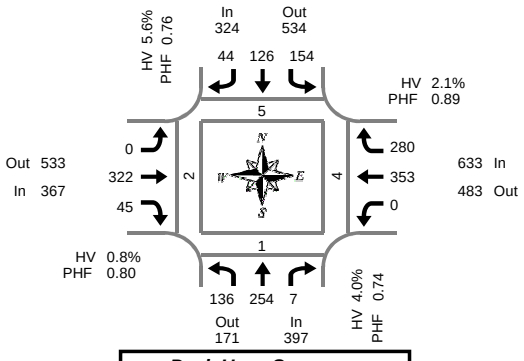


Approach	PHF	HV%	Volume
EB	0.92	1.4%	440
WB	0.88	1.7%	459
NB	0.88	4.3%	184
SB	0.67	0.0%	40
Intersection	0.94	2.0%	1,123

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:20 AM to 8:20 AM

Washington St & 7th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	18	17	0	0	8	5	2	0	0	11	5	0	0	28	22	0	116	0	1	0	0
7:05 AM	12	13	2	0	7	8	0	0	0	10	3	0	0	31	23	0	109	1	0	0	0
7:10 AM	10	17	1	0	7	3	2	0	0	12	3	0	0	23	26	0	104	0	1	0	0
7:15 AM	8	13	0	0	6	2	1	0	0	9	1	0	0	35	27	0	102	0	0	0	0
7:20 AM	13	19	1	0	7	10	3	0	0	18	3	0	0	32	22	0	128	0	0	0	0
7:25 AM	5	14	0	0	6	8	3	0	0	25	3	0	0	31	28	0	123	2	0	0	0
7:30 AM	17	28	0	0	17	6	5	0	0	25	2	0	0	31	26	0	157	1	1	1	0
7:35 AM	13	23	0	0	8	10	3	0	0	24	3	0	0	30	25	0	139	0	0	0	0
7:40 AM	10	21	0	0	15	12	3	0	0	20	7	0	0	34	31	0	153	0	0	1	0
7:45 AM	19	27	1	0	19	14	7	0	0	30	3	0	0	29	27	0	176	0	0	0	0
7:50 AM	16	31	1	0	12	18	7	0	0	35	3	0	0	30	21	0	174	0	0	0	0
7:55 AM	13	25	1	0	15	7	2	0	0	38	2	0	0	30	23	0	156	1	0	0	0
8:00 AM	4	14	2	0	15	11	3	0	0	33	4	0	0	32	14	0	132	1	0	1	0
8:05 AM	9	20	1	0	12	7	5	0	0	26	4	0	0	23	23	0	130	0	0	1	0
8:10 AM	12	16	0	0	9	14	2	0	0	22	3	0	0	16	19	0	113	0	0	0	1
8:15 AM	5	16	0	0	19	9	1	0	0	26	8	0	0	35	21	0	140	0	0	0	1
8:20 AM	6	17	1	0	13	12	2	0	0	21	2	0	0	25	12	0	111	1	1	0	2
8:25 AM	5	11	1	0	18	11	3	0	0	21	4	0	0	33	19	0	126	1	0	0	0
8:30 AM	13	16	0	0	11	9	3	0	0	49	0	0	0	26	17	0	144	0	0	0	0
8:35 AM	12	10	1	0	19	5	7	0	0	30	2	0	0	27	11	0	124	1	0	1	0
8:40 AM	3	16	2	0	17	11	1	0	0	29	3	0	0	29	14	0	125	0	0	0	0
8:45 AM	5	14	0	0	13	9	2	0	0	34	1	0	0	28	15	0	121	0	0	0	0
8:50 AM	15	10	2	0	7	9	4	0	1	40	4	0	0	26	22	0	140	0	1	0	0
8:55 AM	0	13	2	0	20	5	4	0	0	27	1	0	0	15	16	0	103	0	1	0	1
Total Survey	243	421	19	0	300	215	75	0	1	615	74	0	0	679	504	0	3,146	9	6	5	5

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	40	47	3	0	22	16	4	0	0	33	11	0	0	82	71	0	329	1	2	0	0
7:15 AM	26	46	1	0	19	20	7	0	0	52	7	0	0	98	77	0	353	2	0	0	0
7:30 AM	40	72	0	0	40	28	11	0	0	69	12	0	0	95	82	0	449	1	1	2	0
7:45 AM	48	83	3	0	46	39	16	0	0	103	8	0	0	89	71	0	506	1	0	0	0
8:00 AM	25	50	3	0	36	32	10	0	0	81	11	0	0	71	56	0	375	1	0	2	1
8:15 AM	16	44	2	0	50	32	6	0	0	68	14	0	0	93	52	0	377	2	1	0	3
8:30 AM	28	42	3	0	47	25	11	0	0	108	5	0	0	82	42	0	393	1	0	1	0
8:45 AM	20	37	4	0	40	23	10	0	1	101	6	0	0	69	53	0	364	0	2	0	1
Total Survey	243	421	19	0	300	215	75	0	1	615	74	0	0	679	504	0	3,146	9	6	5	5

Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	397	171	568	0	324	534	858	0	367	533	900	0	633	483	1,116	0	1,721	5	1	4	2
%HV	4.0%				5.6%				0.8%				2.1%				2.9%				
PHF	0.74				0.76				0.80				0.89				0.85				

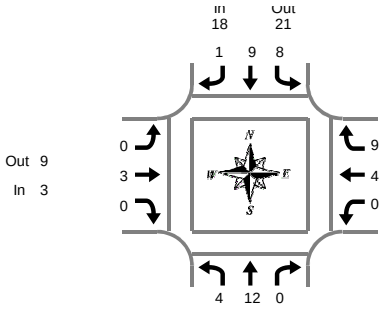
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	136	254	7	397	154	126	44	324	0	322	45	367	0	353	280	633	1,721
%HV	2.9%	4.7%	0.0%	4.0%	5.2%	7.1%	2.3%	5.6%	0.0%	0.9%	0.0%	0.8%	0.0%	1.1%	3.2%	2.1%	2.9%
PHF	0.71	0.77	0.44	0.74	0.84	0.72	0.65	0.76	0.00	0.76	0.75	0.80	0.00	0.93	0.84	0.89	0.85

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	154	248	7	0	127	103	38	0	0	257	38	0	0	364	301	0	1,637	5	3	2	0
7:15 AM	139	251	7	0	141	119	44	0	0	305	38	0	0	353	286	0	1,683	5	1	4	1
7:30 AM	129	249	8	0	172	131	43	0	0	321	45	0	0	348	261	0	1,707	5	2	4	4
7:45 AM	117	219	11	0	179	128	43	0	0	360	38	0	0	335	221	0	1,651	5	1	3	4
8:00 AM	89	173	12	0	173	112	37	0	1	358	36	0	0	315	203	0	1,509	4	3	3	5

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & 7th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:20 AM to 8:20 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	0	0	1	1	0	0	1	0	0	0	0	0	0	1	1	3
7:05 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	1	1	3
7:10 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	1	0	1	3
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	2	3
7:20 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	1	1	4
7:25 AM	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	2
7:30 AM	1	4	0	5	1	0	0	1	0	0	0	0	0	0	3	3	9
7:35 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	2	0	2	0	2	0	2	0	1	0	1	0	0	1	1	6
7:50 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1	3
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
8:00 AM	1	0	0	1	2	1	0	3	0	0	0	0	0	1	0	1	5
8:05 AM	2	2	0	4	0	1	0	1	0	1	0	1	0	0	2	2	8
8:10 AM	0	1	0	1	1	1	0	2	0	1	0	1	0	2	0	2	6
8:15 AM	0	0	0	0	3	1	0	4	0	0	0	0	0	1	0	1	5
8:20 AM	1	1	0	2	1	2	0	3	0	0	0	0	0	0	1	1	6
8:25 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
8:30 AM	0	1	0	1	4	1	0	5	0	0	0	0	0	2	1	3	9
8:35 AM	1	1	0	2	2	0	0	2	0	0	0	0	0	0	0	0	4
8:40 AM	0	1	0	1	2	0	0	2	0	0	0	0	0	0	1	1	4
8:45 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	3	3	6
8:50 AM	0	1	0	1	1	0	0	1	0	0	0	0	0	1	2	3	5
8:55 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
Total Survey	7	18	1	26	22	17	1	40	0	4	0	4	0	9	21	30	100

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	0	1	2	2	2	0	4	0	0	0	0	0	1	2	3	9
7:15 AM	0	1	0	1	1	2	1	4	0	1	0	1	0	1	2	3	9
7:30 AM	1	5	0	6	1	0	0	1	0	0	0	0	0	0	3	3	10
7:45 AM	0	3	0	3	0	3	0	3	0	1	0	1	0	0	3	3	10
8:00 AM	3	3	0	6	3	3	0	6	0	2	0	2	0	3	2	5	19
8:15 AM	1	1	0	2	5	4	0	9	0	0	0	0	0	1	1	2	13
8:30 AM	1	3	0	4	8	1	0	9	0	0	0	0	0	2	2	4	17
8:45 AM	0	2	0	2	2	2	0	4	0	0	0	0	0	1	6	7	13
Total Survey	7	18	1	26	22	17	1	40	0	4	0	4	0	9	21	30	100

Heavy Vehicle Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 7th St			Westbound 7th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	16	9	25	18	21	39	3	9	12	13	11	24	50
PHF	0.67			0.64			0.38			0.65			0.66

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	4	12	0	16	8	9	1	18	0	3	0	3	0	4	9	13	50
PHF	0.33	0.60	0.00	0.67	0.50	0.75	0.25	0.64	0.00	0.38	0.00	0.38	0.00	0.33	0.56	0.65	0.66

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

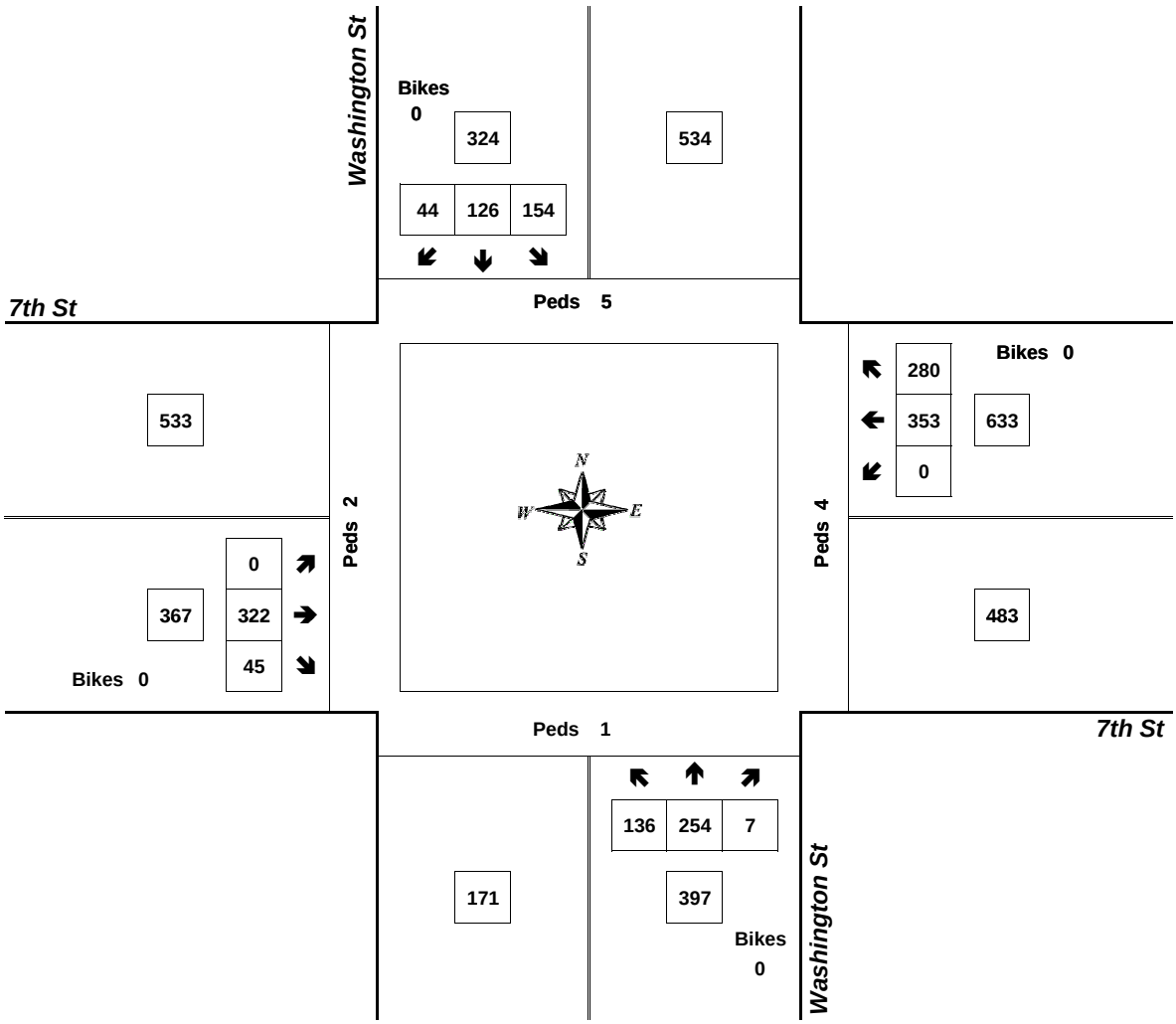
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	2	9	1	12	4	7	1	12	0	2	0	2	0	2	10	12	38
7:15 AM	4	12	0	16	5	8	1	14	0	4	0	4	0	4	10	14	48
7:30 AM	5	12	0	17	9	10	0	19	0	3	0	3	0	4	9	13	52
7:45 AM	5	10	0	15	16	11	0	27	0	3	0	3	0	6	8	14	59
8:00 AM	5	9	0	14	18	10	0	28	0	2	0	2	0	7	11	18	62

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 7th St

7:20 AM to 8:20 AM
Thursday, January 26, 2017

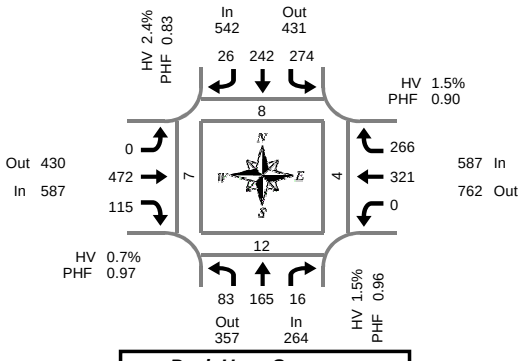


Approach	PHF	HV%	Volume
EB	0.80	0.8%	367
WB	0.89	2.1%	633
NB	0.74	4.0%	397
SB	0.76	5.6%	324
Intersection	0.85	2.9%	1,721

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:10 PM to 5:10 PM

Washington St & 7th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	7	9	0	0	16	12	2	0	0	44	6	0	0	39	13	0	148	2	0	1	0
4:05 PM	12	21	1	0	34	18	0	0	0	34	3	0	0	25	17	0	165	2	2	0	0
4:10 PM	11	18	0	0	16	21	3	0	0	33	10	0	0	30	23	0	165	0	0	1	2
4:15 PM	7	7	4	0	18	20	1	0	0	52	9	0	0	39	16	0	173	0	0	0	1
4:20 PM	7	13	2	0	26	16	3	0	0	39	5	0	0	33	22	0	166	0	1	0	0
4:25 PM	7	14	2	0	29	13	1	0	0	26	13	0	0	22	19	0	146	0	0	0	0
4:30 PM	5	16	1	0	22	14	4	0	0	43	10	0	0	14	34	0	163	2	2	0	0
4:35 PM	7	14	0	0	28	23	4	0	0	40	5	0	0	30	32	0	183	0	0	0	2
4:40 PM	8	14	2	0	24	27	1	0	0	49	2	0	0	25	20	0	172	0	2	0	0
4:45 PM	5	14	0	0	33	22	2	0	0	40	12	0	0	24	18	0	170	0	1	0	0
4:50 PM	11	12	1	0	25	21	4	0	0	37	12	0	0	22	21	0	166	3	2	1	0
4:55 PM	6	14	2	0	20	17	2	0	0	29	13	0	0	23	18	0	144	3	1	1	1
5:00 PM	2	10	1	0	23	30	1	0	0	44	11	0	0	23	18	0	163	0	2	0	1
5:05 PM	7	19	1	1	10	18	0	0	0	40	13	0	0	36	25	0	169	0	1	1	0
5:10 PM	5	28	2	0	22	18	0	0	0	35	6	0	0	28	21	0	165	3	2	0	3
5:15 PM	6	12	3	0	26	22	0	0	0	44	9	0	0	22	16	0	160	2	0	0	2
5:20 PM	4	8	2	0	17	12	3	0	0	42	6	0	0	30	18	0	142	0	1	0	0
5:25 PM	15	16	0	0	29	14	1	0	0	33	8	0	0	25	20	0	161	0	0	0	0
5:30 PM	6	10	0	0	26	19	3	0	0	32	5	0	0	22	24	0	147	0	0	0	0
5:35 PM	5	18	0	0	17	17	4	0	0	44	9	0	0	29	14	0	157	0	1	0	0
5:40 PM	4	7	0	0	16	18	1	0	0	39	5	0	0	34	30	0	154	0	0	1	1
5:45 PM	5	14	2	0	19	18	1	0	0	30	12	0	0	22	17	0	140	0	0	2	0
5:50 PM	4	19	0	0	17	13	3	0	0	32	9	0	0	13	18	0	128	0	2	2	0
5:55 PM	2	6	1	0	24	15	0	0	0	44	3	0	0	26	10	0	131	1	0	0	0
Total Survey	158	333	27	1	537	438	44	0	0	925	196	0	0	636	484	0	3,778	18	20	10	13

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	30	48	1	0	66	51	5	0	0	111	19	0	0	94	53	0	478	4	2	2	2
4:15 PM	21	34	8	0	73	49	5	0	0	117	27	0	0	94	57	0	485	0	1	0	1
4:30 PM	20	44	3	0	74	64	9	0	0	132	17	0	0	69	86	0	518	2	4	0	2
4:45 PM	22	40	3	0	78	60	8	0	0	106	37	0	0	69	57	0	480	6	4	2	1
5:00 PM	14	57	4	1	55	66	1	0	0	119	30	0	0	87	64	0	497	3	5	1	4
5:15 PM	25	36	5	0	72	48	4	0	0	119	23	0	0	77	54	0	463	2	1	0	2
5:30 PM	15	35	0	0	59	54	8	0	0	115	19	0	0	85	68	0	458	0	1	1	1
5:45 PM	11	39	3	0	60	46	4	0	0	106	24	0	0	61	45	0	399	1	2	4	0
Total Survey	158	333	27	1	537	438	44	0	0	925	196	0	0	636	484	0	3,778	18	20	10	13

Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	264	357	621	1	542	431	973	0	587	430	1,017	0	587	762	1,349	0	1,980	8	12	4	7
%HV	1.5%				2.4%				0.7%				1.5%				1.5%				
PHF	0.96				0.83				0.97				0.90				0.94				

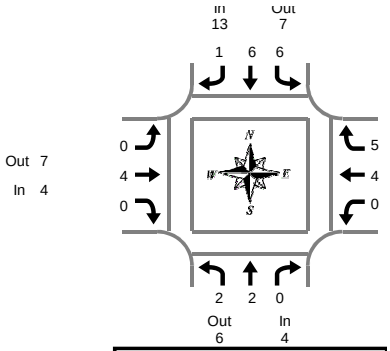
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	83	165	16	264	274	242	26	542	0	472	115	587	0	321	266	587	1,980
%HV	2.4%	1.2%	0.0%	1.5%	2.2%	2.5%	3.8%	2.4%	0.0%	0.8%	0.0%	0.7%	0.0%	1.2%	1.9%	1.5%	1.5%
PHF	0.83	0.94	0.50	0.96	0.81	0.84	0.72	0.83	0.00	0.89	0.78	0.97	0.00	0.79	0.77	0.90	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	93	166	15	0	291	224	27	0	0	466	100	0	0	326	253	0	1,961	12	11	4	6
4:15 PM	77	175	18	1	280	239	23	0	0	474	111	0	0	319	264	0	1,980	11	14	3	8
4:30 PM	81	177	15	1	279	238	22	0	0	476	107	0	0	302	261	0	1,958	13	14	3	9
4:45 PM	76	168	12	1	264	228	21	0	0	459	109	0	0	318	243	0	1,898	11	11	4	8
5:00 PM	65	167	12	1	246	214	17	0	0	459	96	0	0	310	231	0	1,817	6	9	6	7

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
4:10 PM to 5:10 PM

Washington St & 7th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
4:05 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
4:10 PM	0	0	0	0	0	1	0	1	0	1	0	1	0	2	1	3	5
4:15 PM	0	1	0	1	1	2	0	3	0	0	0	0	0	0	0	0	4
4:20 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	2
4:25 PM	1	0	0	1	0	0	0	0	0	1	0	1	0	1	2	3	5
4:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:35 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
4:40 PM	0	0	0	0	0	1	0	1	0	1	0	1	0	1	1	2	4
4:45 PM	0	0	0	0	3	1	0	4	0	0	0	0	0	0	0	0	4
4:50 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
5:15 PM	0	1	0	1	1	0	0	1	0	1	0	1	0	0	0	0	3
5:20 PM	0	1	0	1	1	0	0	1	0	1	0	1	0	1	0	1	4
5:25 PM	0	2	0	2	0	1	0	1	0	1	0	1	0	1	0	1	5
5:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
5:35 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	1	0	1	2	0	0	2	0	0	0	0	0	0	0	0	3
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	3	7	0	10	13	8	1	22	0	7	0	7	0	6	9	15	54

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	0	0	1	1	2	0	3	0	1	0	1	0	2	2	4	9
4:15 PM	1	1	0	2	1	2	1	4	0	1	0	1	0	1	3	4	11
4:30 PM	1	0	0	1	1	1	0	2	0	1	0	1	0	1	1	2	6
4:45 PM	0	0	0	0	4	2	0	6	0	0	0	0	0	0	0	0	6
5:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	1	1	3
5:15 PM	0	4	0	4	2	1	0	3	0	3	0	3	0	2	0	2	12
5:30 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	2	4
5:45 PM	0	1	0	1	2	0	0	2	0	0	0	0	0	0	0	0	3
Total Survey	3	7	0	10	13	8	1	22	0	7	0	7	0	6	9	15	54

Heavy Vehicle Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 7th St			Westbound 7th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	4	6	10	13	7	20	4	7	11	9	10	19	30
PHF	0.50			0.46			1.00			0.56			0.68

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	2	0	4	6	6	1	13	0	4	0	4	0	4	5	9	30
PHF	0.25	0.50	0.00	0.50	0.38	0.50	0.25	0.46	0.00	1.00	0.00	1.00	0.00	0.50	0.42	0.56	0.68

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

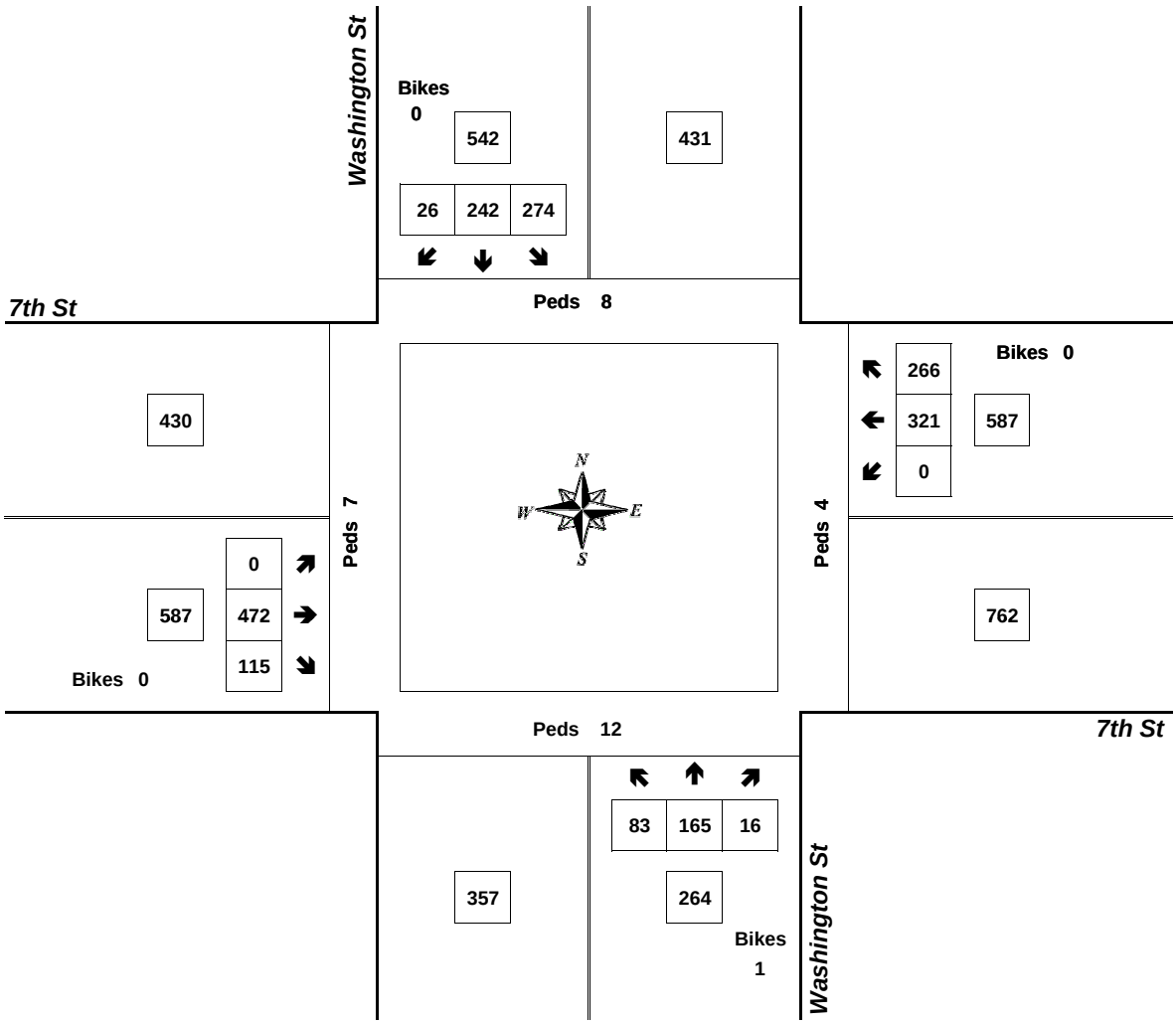
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 7th St				Westbound 7th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	3	1	0	4	7	7	1	15	0	3	0	3	0	4	6	10	32
4:15 PM	2	2	0	4	6	5	1	12	0	3	0	3	0	2	5	7	26
4:30 PM	1	5	0	6	7	4	0	11	0	5	0	5	0	3	2	5	27
4:45 PM	0	5	0	5	8	3	0	11	0	4	0	4	0	2	3	5	25
5:00 PM	0	6	0	6	6	1	0	7	0	4	0	4	0	2	3	5	22

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 7th St

4:10 PM to 5:10 PM
Wednesday, January 25, 2017

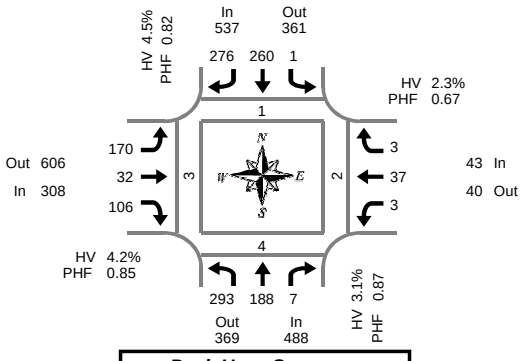


Approach	PHF	HV%	Volume
EB	0.97	0.7%	587
WB	0.90	1.5%	587
NB	0.96	1.5%	264
SB	0.83	2.4%	542
Intersection	0.94	1.5%	1,980

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Washington St & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	23	6	0	0	0	12	25	0	12	4	9	0	0	5	0	0	96	0	0	0	0
7:05 AM	20	7	0	0	0	8	15	0	10	0	6	0	0	1	0	0	67	0	0	0	0
7:10 AM	16	21	1	1	1	8	25	0	16	1	6	0	0	3	0	0	98	0	0	1	0
7:15 AM	28	11	0	0	0	14	28	1	15	1	4	0	0	5	0	0	106	1	0	1	0
7:20 AM	24	15	0	0	0	17	20	0	17	3	7	0	0	5	1	0	109	0	0	0	0
7:25 AM	35	18	0	0	0	12	25	0	15	3	9	0	0	2	0	0	119	0	0	0	0
7:30 AM	27	5	0	0	0	29	26	0	9	4	10	0	1	6	1	0	118	0	0	0	0
7:35 AM	27	19	0	0	0	15	28	0	14	0	9	0	0	2	0	0	114	0	1	0	0
7:40 AM	25	14	0	0	1	31	27	0	5	5	5	0	1	4	0	0	118	0	2	0	1
7:45 AM	20	14	2	0	0	32	24	0	18	2	11	0	0	3	0	0	126	0	0	0	0
7:50 AM	21	32	1	0	0	25	24	0	9	1	12	0	1	4	0	0	130	0	0	1	1
7:55 AM	25	24	2	0	0	23	21	0	19	5	14	0	0	1	0	0	134	0	0	0	0
8:00 AM	20	8	0	0	0	20	17	0	16	2	10	0	0	3	0	0	96	0	0	0	0
8:05 AM	22	15	0	0	0	20	21	0	11	4	7	0	0	1	1	0	102	0	1	0	1
8:10 AM	19	13	2	0	0	22	15	0	22	2	8	0	0	1	0	0	104	0	0	0	0
8:15 AM	20	11	1	0	0	20	18	0	21	1	11	0	0	1	0	0	104	0	0	0	0
8:20 AM	15	10	2	0	0	19	20	0	19	2	8	0	0	1	1	0	97	0	1	0	0
8:25 AM	18	18	0	0	0	18	18	0	15	3	9	0	0	0	0	0	99	0	0	0	0
8:30 AM	22	17	0	0	0	8	11	0	23	2	11	0	0	0	0	0	94	0	0	0	0
8:35 AM	13	9	0	0	0	24	16	0	14	3	7	0	1	3	1	0	91	0	0	0	0
8:40 AM	10	10	0	0	0	20	20	0	12	4	8	0	1	1	0	0	86	0	0	0	0
8:45 AM	15	22	2	0	0	20	17	0	24	4	8	0	1	1	1	0	115	0	0	0	0
8:50 AM	17	14	3	0	0	22	11	0	20	4	8	0	0	0	0	0	99	0	1	1	1
8:55 AM	16	11	4	0	0	20	14	0	18	4	9	0	1	3	0	0	100	0	0	1	0
Total Survey	498	344	20	1	2	459	486	1	374	64	206	0	7	56	6	0	2,522	1	6	5	4

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	59	34	1	1	1	28	65	0	38	5	21	0	0	9	0	0	261	0	0	1	0
7:15 AM	87	44	0	0	0	43	73	1	47	7	20	0	0	12	1	0	334	1	0	1	0
7:30 AM	79	38	0	0	1	75	81	0	28	9	24	0	2	12	1	0	350	0	3	0	1
7:45 AM	66	70	5	0	0	80	69	0	46	8	37	0	1	8	0	0	390	0	0	1	1
8:00 AM	61	36	2	0	0	62	53	0	49	8	25	0	0	5	1	0	302	0	1	0	1
8:15 AM	53	39	3	0	0	57	56	0	55	6	28	0	0	2	1	0	300	0	1	0	0
8:30 AM	45	36	0	0	0	52	47	0	49	9	26	0	2	4	1	0	271	0	0	0	0
8:45 AM	48	47	9	0	0	62	42	0	62	12	25	0	2	4	1	0	314	0	1	2	1
Total Survey	498	344	20	1	2	459	486	1	374	64	206	0	7	56	6	0	2,522	1	6	5	4

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	488	369	857	0	537	361	898	1	308	606	914	0	43	40	83	0	1,376	1	4	2	3
%HV	3.1%				4.5%				4.2%				2.3%				3.9%				
PHF	0.87				0.82				0.85				0.67				0.88				

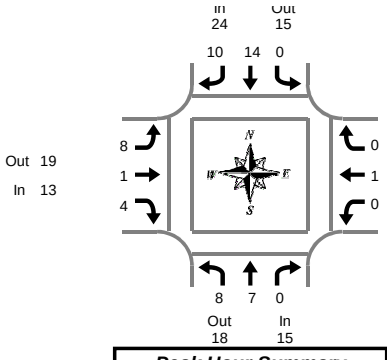
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	293	188	7	488	1	260	276	537	170	32	106	308	3	37	3	43	1,376
%HV	2.7%	3.7%	0.0%	3.1%	0.0%	5.4%	3.6%	4.5%	4.7%	3.1%	3.8%	4.2%	0.0%	2.7%	0.0%	2.3%	3.9%
PHF	0.82	0.67	0.35	0.87	0.25	0.74	0.85	0.82	0.87	0.73	0.72	0.85	0.38	0.71	0.38	0.67	0.88

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	291	186	6	1	2	226	288	1	159	29	102	0	3	41	2	0	1,335	1	3	3	2
7:15 AM	293	188	7	0	1	260	276	1	170	32	106	0	3	37	3	0	1,376	1	4	2	3
7:30 AM	259	183	10	0	1	274	259	0	178	31	114	0	3	27	3	0	1,342	0	5	1	3
7:45 AM	225	181	10	0	0	251	225	0	199	31	116	0	3	19	3	0	1,263	0	2	1	2
8:00 AM	207	158	14	0	0	233	198	0	215	35	104	0	4	15	4	0	1,187	0	3	2	2

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:15 AM to 8:15 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2
7:05 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
7:10 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
7:20 AM	1	0	0	1	0	1	1	2	2	0	0	2	0	0	0	0	5
7:25 AM	2	0	0	2	0	1	0	1	1	0	2	3	0	0	0	0	6
7:30 AM	2	1	0	3	0	1	1	2	2	0	0	2	0	0	0	0	7
7:35 AM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
7:40 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
7:45 AM	1	1	0	2	0	2	1	3	1	0	0	1	0	0	0	0	6
7:50 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
7:55 AM	0	1	0	1	0	1	2	3	0	0	0	0	0	0	0	0	4
8:00 AM	1	0	0	1	0	3	1	4	1	0	0	1	0	0	0	0	6
8:05 AM	1	1	0	2	0	3	0	3	0	1	0	1	0	0	0	0	6
8:10 AM	0	3	0	3	0	2	0	2	1	0	1	2	0	0	0	0	7
8:15 AM	0	0	0	0	0	3	2	5	1	0	1	2	0	0	0	0	7
8:20 AM	0	0	0	0	0	1	0	1	3	0	2	5	0	0	0	0	6
8:25 AM	0	3	0	3	0	2	1	3	1	0	1	2	0	0	0	0	8
8:30 AM	1	3	0	4	0	0	0	0	2	0	2	4	0	0	0	0	8
8:35 AM	1	0	0	1	0	2	2	4	0	0	0	0	0	0	0	0	5
8:40 AM	0	1	0	1	0	3	0	3	0	1	0	1	0	0	0	0	5
8:45 AM	1	2	1	4	0	2	0	2	2	0	0	2	1	0	0	1	9
8:50 AM	3	3	0	6	0	0	1	1	0	0	0	0	0	0	0	0	7
8:55 AM	0	0	0	0	0	3	1	4	2	0	0	2	0	0	0	0	6
Total Survey	14	19	1	34	0	31	17	48	21	2	11	34	1	1	0	2	118

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	1	0	1	2	0	1	3	0	0	0	0	4
7:15 AM	3	0	0	3	0	2	2	4	3	0	2	5	0	0	0	0	12
7:30 AM	2	1	0	3	0	1	4	5	2	0	0	2	0	1	0	1	11
7:45 AM	1	2	0	3	0	3	3	6	1	0	1	2	0	0	0	0	11
8:00 AM	2	4	0	6	0	8	1	9	2	1	1	4	0	0	0	0	19
8:15 AM	0	3	0	3	0	6	3	9	5	0	4	9	0	0	0	0	21
8:30 AM	2	4	0	6	0	5	2	7	2	1	2	5	0	0	0	0	18
8:45 AM	4	5	1	10	0	5	2	7	4	0	0	4	1	0	0	1	22
Total Survey	14	19	1	34	0	31	17	48	21	2	11	34	1	1	0	2	118

Heavy Vehicle Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	15	18	33	24	15	39	13	19	32	1	1	2	53
PHF	0.63			0.60			0.46			0.25			0.70

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	8	7	0	15	0	14	10	24	8	1	4	13	0	1	0	1	53
PHF	0.40	0.44	0.00	0.63	0.00	0.44	0.63	0.60	0.40	0.25	0.50	0.46	0.00	0.25	0.00	0.25	0.70

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

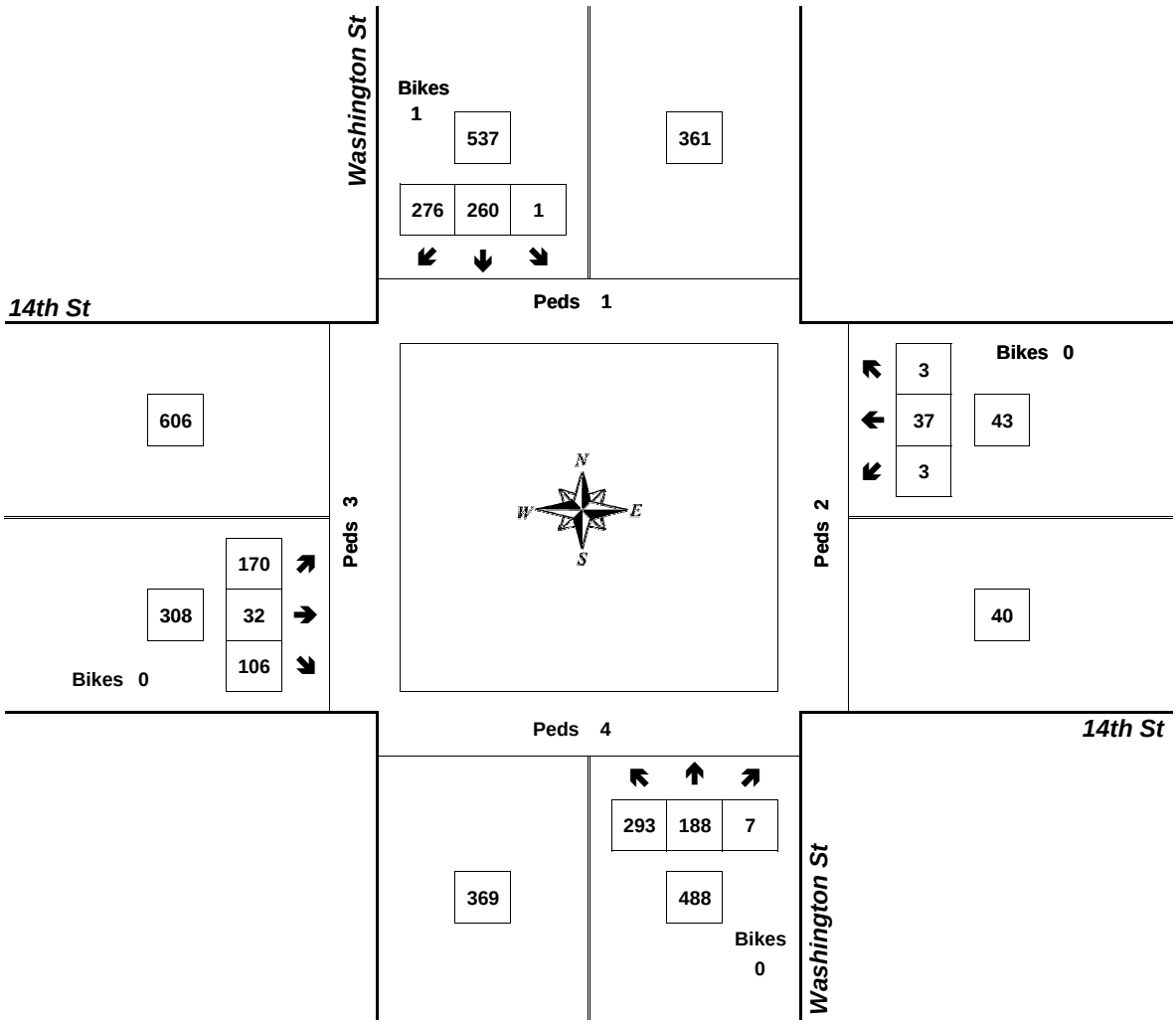
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	6	3	0	9	0	7	9	16	8	0	4	12	0	1	0	1	38
7:15 AM	8	7	0	15	0	14	10	24	8	1	4	13	0	1	0	1	53
7:30 AM	5	10	0	15	0	18	11	29	10	1	6	17	0	1	0	1	62
7:45 AM	5	13	0	18	0	22	9	31	10	2	8	20	0	0	0	0	69
8:00 AM	8	16	1	25	0	24	8	32	13	2	7	22	1	0	0	1	80

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 14th St

7:15 AM to 8:15 AM
Thursday, January 26, 2017

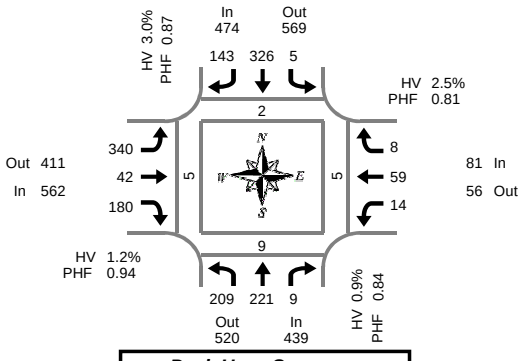


Approach	PHF	HV%	Volume
EB	0.85	4.2%	308
WB	0.67	2.3%	43
NB	0.87	3.1%	488
SB	0.82	4.5%	537
Intersection	0.88	3.9%	1,376

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:20 PM to 5:20 PM

Washington St & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	11	18	0	0	1	22	13	0	19	2	19	0	0	3	1	0	109	0	0	0	0
4:05 PM	19	18	2	0	0	31	12	0	35	5	14	0	0	4	2	0	142	0	0	0	0
4:10 PM	24	14	0	0	0	30	10	0	19	5	19	0	0	1	0	0	122	0	0	0	1
4:15 PM	19	19	0	0	0	26	13	0	19	5	11	0	0	3	1	0	116	0	0	0	0
4:20 PM	11	19	0	0	2	23	6	0	33	6	16	0	3	2	3	0	124	0	0	0	1
4:25 PM	13	18	2	0	0	29	6	0	29	1	15	0	0	2	0	0	115	0	0	0	0
4:30 PM	26	17	4	0	0	18	16	0	31	3	16	0	2	3	1	0	137	2	1	1	0
4:35 PM	17	21	0	0	0	34	10	0	28	5	15	0	1	6	2	0	139	0	1	3	0
4:40 PM	24	22	0	0	1	38	13	0	27	1	14	0	2	3	0	0	145	0	0	0	0
4:45 PM	13	22	1	0	1	26	13	0	30	4	19	0	0	7	0	0	136	0	2	0	0
4:50 PM	12	17	0	0	0	31	6	0	33	6	12	0	1	4	0	0	122	0	2	0	0
4:55 PM	18	18	1	0	1	27	21	0	21	3	14	0	2	3	0	0	129	0	0	1	0
5:00 PM	18	13	0	0	0	31	8	0	28	2	13	0	2	6	1	0	122	0	0	0	0
5:05 PM	22	13	1	0	0	22	11	0	30	4	8	0	0	6	0	0	117	0	1	0	0
5:10 PM	20	17	0	0	0	20	18	0	33	4	17	0	0	6	1	0	136	0	1	0	3
5:15 PM	15	24	0	0	0	27	15	0	17	3	21	0	1	11	0	0	134	0	1	0	1
5:20 PM	21	8	0	0	0	23	11	0	31	4	11	0	0	4	1	0	114	0	0	0	0
5:25 PM	17	17	0	0	0	30	7	0	19	1	15	0	0	3	0	0	109	0	0	0	0
5:30 PM	9	17	0	0	1	30	13	0	28	3	20	0	1	6	2	0	130	0	0	0	0
5:35 PM	14	16	0	0	0	22	13	0	31	4	21	0	0	2	0	0	123	0	3	0	1
5:40 PM	19	11	0	0	0	22	8	0	23	3	13	0	3	2	1	0	105	0	0	0	0
5:45 PM	18	14	1	0	2	18	12	0	32	1	15	0	0	2	1	0	116	0	1	0	0
5:50 PM	10	15	2	0	0	23	12	0	37	1	18	0	0	4	0	0	122	0	1	0	0
5:55 PM	13	20	1	0	0	27	14	0	21	2	11	0	0	2	0	0	111	0	0	0	2
Total Survey	403	408	15	0	9	630	281	0	654	78	367	0	18	95	17	0	2,975	2	14	5	9

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	54	50	2	0	1	83	35	0	73	12	52	0	0	8	3	0	373	0	0	0	1
4:15 PM	43	56	2	0	2	78	25	0	81	12	42	0	3	7	4	0	355	0	0	0	1
4:30 PM	67	60	4	0	1	90	39	0	86	9	45	0	5	12	3	0	421	2	2	4	0
4:45 PM	43	57	2	0	2	84	40	0	84	13	45	0	3	14	0	0	387	0	4	1	0
5:00 PM	60	43	1	0	0	73	37	0	91	10	38	0	2	18	2	0	375	0	2	0	3
5:15 PM	53	49	0	0	0	80	33	0	67	8	47	0	1	18	1	0	357	0	1	0	1
5:30 PM	42	44	0	0	1	74	34	0	82	10	54	0	4	10	3	0	358	0	3	0	1
5:45 PM	41	49	4	0	2	68	38	0	90	4	44	0	0	8	1	0	349	0	2	0	2
Total Survey	403	408	15	0	9	630	281	0	654	78	367	0	18	95	17	0	2,975	2	14	5	9

Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	439	520	959	0	474	569	1,043	0	562	411	973	0	81	56	137	0	1,556	2	9	5	5
%HV	0.9%				3.0%				1.2%				2.5%				1.7%				
PHF	0.84				0.87				0.94				0.81				0.92				

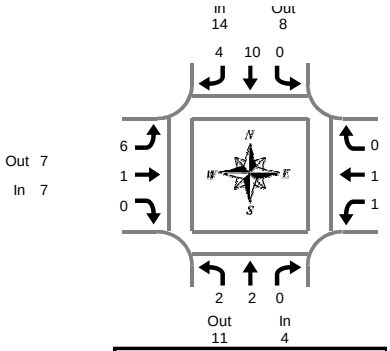
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	209	221	9	439	5	326	143	474	340	42	180	562	14	59	8	81	1,556
%HV	1.0%	0.9%	0.0%	0.9%	0.0%	3.1%	2.8%	3.0%	1.8%	2.4%	0.0%	1.2%	7.1%	1.7%	0.0%	2.5%	1.7%
PHF	0.78	0.85	0.38	0.84	0.63	0.83	0.81	0.87	0.91	0.81	0.94	0.94	0.70	0.64	0.50	0.81	0.92

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	207	223	10	0	6	335	139	0	324	46	184	0	11	41	10	0	1,536	2	6	5	2
4:15 PM	213	216	9	0	5	325	141	0	342	44	170	0	13	51	9	0	1,538	2	8	5	4
4:30 PM	223	209	7	0	3	327	149	0	328	40	175	0	11	62	6	0	1,540	2	9	5	4
4:45 PM	198	193	3	0	3	311	144	0	324	41	184	0	10	60	6	0	1,477	0	10	1	5
5:00 PM	196	185	5	0	3	295	142	0	330	32	183	0	7	54	7	0	1,439	0	8	0	7

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:20 PM to 5:20 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	2	2	1	0	0	1	0	0	0	0	3
4:05 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	3
4:10 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2
4:20 PM	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	1	3
4:25 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	1	0	0	1	0	0	1	1	1	0	0	1	0	0	0	0	3
4:35 PM	0	0	0	0	0	2	1	3	2	0	0	2	0	1	0	1	6
4:40 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	4	1	5	0	0	0	0	0	0	0	0	5
4:50 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
4:55 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:10 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
5:20 PM	2	0	0	2	0	1	1	2	0	0	0	0	0	0	0	0	4
5:25 PM	1	2	0	3	0	0	0	0	0	0	1	1	0	0	0	0	4
5:30 PM	0	1	0	1	0	2	0	2	1	0	0	1	0	0	0	0	4
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:50 PM	1	0	0	1	0	2	0	2	1	0	0	1	0	0	0	0	4
5:55 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
Total Survey	6	5	0	11	0	18	10	28	11	1	2	14	1	1	0	2	55

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	3	4	7	1	0	0	1	0	0	0	0	8
4:15 PM	1	0	0	1	0	0	0	0	2	1	1	4	1	0	0	1	6
4:30 PM	1	1	0	2	0	3	2	5	3	0	0	3	0	1	0	1	11
4:45 PM	0	1	0	1	0	5	1	6	1	0	0	1	0	0	0	0	8
5:00 PM	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	2
5:15 PM	3	2	0	5	0	3	1	4	0	0	1	1	0	0	0	0	10
5:30 PM	0	1	0	1	0	2	0	2	1	0	0	1	0	0	0	0	4
5:45 PM	1	0	0	1	0	2	1	3	2	0	0	2	0	0	0	0	6
Total Survey	6	5	0	11	0	18	10	28	11	1	2	14	1	1	0	2	55

Heavy Vehicle Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	4	11	15	14	8	22	7	7	14	2	1	3	27
PHF	0.50			0.39			0.58			0.50			0.52

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	2	0	4	0	10	4	14	6	1	0	7	1	1	0	2	27
PHF	0.25	0.25	0.00	0.50	0.00	0.36	0.50	0.39	0.50	0.25	0.00	0.58	0.25	0.25	0.00	0.50	0.52

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

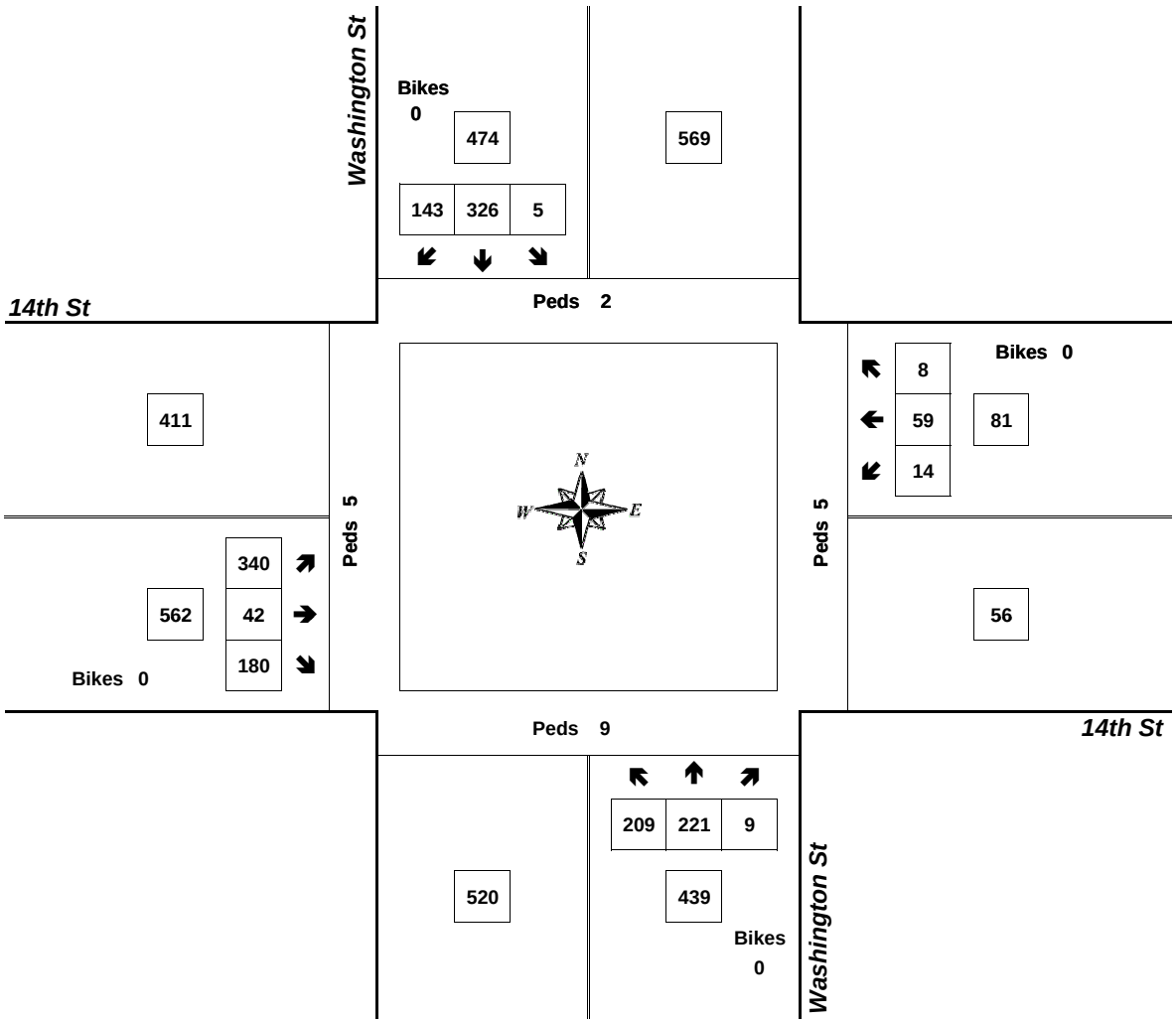
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	2	2	0	4	0	11	7	18	7	1	1	9	1	1	0	2	33
4:15 PM	2	2	0	4	0	8	4	12	7	1	1	9	1	1	0	2	27
4:30 PM	4	4	0	8	0	11	5	16	5	0	1	6	0	1	0	1	31
4:45 PM	3	4	0	7	0	10	3	13	3	0	1	4	0	0	0	0	24
5:00 PM	4	3	0	7	0	7	3	10	4	0	1	5	0	0	0	0	22

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Washington St & 14th St

4:20 PM to 5:20 PM
Wednesday, January 25, 2017

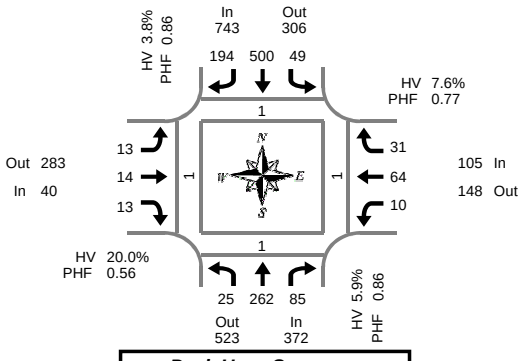


Approach	PHF	HV%	Volume
EB	0.94	1.2%	562
WB	0.81	2.5%	81
NB	0.84	0.9%	439
SB	0.87	3.0%	474
Intersection	0.92	1.7%	1,556

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:30 AM to 8:30 AM

Washington St & 15th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	1	15	4	0	2	24	11	0	1	0	0	0	0	5	1	0	64	0	0	0	0
7:05 AM	5	15	2	0	4	28	18	0	0	0	0	0	0	6	0	0	78	0	0	1	1
7:10 AM	7	23	6	1	2	38	18	0	2	1	0	0	2	6	1	0	106	1	0	0	0
7:15 AM	4	22	4	0	2	39	9	0	1	1	1	1	1	6	0	0	90	0	0	0	0
7:20 AM	5	25	2	0	2	31	19	0	0	0	0	0	1	5	2	0	92	0	0	0	0
7:25 AM	4	20	3	0	1	43	7	0	1	2	3	0	3	11	0	0	98	0	0	0	0
7:30 AM	1	17	1	0	2	52	10	0	1	1	0	0	0	6	2	1	93	1	0	0	0
7:35 AM	2	17	8	0	6	42	15	0	1	1	1	0	1	7	2	0	103	0	1	0	1
7:40 AM	2	20	9	0	2	64	14	0	0	0	1	0	0	3	3	0	118	0	0	0	0
7:45 AM	1	19	6	0	3	50	19	0	2	2	1	0	0	2	7	0	112	0	0	0	0
7:50 AM	3	32	3	0	5	42	17	0	0	1	1	0	0	8	3	0	115	0	0	1	0
7:55 AM	2	32	10	0	6	43	20	0	1	2	2	0	3	4	3	0	128	0	0	0	0
8:00 AM	1	15	9	0	8	38	20	0	1	0	0	0	2	4	0	0	98	0	0	0	0
8:05 AM	4	22	5	0	5	33	8	0	0	0	1	0	2	7	4	0	91	0	0	0	0
8:10 AM	1	24	11	0	2	29	16	0	2	0	2	0	0	5	5	0	97	0	0	0	0
8:15 AM	1	22	9	0	2	42	16	0	1	2	2	0	1	9	1	0	108	0	0	0	0
8:20 AM	3	17	6	0	5	32	17	0	3	4	2	0	1	5	1	0	96	0	0	0	0
8:25 AM	4	25	8	0	3	33	22	0	1	1	0	0	0	4	0	0	101	0	0	0	0
8:30 AM	4	23	7	0	2	24	12	0	2	1	1	0	1	6	0	0	83	0	0	0	0
8:35 AM	1	19	6	0	4	34	17	0	0	2	1	0	2	5	3	0	94	0	0	0	0
8:40 AM	4	21	6	0	3	35	21	0	8	3	0	0	2	7	0	0	110	0	1	1	0
8:45 AM	2	27	13	0	5	37	19	0	1	3	2	0	1	4	1	0	115	2	0	0	0
8:50 AM	4	22	6	0	3	31	9	0	1	1	1	0	3	5	1	0	87	0	0	0	0
8:55 AM	2	20	8	0	5	34	19	0	1	2	0	0	1	9	1	0	102	2	0	1	0
Total Survey	68	514	152	1	84	898	373	0	31	30	22	1	27	139	41	1	2,379	6	2	4	2

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	13	53	12	1	8	90	47	0	3	1	0	0	2	17	2	0	248	1	0	1	1
7:15 AM	13	67	9	0	5	113	35	0	2	3	4	1	5	22	2	0	280	0	0	0	0
7:30 AM	5	54	18	0	10	158	39	0	2	2	2	0	1	16	7	1	314	1	1	0	1
7:45 AM	6	83	19	0	14	135	56	0	3	5	4	0	3	14	13	0	355	0	0	1	0
8:00 AM	6	61	25	0	15	100	44	0	3	0	3	0	4	16	9	0	286	0	0	0	0
8:15 AM	8	64	23	0	10	107	55	0	5	7	4	0	2	18	2	0	305	0	0	0	0
8:30 AM	9	63	19	0	9	93	50	0	10	6	2	0	5	18	3	0	287	0	1	1	0
8:45 AM	8	69	27	0	13	102	47	0	3	6	3	0	5	18	3	0	304	4	0	1	0
Total Survey	68	514	152	1	84	898	373	0	31	30	22	1	27	139	41	1	2,379	6	2	4	2

Peak Hour Summary
7:30 AM to 8:30 AM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	372	523	895	0	743	306	1,049	0	40	283	323	0	105	148	253	1	1,260	1	1	1	1
%HV	5.9%				3.8%				20.0%				7.6%				5.2%				
PHF	0.86				0.86				0.56				0.77				0.89				

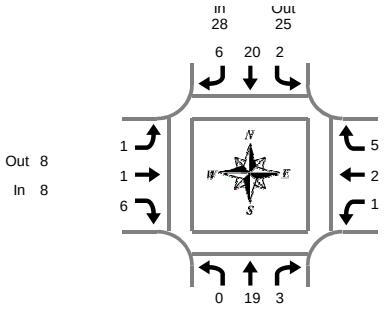
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	25	262	85	372	49	500	194	743	13	14	13	40	10	64	31	105	1,260
%HV	0.0%	7.3%	3.5%	5.9%	4.1%	4.0%	3.1%	3.8%	7.7%	7.1%	46.2%	20.0%	10.0%	3.1%	16.1%	7.6%	5.2%
PHF	0.78	0.79	0.82	0.86	0.64	0.79	0.85	0.86	0.54	0.50	0.54	0.56	0.36	0.76	0.60	0.77	0.89

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	37	257	58	1	37	496	177	0	10	11	10	1	11	69	24	1	1,197	2	1	2	2
7:15 AM	30	265	71	0	44	506	174	0	10	10	13	1	13	68	31	1	1,235	1	1	1	1
7:30 AM	25	262	85	0	49	500	194	0	13	14	13	0	10	64	31	1	1,260	1	1	1	1
7:45 AM	29	271	86	0	48	435	205	0	21	18	13	0	14	66	27	0	1,233	0	1	2	0
8:00 AM	31	257	94	0	47	402	196	0	21	19	12	0	16	70	17	0	1,182	4	1	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & 15th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:30 AM to 8:30 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	2	0	2	0	0	1	1	0	0	0	0	0	0	0	0	3
7:05 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
7:10 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
7:20 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	1	1	4
7:25 AM	0	2	0	2	0	0	1	1	0	0	2	2	0	0	0	0	5
7:30 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	1	1	4
7:35 AM	0	2	0	2	0	1	2	3	0	0	1	1	0	0	0	0	6
7:40 AM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	4
7:45 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1	3
7:50 AM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	1	1	3
7:55 AM	0	1	0	1	0	3	1	4	0	0	1	1	0	0	0	0	6
8:00 AM	0	1	0	1	1	4	0	5	0	0	0	0	0	0	0	0	6
8:05 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	1	2	3
8:10 AM	0	3	1	4	0	3	1	4	0	0	1	1	0	0	0	0	9
8:15 AM	0	0	0	0	0	3	0	3	1	0	1	2	0	1	0	1	6
8:20 AM	0	2	1	3	0	0	2	2	0	1	1	2	0	1	1	2	9
8:25 AM	0	5	1	6	0	1	0	1	0	0	0	0	0	0	0	0	7
8:30 AM	0	2	0	2	0	1	1	2	1	1	1	3	0	0	0	0	7
8:35 AM	0	0	0	0	0	4	1	5	0	0	0	0	0	0	0	0	5
8:40 AM	1	1	0	2	0	1	1	2	0	0	0	0	0	1	0	1	5
8:45 AM	0	2	1	3	0	3	0	3	0	0	0	0	0	0	0	0	6
8:50 AM	1	2	0	3	0	1	1	2	0	0	1	1	0	0	0	0	6
8:55 AM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	4
Total Survey	2	34	4	40	3	35	12	50	2	2	10	14	1	4	6	11	115

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	2	0	2	1	1	1	3	0	0	0	0	0	0	0	0	5
7:15 AM	0	4	0	4	0	2	1	3	0	0	2	2	0	1	1	2	11
7:30 AM	0	5	0	5	0	5	2	7	0	0	1	1	0	0	1	1	14
7:45 AM	0	2	0	2	1	4	1	6	0	0	2	2	0	0	2	2	12
8:00 AM	0	5	1	6	1	7	1	9	0	0	1	1	1	0	1	2	18
8:15 AM	0	7	2	9	0	4	2	6	1	1	2	4	0	2	1	3	22
8:30 AM	1	3	0	4	0	6	3	9	1	1	1	3	0	1	0	1	17
8:45 AM	1	6	1	8	0	6	1	7	0	0	1	1	0	0	0	0	16
Total Survey	2	34	4	40	3	35	12	50	2	2	10	14	1	4	6	11	115

Heavy Vehicle Peak Hour Summary
7:30 AM to 8:30 AM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 15th St			Westbound 15th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	22	27	49	28	25	53	8	8	16	8	6	14	66
PHF	0.61			0.70			0.40			0.67			0.69

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	19	3	22	2	20	6	28	1	1	6	8	1	2	5	8	66
PHF	0.00	0.68	0.38	0.61	0.25	0.71	0.50	0.70	0.25	0.25	0.50	0.40	0.25	0.25	0.63	0.67	0.69

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

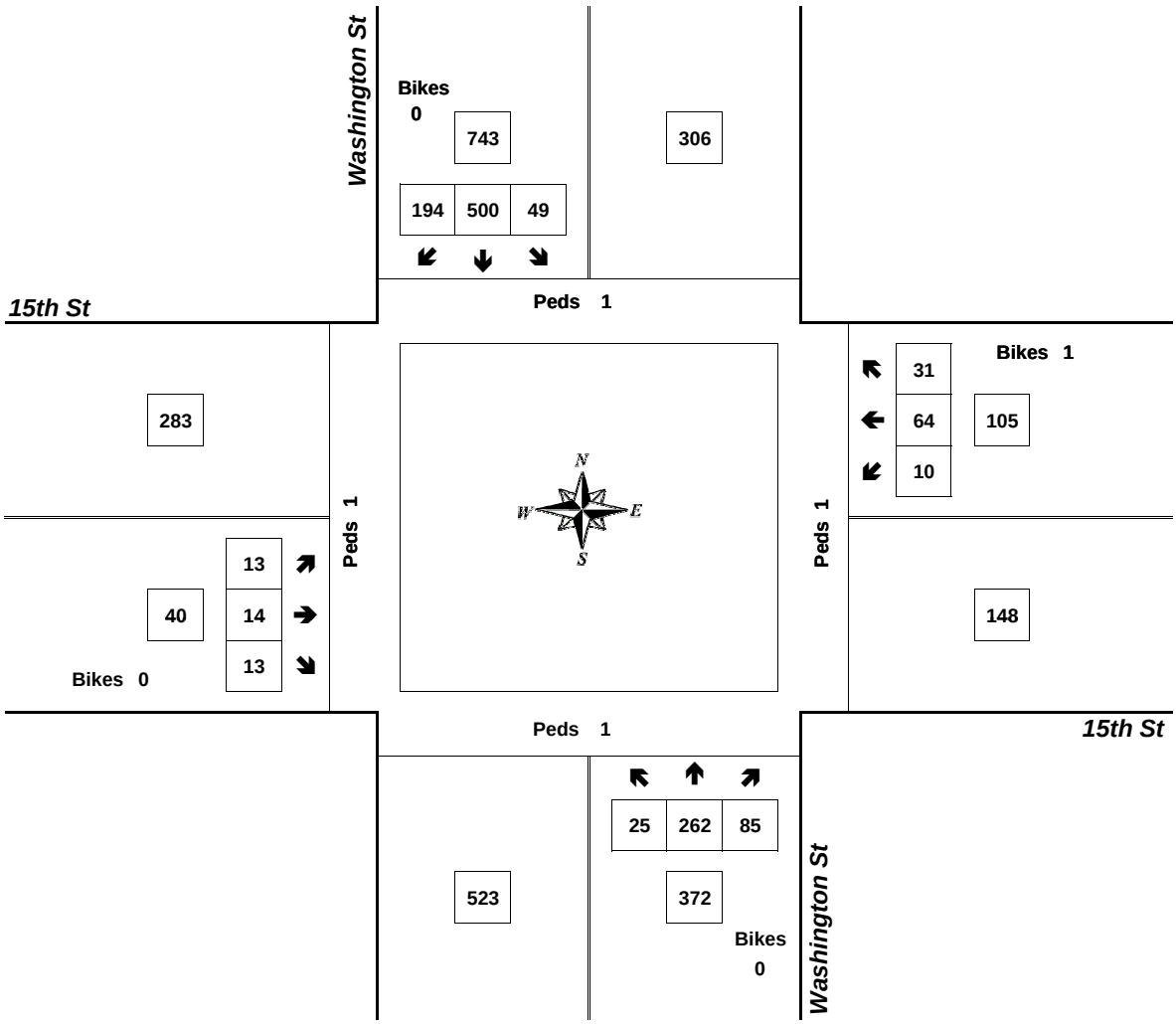
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	13	0	13	2	12	5	19	0	0	5	5	0	1	4	5	42
7:15 AM	0	16	1	17	2	18	5	25	0	0	6	6	1	1	5	7	55
7:30 AM	0	19	3	22	2	20	6	28	1	1	6	8	1	2	5	8	66
7:45 AM	1	17	3	21	2	21	7	30	2	2	6	10	1	3	4	8	69
8:00 AM	2	21	4	27	1	23	7	31	2	2	5	9	1	3	2	6	73

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 15th St

7:30 AM to 8:30 AM
Thursday, January 26, 2017

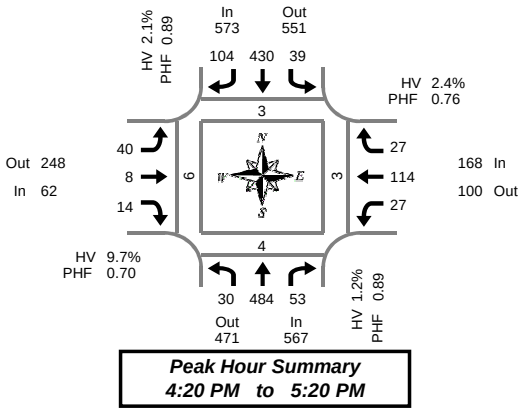


Approach	PHF	HV%	Volume
EB	0.56	20.0%	40
WB	0.77	7.6%	105
NB	0.86	5.9%	372
SB	0.86	3.8%	743
Intersection	0.89	5.2%	1,260

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:20 PM to 5:20 PM

Washington St & 15th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	3	32	4	0	3	34	8	0	4	2	5	0	3	8	5	0	111	0	0	1	1
4:05 PM	0	46	1	0	4	29	9	0	2	1	2	0	2	7	2	0	105	0	2	2	0
4:10 PM	2	26	5	0	5	40	4	0	3	3	1	0	1	12	2	0	104	1	0	0	0
4:15 PM	2	39	1	0	4	34	5	0	1	1	3	0	1	7	3	0	101	0	0	0	1
4:20 PM	1	51	5	0	2	23	8	0	6	1	1	0	2	7	1	0	108	0	0	0	0
4:25 PM	0	44	5	0	1	40	10	0	5	0	1	0	2	9	0	0	117	0	1	1	1
4:30 PM	5	43	6	0	6	37	6	0	2	0	1	0	1	8	5	0	120	0	1	0	1
4:35 PM	4	32	7	0	1	42	13	0	8	1	4	0	2	14	0	0	128	1	0	0	0
4:40 PM	6	37	3	0	3	44	8	0	4	1	1	0	1	7	1	0	116	0	0	0	0
4:45 PM	2	48	4	0	3	39	8	0	3	0	0	0	1	10	3	0	121	1	0	0	1
4:50 PM	2	38	1	0	5	35	8	0	2	1	1	0	2	10	0	0	105	0	0	1	0
4:55 PM	1	49	3	0	2	42	7	0	0	1	1	0	2	8	4	0	120	0	0	1	0
5:00 PM	3	36	6	0	3	33	9	0	4	1	0	0	1	12	3	0	111	0	0	0	1
5:05 PM	0	20	7	0	5	25	8	0	2	0	1	0	8	8	6	0	90	0	2	0	0
5:10 PM	1	51	1	0	5	37	10	0	0	0	1	0	2	11	4	0	123	1	0	0	1
5:15 PM	5	35	5	0	3	33	9	0	4	2	2	0	3	10	0	0	111	0	0	0	1
5:20 PM	2	27	1	0	2	29	2	0	2	1	1	0	6	8	5	0	86	0	1	0	0
5:25 PM	0	40	1	0	1	34	8	0	1	2	1	0	3	6	4	0	101	2	0	0	0
5:30 PM	7	36	7	0	1	42	9	0	1	1	1	0	1	9	2	0	117	0	0	0	1
5:35 PM	1	36	3	0	1	33	11	0	1	2	0	0	1	11	1	0	101	0	0	0	0
5:40 PM	0	35	4	0	4	24	11	0	2	1	0	0	2	4	3	0	90	0	0	0	0
5:45 PM	2	41	2	0	2	33	3	0	0	2	1	0	1	8	0	0	95	0	2	2	1
5:50 PM	4	43	5	0	2	39	8	0	4	1	1	0	0	8	2	0	117	0	0	0	0
5:55 PM	2	35	5	0	2	29	4	0	3	2	0	0	0	3	4	0	89	0	1	0	2
Total Survey	55	920	92	0	70	830	186	0	64	27	30	0	48	205	60	0	2,587	6	10	8	12

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	5	104	10	0	12	103	21	0	9	6	8	0	6	27	9	0	320	1	2	3	1
4:15 PM	3	134	11	0	7	97	23	0	12	2	5	0	5	23	4	0	326	0	1	1	2
4:30 PM	15	112	16	0	10	123	27	0	14	2	6	0	4	29	6	0	364	1	1	0	1
4:45 PM	5	135	8	0	10	116	23	0	5	2	2	0	5	28	7	0	346	1	0	2	1
5:00 PM	4	107	14	0	13	95	27	0	6	1	2	0	11	31	13	0	324	1	2	0	2
5:15 PM	7	102	7	0	6	96	19	0	7	5	4	0	12	24	9	0	298	2	1	0	1
5:30 PM	8	107	14	0	6	99	31	0	4	4	1	0	4	24	6	0	308	0	0	0	1
5:45 PM	8	119	12	0	6	101	15	0	7	5	2	0	1	19	6	0	301	0	3	2	3
Total Survey	55	920	92	0	70	830	186	0	64	27	30	0	48	205	60	0	2,587	6	10	8	12

Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	567	471	1,038	0	573	551	1,124	0	62	248	310	0	168	100	268	0	1,370	3	4	3	6
%HV	1.2%				2.1%				9.7%				2.4%				2.1%				
PHF	0.89				0.89				0.70				0.76				0.94				

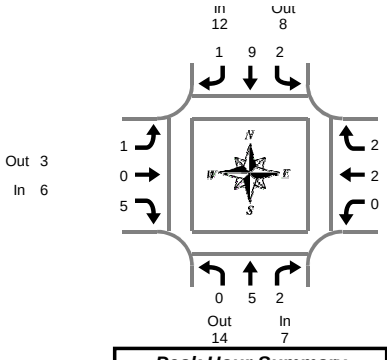
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	30	484	53	567	39	430	104	573	40	8	14	62	27	114	27	168	1,370
%HV	0.0%	1.0%	3.8%	1.2%	5.1%	2.1%	1.0%	2.1%	2.5%	0.0%	35.7%	9.7%	0.0%	1.8%	7.4%	2.4%	2.1%
PHF	0.50	0.88	0.74	0.89	0.75	0.86	0.90	0.89	0.67	0.67	0.58	0.70	0.52	0.92	0.52	0.76	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	28	485	45	0	39	439	94	0	40	12	21	0	20	107	26	0	1,356	3	4	6	5
4:15 PM	27	488	49	0	40	431	100	0	37	7	15	0	25	111	30	0	1,360	3	4	3	6
4:30 PM	31	456	45	0	39	430	96	0	32	10	14	0	32	112	35	0	1,332	5	4	2	5
4:45 PM	24	451	43	0	35	406	100	0	22	12	9	0	32	107	35	0	1,276	4	3	2	5
5:00 PM	27	435	47	0	31	391	92	0	24	15	9	0	28	98	34	0	1,231	3	6	2	7

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
4:20 PM to 5:20 PM

Washington St & 15th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	0	3	0	3	0	0	1	1	0	0	0	0	5
4:05 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
4:10 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	3
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:20 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	2	3
4:25 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:35 PM	0	1	1	2	0	2	1	3	0	0	2	2	0	0	0	0	7
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	5	0	5	1	0	0	1	0	0	0	0	6
4:50 PM	0	1	0	1	2	0	0	2	0	0	1	1	0	0	0	0	4
4:55 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
5:10 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2
5:20 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:25 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	2	0	2	0	1	0	1	0	0	1	1	0	0	0	0	4
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
5:50 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:55 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Survey	0	14	2	16	2	18	2	22	2	0	9	11	0	2	2	4	53

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	0	6	1	7	1	0	1	2	0	0	0	0	10
4:15 PM	0	2	1	3	0	0	0	0	0	0	0	0	0	1	1	2	5
4:30 PM	0	1	1	2	0	3	1	4	0	0	2	2	0	0	0	0	8
4:45 PM	0	2	0	2	2	5	0	7	1	0	1	2	0	0	1	1	12
5:00 PM	0	1	0	1	0	1	0	1	0	0	1	1	0	0	0	0	3
5:15 PM	0	2	0	2	0	1	0	1	0	0	1	1	0	1	0	1	5
5:30 PM	0	4	0	4	0	1	0	1	0	0	1	1	0	0	0	0	6
5:45 PM	0	1	0	1	0	1	0	1	0	0	2	2	0	0	0	0	4
Total Survey	0	14	2	16	2	18	2	22	2	0	9	11	0	2	2	4	53

Heavy Vehicle Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 15th St			Westbound 15th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	14	21	12	8	20	6	3	9	4	4	8	29
PHF	0.58			0.38			0.50			0.50			0.56

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	5	2	7	2	9	1	12	1	0	5	6	0	2	2	4	29
PHF	0.00	0.63	0.50	0.58	0.25	0.32	0.25	0.38	0.25	0.00	0.63	0.50	0.00	0.50	0.50	0.50	0.56

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

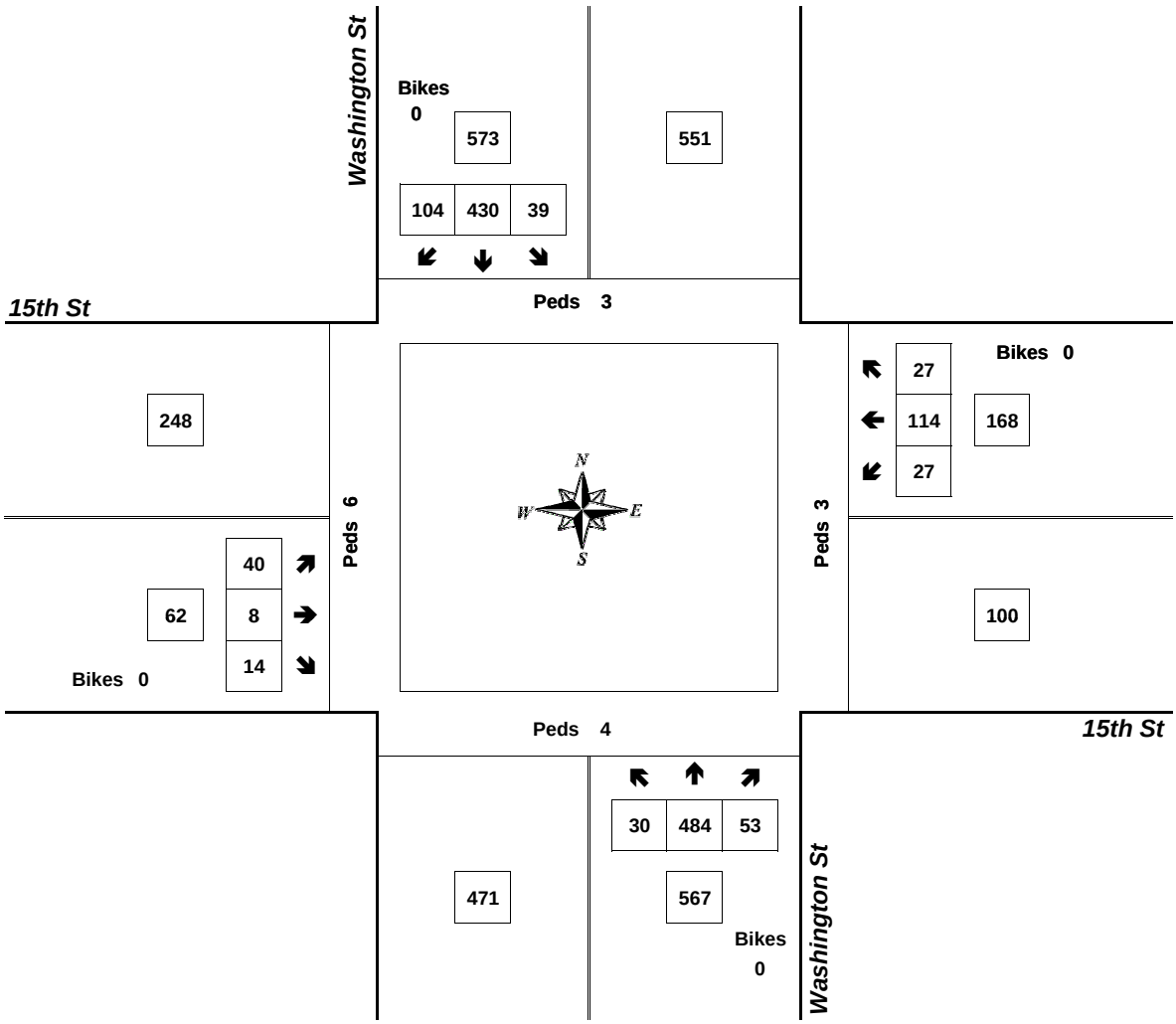
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	6	2	8	2	14	2	18	2	0	4	6	0	1	2	3	35
4:15 PM	0	6	2	8	2	9	1	12	1	0	4	5	0	1	2	3	28
4:30 PM	0	6	1	7	2	10	1	13	1	0	5	6	0	1	1	2	28
4:45 PM	0	9	0	9	2	8	0	10	1	0	4	5	0	1	1	2	26
5:00 PM	0	8	0	8	0	4	0	4	0	0	5	5	0	1	0	1	18

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 15th St

4:20 PM to 5:20 PM
Wednesday, January 25, 2017

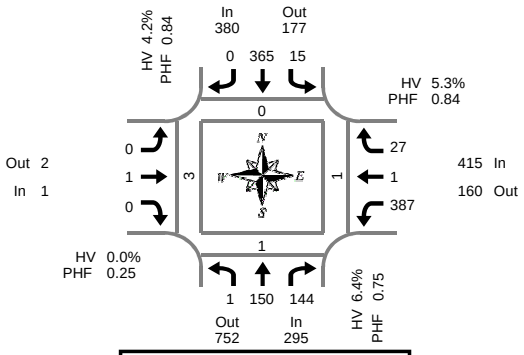


Approach	PHF	HV%	Volume
EB	0.70	9.7%	62
WB	0.76	2.4%	168
NB	0.89	1.2%	567
SB	0.89	2.1%	573
Intersection	0.94	2.1%	1,370

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Washington St & Abernathy Rd

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:20 AM to 8:20 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	9	6	0	0	28	0	0	0	0	0	0	18	0	4	0	65	0	0	0	0
7:05 AM	0	8	6	0	1	19	0	0	0	0	0	0	37	0	4	0	75	0	0	0	0
7:10 AM	0	9	11	1	2	29	0	0	0	0	0	0	30	0	3	1	84	0	0	0	0
7:15 AM	0	9	10	0	1	26	0	0	0	0	0	0	28	0	1	0	75	0	0	0	0
7:20 AM	1	19	7	0	1	26	0	0	0	0	0	0	29	0	1	0	84	0	0	0	0
7:25 AM	0	6	14	0	2	28	0	0	0	0	0	0	30	0	2	0	82	0	0	0	2
7:30 AM	0	8	11	0	1	34	0	0	0	0	0	0	34	0	2	0	90	0	1	0	0
7:35 AM	0	12	9	0	2	26	0	0	0	0	0	0	32	0	0	0	81	0	0	0	0
7:40 AM	0	13	8	0	0	47	0	0	0	0	0	0	34	0	4	0	106	0	0	1	0
7:45 AM	0	16	13	0	2	36	0	0	0	0	0	0	35	0	2	0	104	0	0	0	1
7:50 AM	0	19	16	0	1	24	0	0	0	0	0	0	47	0	1	0	108	0	0	0	0
7:55 AM	0	17	17	0	2	30	0	0	0	0	0	0	33	0	5	0	104	0	0	0	0
8:00 AM	0	8	9	0	3	43	0	0	0	0	0	0	25	0	1	0	89	0	0	0	0
8:05 AM	0	11	13	0	0	23	0	0	0	0	0	0	27	0	2	0	76	0	0	0	0
8:10 AM	0	10	17	0	1	22	0	0	0	1	0	0	22	0	3	0	76	0	0	0	0
8:15 AM	0	11	10	0	0	26	0	0	0	0	0	0	39	1	4	0	91	0	0	0	0
8:20 AM	0	15	10	0	0	31	0	0	0	0	0	0	19	0	4	0	79	0	0	0	0
8:25 AM	0	12	11	0	3	29	0	1	0	0	0	0	25	1	5	0	86	0	1	0	0
8:30 AM	0	10	16	0	1	21	0	0	0	0	0	0	20	0	4	0	72	0	0	0	0
8:35 AM	0	10	11	0	2	33	0	0	0	0	0	0	24	0	2	0	82	0	0	0	0
8:40 AM	2	13	7	0	3	33	0	0	0	0	1	0	35	0	4	0	98	0	0	0	0
8:45 AM	1	20	9	0	0	30	0	0	0	0	0	0	19	0	1	0	80	0	0	0	0
8:50 AM	0	14	9	0	3	16	0	0	0	0	0	0	24	0	3	0	69	0	0	1	0
8:55 AM	0	12	8	0	3	34	0	0	0	0	0	0	23	0	3	0	83	0	0	0	0
Total Survey	4	291	258	1	34	694	0	1	0	1	1	0	689	2	65	1	2,039	0	2	2	3

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	26	23	1	3	76	0	0	0	0	0	0	85	0	11	1	224	0	0	0	0
7:15 AM	1	34	31	0	4	80	0	0	0	0	0	0	87	0	4	0	241	0	0	0	2
7:30 AM	0	33	28	0	3	107	0	0	0	0	0	0	100	0	6	0	277	0	1	1	0
7:45 AM	0	52	46	0	5	90	0	0	0	0	0	0	115	0	8	0	316	0	0	0	1
8:00 AM	0	29	39	0	4	88	0	0	0	1	0	0	74	0	6	0	241	0	0	0	0
8:15 AM	0	38	31	0	3	86	0	1	0	0	0	0	83	2	13	0	256	0	1	0	0
8:30 AM	2	33	34	0	6	87	0	0	0	0	1	0	79	0	10	0	252	0	0	0	0
8:45 AM	1	46	26	0	6	80	0	0	0	0	0	0	66	0	7	0	232	0	0	1	0
Total Survey	4	291	258	1	34	694	0	1	0	1	1	0	689	2	65	1	2,039	0	2	2	3

Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	295	752	1,047	0	380	177	557	0	1	2	3	0	415	160	575	0	1,091	0	1	1	3
%HV	6.4%				4.2%				0.0%				5.3%				5.2%				
PHF	0.75				0.84				0.25				0.84				0.86				

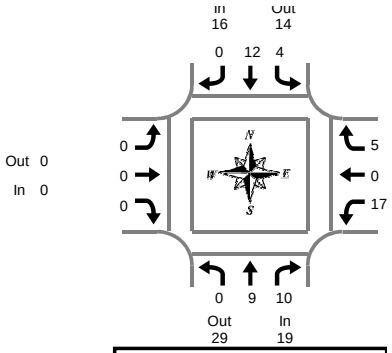
By Movement	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	150	144	295	15	365	0	380	0	1	0	1	387	1	27	415	1,091
%HV	0.0%	6.0%	6.9%	6.4%	26.7%	3.3%	0.0%	4.2%	0.0%	0.0%	0.0%	0.0%	4.4%	0.0%	18.5%	5.3%	5.2%
PHF	0.25	0.72	0.78	0.75	0.63	0.84	0.00	0.84	0.00	0.25	0.00	0.25	0.83	0.25	0.75	0.84	0.86

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	1	145	128	1	15	353	0	0	0	0	0	0	387	0	29	1	1,058	0	1	1	3
7:15 AM	1	148	144	0	16	365	0	0	0	1	0	0	376	0	24	0	1,075	0	1	1	3
7:30 AM	0	152	144	0	15	371	0	1	0	1	0	0	372	2	33	0	1,090	0	2	1	1
7:45 AM	2	152	150	0	18	351	0	1	0	1	1	0	351	2	37	0	1,065	0	1	0	1
8:00 AM	3	146	130	0	19	341	0	1	0	1	1	0	302	2	36	0	981	0	1	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Abernathy Rd

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:20 AM to 8:20 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
7:05 AM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	2	3	4
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
7:20 AM	0	2	1	3	1	1	0	2	0	0	0	0	2	0	0	2	7
7:25 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
7:30 AM	0	0	3	3	1	2	0	3	0	0	0	0	0	0	1	1	7
7:35 AM	0	1	0	1	1	2	0	3	0	0	0	0	0	0	0	0	4
7:40 AM	0	0	1	1	0	0	0	0	0	0	0	0	3	0	0	3	4
7:45 AM	0	1	1	2	1	0	0	1	0	0	0	0	1	0	0	1	4
7:50 AM	0	0	1	1	0	2	0	2	0	0	0	0	0	0	0	0	3
7:55 AM	0	0	0	0	0	1	0	1	0	0	0	0	3	0	0	3	4
8:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	3	0	0	3	5
8:05 AM	0	0	2	2	0	0	0	0	0	0	0	0	1	0	0	1	3
8:10 AM	0	2	1	3	0	2	0	2	0	0	0	0	3	0	2	5	10
8:15 AM	0	1	0	1	0	1	0	1	0	0	0	0	1	0	1	2	4
8:20 AM	0	0	3	3	0	2	0	2	0	0	0	0	0	0	0	0	5
8:25 AM	0	1	4	5	0	1	0	1	0	0	0	0	0	0	0	0	6
8:30 AM	0	1	2	3	0	2	0	2	0	0	0	0	0	0	0	0	5
8:35 AM	0	0	0	0	0	2	0	2	0	0	0	0	3	0	0	3	5
8:40 AM	0	1	1	2	0	2	0	2	0	0	0	0	1	0	0	1	5
8:45 AM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	4
8:50 AM	0	2	0	2	0	1	0	1	0	0	0	0	1	0	0	1	4
8:55 AM	0	1	1	2	0	2	0	2	0	0	0	0	1	0	0	1	5
Total Survey	0	18	22	40	4	29	0	33	0	0	0	0	25	0	7	32	105

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	1	2	0	1	0	1	0	0	0	0	2	0	2	4	7
7:15 AM	0	3	1	4	1	3	0	4	0	0	0	0	2	0	1	3	11
7:30 AM	0	1	4	5	2	4	0	6	0	0	0	0	3	0	1	4	15
7:45 AM	0	1	2	3	1	3	0	4	0	0	0	0	4	0	0	4	11
8:00 AM	0	3	3	6	0	3	0	3	0	0	0	0	7	0	2	9	18
8:15 AM	0	2	7	9	0	4	0	4	0	0	0	0	1	0	1	2	15
8:30 AM	0	2	3	5	0	6	0	6	0	0	0	0	4	0	0	4	15
8:45 AM	0	5	1	6	0	5	0	5	0	0	0	0	2	0	0	2	13
Total Survey	0	18	22	40	4	29	0	33	0	0	0	0	25	0	7	32	105

Heavy Vehicle Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound Abernathy Rd			Westbound Abernathy Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	19	29	48	16	14	30	0	0	0	22	14	36	57
PHF	0.68			0.67			0.00			0.61			0.79

By Movement	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	9	10	19	4	12	0	16	0	0	0	0	17	0	5	22	57
PHF	0.00	0.75	0.63	0.68	0.50	0.75	0.00	0.67	0.00	0.00	0.00	0.00	0.61	0.00	0.42	0.61	0.79

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

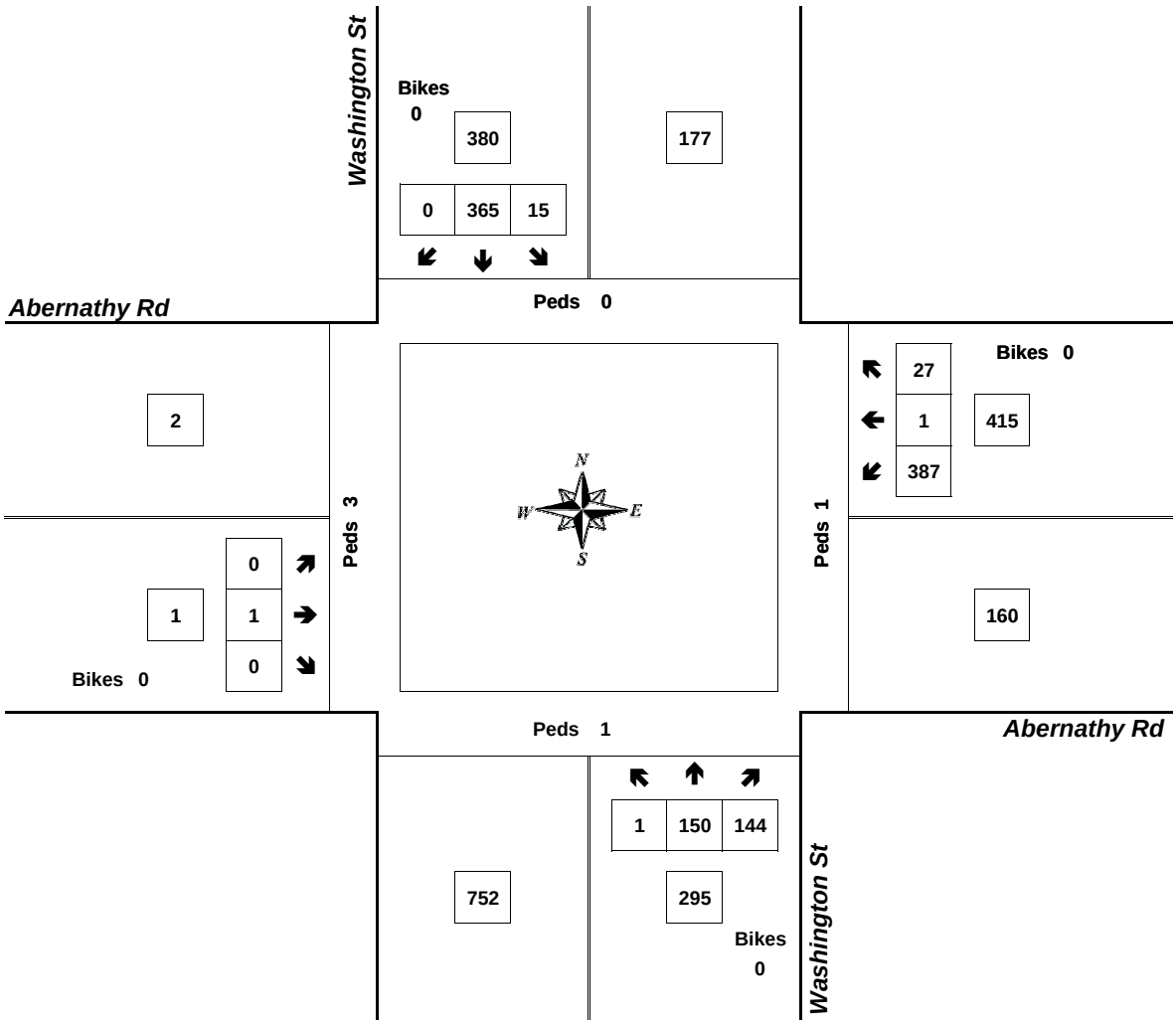
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	6	8	14	4	11	0	15	0	0	0	0	11	0	4	15	44
7:15 AM	0	8	10	18	4	13	0	17	0	0	0	0	16	0	4	20	55
7:30 AM	0	7	16	23	3	14	0	17	0	0	0	0	15	0	4	19	59
7:45 AM	0	8	15	23	1	16	0	17	0	0	0	0	16	0	3	19	59
8:00 AM	0	12	14	26	0	18	0	18	0	0	0	0	14	0	3	17	61

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & Abernathy Rd

7:20 AM to 8:20 AM
Thursday, January 26, 2017

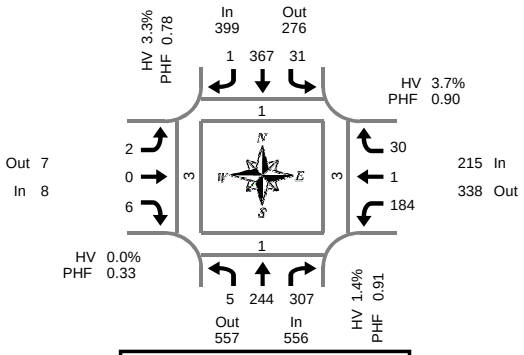


Approach	PHF	HV%	Volume
EB	0.25	0.0%	1
WB	0.84	5.3%	415
NB	0.75	6.4%	295
SB	0.84	4.2%	380
Intersection	0.86	5.2%	1,091

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:05 PM to 5:05 PM

Washington St & Abernathy Rd

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	19	20	0	6	27	0	0	0	0	0	0	20	0	0	0	92	0	0	1	0
4:05 PM	0	26	29	0	2	26	1	0	0	0	0	0	16	0	2	0	102	0	0	1	0
4:10 PM	0	15	16	0	2	40	0	0	0	0	0	0	14	0	1	0	88	0	0	0	0
4:15 PM	0	22	21	0	2	25	0	0	0	0	1	0	11	0	0	0	82	0	0	1	0
4:20 PM	2	18	40	0	2	16	0	0	0	0	0	0	17	0	3	0	98	0	0	0	0
4:25 PM	2	22	18	0	4	31	0	0	0	0	1	0	15	0	5	0	98	0	0	0	0
4:30 PM	0	25	26	0	1	39	0	0	0	0	2	0	11	1	1	0	106	1	0	0	1
4:35 PM	0	20	23	0	6	43	0	0	2	0	1	0	22	0	5	0	122	0	0	0	1
4:40 PM	0	17	21	0	6	33	0	0	0	0	1	0	14	0	3	0	95	0	0	0	0
4:45 PM	0	21	35	0	0	27	0	0	0	0	0	0	13	0	3	0	99	0	1	1	1
4:50 PM	0	15	28	0	1	35	0	0	0	0	0	0	17	0	2	0	98	0	0	0	0
4:55 PM	1	22	24	0	3	23	0	0	0	0	0	0	18	0	4	0	95	0	0	0	0
5:00 PM	0	21	26	0	2	29	0	0	0	0	0	0	16	0	1	0	95	0	0	0	0
5:05 PM	0	14	14	0	1	22	0	0	0	0	0	0	17	0	0	0	68	0	0	0	0
5:10 PM	0	21	30	0	3	36	0	0	0	0	0	0	16	0	2	0	108	0	0	0	0
5:15 PM	0	17	26	0	4	28	0	0	0	0	0	0	11	0	3	0	89	0	0	0	0
5:20 PM	0	8	26	0	2	20	0	0	0	0	0	0	14	0	4	0	74	0	0	0	1
5:25 PM	0	13	31	0	4	29	0	0	0	0	0	0	14	0	5	0	96	0	0	0	0
5:30 PM	0	14	31	0	3	30	0	0	0	0	0	0	19	0	1	0	98	0	0	0	1
5:35 PM	0	16	21	0	1	27	1	0	0	0	0	0	19	0	1	0	86	0	0	0	0
5:40 PM	0	11	23	0	3	18	0	0	0	0	0	0	19	0	4	0	78	0	0	0	0
5:45 PM	0	15	31	0	5	28	0	0	0	0	0	0	9	0	2	0	90	0	0	0	1
5:50 PM	0	17	30	0	2	30	0	0	0	0	0	0	20	0	0	0	99	0	1	0	1
5:55 PM	0	14	25	0	2	15	0	0	0	0	0	0	15	0	0	0	71	0	0	0	0
Total Survey	5	423	615	0	67	677	2	0	2	0	6	0	377	1	52	0	2,227	1	2	4	7

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	60	65	0	10	93	1	0	0	0	0	0	50	0	3	0	282	0	0	2	0
4:15 PM	4	62	79	0	8	72	0	0	0	0	2	0	43	0	8	0	278	0	0	1	0
4:30 PM	0	62	70	0	13	115	0	0	2	0	4	0	47	1	9	0	323	1	0	0	2
4:45 PM	1	58	87	0	4	85	0	0	0	0	0	0	48	0	9	0	292	0	1	1	1
5:00 PM	0	56	70	0	6	87	0	0	0	0	0	0	49	0	3	0	271	0	0	0	0
5:15 PM	0	38	83	0	10	77	0	0	0	0	0	0	39	0	12	0	259	0	0	0	1
5:30 PM	0	41	75	0	7	75	1	0	0	0	0	0	57	0	6	0	262	0	0	0	1
5:45 PM	0	46	86	0	9	73	0	0	0	0	0	0	44	0	2	0	260	0	1	0	2
Total Survey	5	423	615	0	67	677	2	0	2	0	6	0	377	1	52	0	2,227	1	2	4	7

Peak Hour Summary
4:05 PM to 5:05 PM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	556	557	1,113	0	399	276	675	0	8	7	15	0	215	338	553	0	1,178	1	1	3	3
%HV	1.4%				3.3%				0.0%				3.7%				2.5%				
PHF	0.91				0.78				0.33				0.90				0.90				

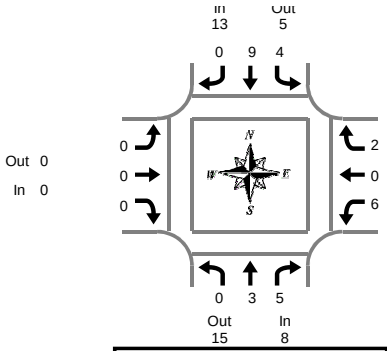
By Movement	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	5	244	307	556	31	367	1	399	2	0	6	8	184	1	30	215	1,178
%HV	0.0%	1.2%	1.6%	1.4%	12.9%	2.5%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	3.3%	0.0%	6.7%	3.7%	2.5%
PHF	0.31	0.91	0.88	0.91	0.60	0.80	0.25	0.78	0.25	0.00	0.38	0.33	0.90	0.25	0.68	0.90	0.90

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	5	242	301	0	35	365	1	0	2	0	6	0	188	1	29	0	1,175	1	1	4	3
4:15 PM	5	238	306	0	31	359	0	0	2	0	6	0	187	1	29	0	1,164	1	1	2	3
4:30 PM	1	214	310	0	33	364	0	0	2	0	4	0	183	1	33	0	1,145	1	1	1	4
4:45 PM	1	193	315	0	27	324	1	0	0	0	0	0	193	0	30	0	1,084	0	1	1	3
5:00 PM	0	181	314	0	32	312	1	0	0	0	0	0	189	0	23	0	1,052	0	1	0	4

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Abernathy Rd

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:05 PM to 5:05 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	1	1	0	2	0	2	0	0	0	0	2	0	0	2	5
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3	3
4:10 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:20 PM	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	2
4:25 PM	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	2
4:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	2
4:35 PM	0	1	1	2	0	3	0	3	0	0	0	0	0	0	0	0	5
4:40 PM	0	0	0	0	1	1	0	2	0	0	0	0	2	0	0	2	4
4:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
4:50 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
4:55 PM	0	1	1	2	1	0	0	1	0	0	0	0	0	0	1	1	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	2
5:10 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:25 PM	0	0	2	2	1	1	0	2	0	0	0	0	0	0	0	0	4
5:30 PM	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	0	3
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Survey	0	5	11	16	8	12	0	20	0	0	0	0	11	0	2	13	49

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	1	1	0	4	0	4	0	0	0	0	4	0	1	5	10
4:15 PM	0	0	2	2	2	0	0	2	0	0	0	0	1	0	0	1	5
4:30 PM	0	1	2	3	1	4	0	5	0	0	0	0	3	0	0	3	11
4:45 PM	0	2	1	3	1	3	0	4	0	0	0	0	0	0	1	1	8
5:00 PM	0	0	1	1	1	0	0	1	0	0	0	0	1	0	0	1	3
5:15 PM	0	0	2	2	2	1	0	3	0	0	0	0	1	0	0	1	6
5:30 PM	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	2	2	0	0	0	0	0	0	0	0	1	0	0	1	3
Total Survey	0	5	11	16	8	12	0	20	0	0	0	0	11	0	2	13	49

Heavy Vehicle Peak Hour Summary
4:05 PM to 5:05 PM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound Abernathy Rd			Westbound Abernathy Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	8	15	23	13	5	18	0	0	0	8	9	17	29
PHF	0.67			0.46			0.00			0.67			0.66

By Movement	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	3	5	8	4	9	0	13	0	0	0	0	6	0	2	8	29
PHF	0.00	0.38	0.63	0.67	0.50	0.38	0.00	0.46	0.00	0.00	0.00	0.00	0.50	0.00	0.50	0.67	0.66

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

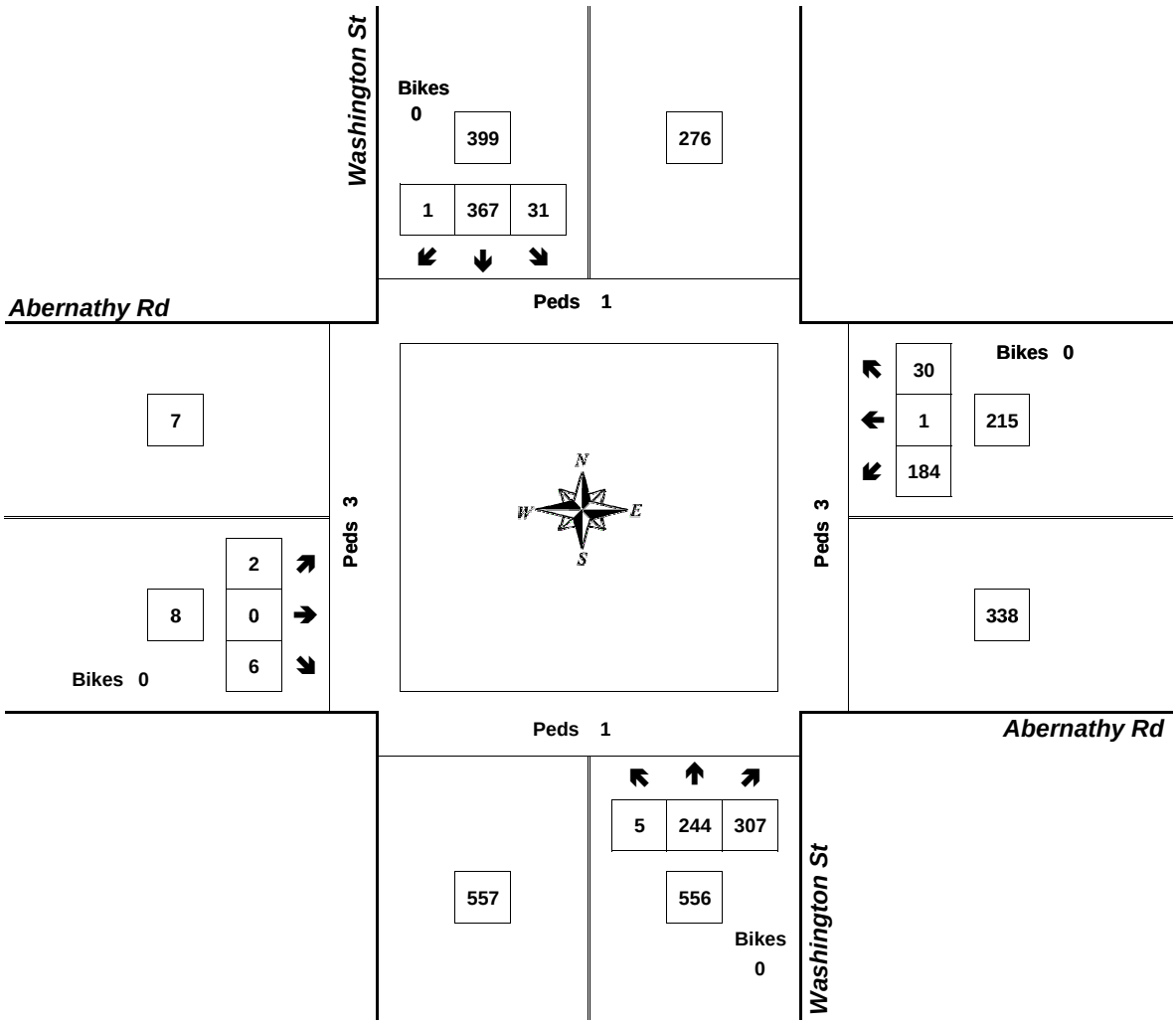
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	3	6	9	4	11	0	15	0	0	0	0	8	0	2	10	34
4:15 PM	0	3	6	9	5	7	0	12	0	0	0	0	5	0	1	6	27
4:30 PM	0	3	6	9	5	8	0	13	0	0	0	0	5	0	1	6	28
4:45 PM	0	4	4	8	5	4	0	9	0	0	0	0	2	0	1	3	20
5:00 PM	0	2	5	7	4	1	0	5	0	0	0	0	3	0	0	3	15

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & Abernathy Rd

4:05 PM to 5:05 PM
Wednesday, January 25, 2017

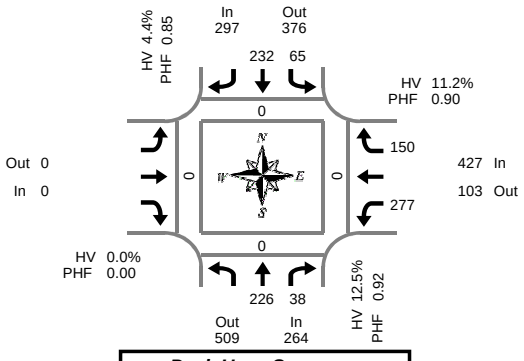


Approach	PHF	HV%	Volume
EB	0.33	0.0%	8
WB	0.90	3.7%	215
NB	0.91	1.4%	556
SB	0.78	3.3%	399
Intersection	0.90	2.5%	1,178

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Prairie Schooner Way

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:45 AM to 8:45 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	14	4	0		5	17		0				0	10		7	0	57	0	0	0	0
7:05 AM	8	0	0		2	10		0				0	15		8	0	43	0	0	0	0
7:10 AM	8	4	0		1	13		0				0	13		9	0	48	0	0	0	0
7:15 AM	12	3	1		5	13		0				0	19		18	0	70	0	0	0	0
7:20 AM	11	2	0		5	16		0				0	21		15	0	70	0	0	0	0
7:25 AM	12	2	0		5	18		0				0	33		10	0	80	0	0	0	0
7:30 AM	10	0	0		8	13		0				0	19		18	0	68	0	0	0	0
7:35 AM	15	2	0		3	20		0				0	17		11	0	68	0	0	0	0
7:40 AM	11	0	0		8	33		0				0	28		9	0	89	0	0	0	0
7:45 AM	20	1	0		6	25		0				0	29		12	0	93	0	0	0	0
7:50 AM	26	1	0		3	24		0				0	21		14	0	89	0	0	0	0
7:55 AM	18	3	0		10	19		0				0	25		16	0	91	0	0	0	0
8:00 AM	12	4	0		5	23		0				0	25		11	0	80	0	0	0	0
8:05 AM	17	7	0		4	15		0				0	19		12	0	74	0	0	0	0
8:10 AM	22	4	0		7	18		0				0	17		6	0	74	0	0	0	0
8:15 AM	18	4	0		1	17		0				0	22		15	0	77	0	0	0	0
8:20 AM	15	1	0		3	13		0				0	20		9	0	61	0	0	0	0
8:25 AM	16	3	0		7	19		0				0	21		17	0	83	0	0	0	0
8:30 AM	22	3	0		7	17		0				0	28		13	0	90	0	0	0	0
8:35 AM	18	4	0		6	16		0				0	24		15	0	83	0	0	0	0
8:40 AM	22	3	0		6	26		0				0	26		10	0	93	0	0	0	0
8:45 AM	22	4	0		4	10		0				0	32		12	0	84	0	0	0	0
8:50 AM	20	4	0		6	9		0				0	26		17	0	82	0	0	0	0
8:55 AM	19	5	0		8	23		0				0	21		19	0	95	0	0	0	0
Total Survey	388	68	1		125	427		0				0	531		303	0	1,842	0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	30	8	0		8	40		0				0	38		24	0	148	0	0	0	0
7:15 AM	35	7	1		15	47		0				0	73		43	0	220	0	0	0	0
7:30 AM	36	2	0		19	66		0				0	64		38	0	225	0	0	0	0
7:45 AM	64	5	0		19	68		0				0	75		42	0	273	0	0	0	0
8:00 AM	51	15	0		16	56		0				0	61		29	0	228	0	0	0	0
8:15 AM	49	8	0		11	49		0				0	63		41	0	221	0	0	0	0
8:30 AM	62	10	0		19	59		0				0	78		38	0	266	0	0	0	0
8:45 AM	61	13	0		18	42		0				0	79		48	0	261	0	0	0	0
Total Survey	388	68	1		125	427		0				0	531		303	0	1,842	0	0	0	0

Peak Hour Summary
7:45 AM to 8:45 AM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	264	509	773	0	297	376	673	0	0	0	0	0	427	103	530	0	988	0	0	0	0
%HV	12.5%				4.4%				0.0%				11.2%				9.5%				
PHF	0.92				0.85				0.00				0.90				0.90				

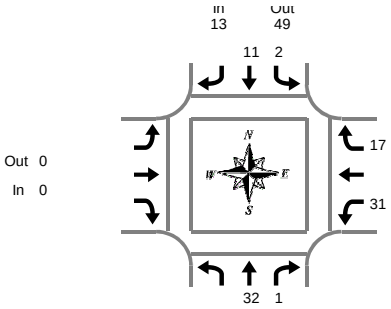
By Movement	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	226	38	264		65	232		297				0	277		150	427	988
%HV	NA	14.2%	2.6%	12.5%	3.1%	4.7%	NA	4.4%	NA	NA	NA	0.0%	11.2%	NA	11.3%	11.2%	9.5%
PHF		0.88	0.63	0.92	0.81	0.85		0.85				0.00	0.89		0.83	0.90	0.90

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	165	22	1		61	221		0				0	250		147	0	866	0	0	0	0
7:15 AM	186	29	1		69	237		0				0	273		152	0	946	0	0	0	0
7:30 AM	200	30	0		65	239		0				0	263		150	0	947	0	0	0	0
7:45 AM	226	38	0		65	232		0				0	277		150	0	988	0	0	0	0
8:00 AM	223	46	0		64	206		0				0	281		156	0	976	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Prairie Schooner Way

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:45 AM to 8:45 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		4	0	4	0	1		1				0	2		0	2	7
7:05 AM		0	0	0	0	1		1				0	1		0	1	2
7:10 AM		3	0	3	0	0		0				0	1		1	2	5
7:15 AM		2	0	2	0	0		0				0	1		3	4	6
7:20 AM		1	0	1	0	2		2				0	1		1	2	5
7:25 AM		2	1	3	0	1		1				0	3		0	3	7
7:30 AM		3	0	3	0	0		0				0	2		2	4	7
7:35 AM		1	0	1	0	0		0				0	1		0	1	2
7:40 AM		2	0	2	0	0		0				0	2		1	3	5
7:45 AM		2	0	2	0	0		0				0	5		1	6	8
7:50 AM		2	0	2	0	0		0				0	2		0	2	4
7:55 AM		2	0	2	1	1		2				0	1		0	1	5
8:00 AM		2	0	2	0	0		0				0	1		0	1	3
8:05 AM		4	0	4	0	1		1				0	3		1	4	9
8:10 AM		3	0	3	0	1		1				0	2		0	2	6
8:15 AM		1	1	2	0	1		1				0	4		4	8	11
8:20 AM		4	0	4	0	0		0				0	3		0	3	7
8:25 AM		2	0	2	1	1		2				0	3		3	6	10
8:30 AM		5	0	5	0	2		2				0	2		4	6	13
8:35 AM		3	0	3	0	2		2				0	2		1	3	8
8:40 AM		2	0	2	0	2		2				0	3		3	6	10
8:45 AM		4	1	5	0	0		0				0	6		0	6	11
8:50 AM		3	0	3	0	2		2				0	3		0	3	8
8:55 AM		4	0	4	2	1		3				0	3		2	5	12
Total Survey		61	3	64	4	19		23				0	57		27	84	171

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		7	0	7	0	2		2				0	4		1	5	14
7:15 AM		5	1	6	0	3		3				0	5		4	9	18
7:30 AM		6	0	6	0	0		0				0	5		3	8	14
7:45 AM		6	0	6	1	1		2				0	8		1	9	17
8:00 AM		9	0	9	0	2		2				0	6		1	7	18
8:15 AM		7	1	8	1	2		3				0	10		7	17	28
8:30 AM		10	0	10	0	6		6				0	7		8	15	31
8:45 AM		11	1	12	2	3		5				0	12		2	14	31
Total Survey		61	3	64	4	19		23				0	57		27	84	171

Heavy Vehicle Peak Hour Summary
7:45 AM to 8:45 AM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound Prairie Schooner Way			Westbound Prairie Schooner Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	33	42	75	13	49	62	0	0	0	48	3	51	94
PHF	0.75			0.54			0.00			0.71			0.76

By Movement	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		32	1	33	2	11		13				0	31		17	48	94
PHF		0.73	0.25	0.75	0.50	0.46		0.54				0.00	0.78		0.53	0.71	0.76

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

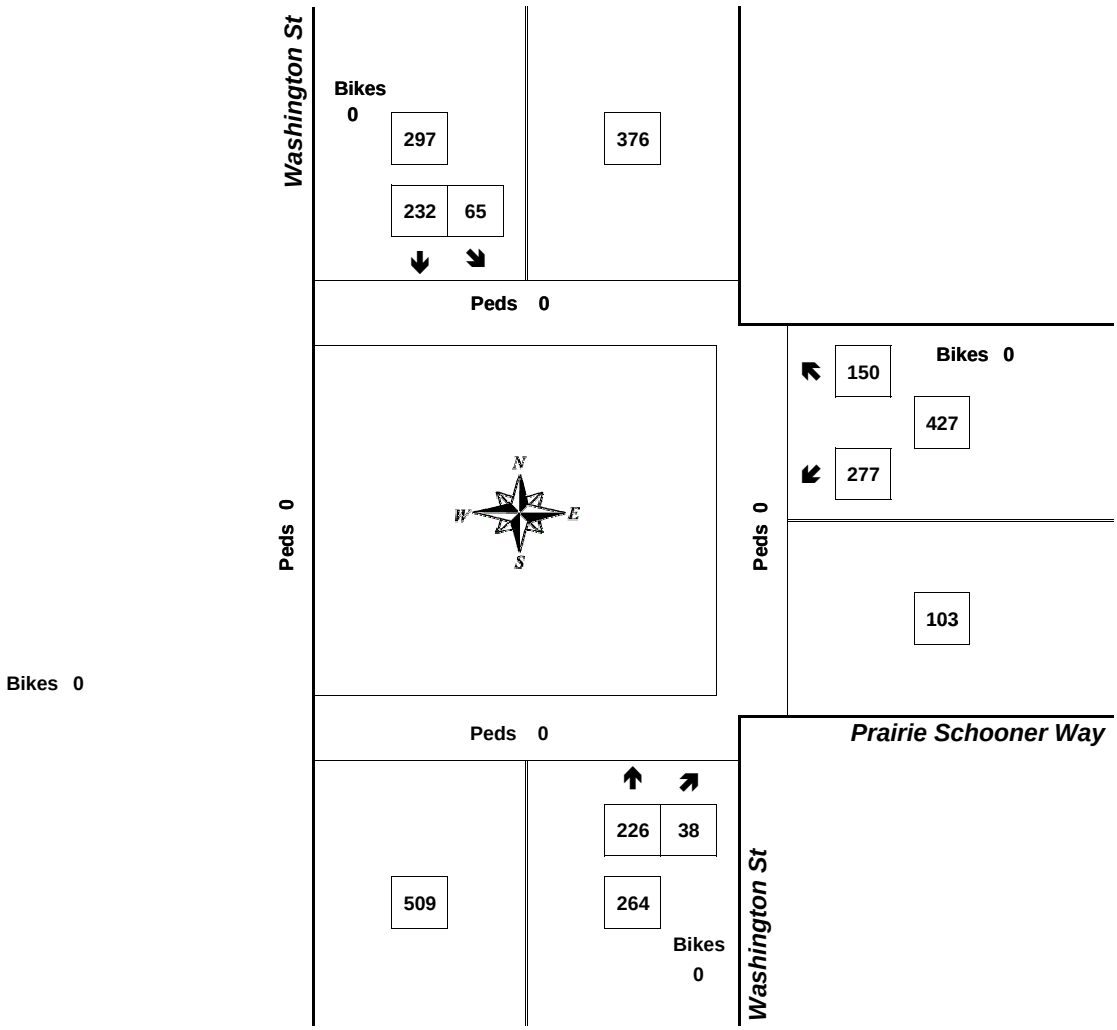
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		24	1	25	1	6		7				0	22		9	31	63
7:15 AM		26	1	27	1	6		7				0	24		9	33	67
7:30 AM		28	1	29	2	5		7				0	29		12	41	77
7:45 AM		32	1	33	2	11		13				0	31		17	48	94
8:00 AM		37	2	39	3	13		16				0	35		18	53	108

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & Prairie Schooner Way

7:45 AM to 8:45 AM
Thursday, January 26, 2017

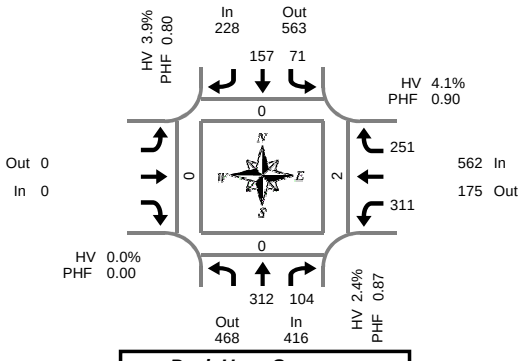


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.90	11.2%	427
NB	0.92	12.5%	264
SB	0.85	4.4%	297
Intersection	0.90	9.5%	988

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:00 PM to 5:00 PM

Washington St & Prairie Schooner Way

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	32	7	0		3	9		0				0	30		15	0	96	0	0	1	0
4:05 PM	22	7	0		3	8		0				0	37		26	0	103	0	0	0	0
4:10 PM	29	10	0		3	18		0				0	27		21	0	108	0	0	0	0
4:15 PM	27	7	0		10	11		0				0	25		16	0	96	0	0	1	0
4:20 PM	24	9	0		6	9		0				0	31		16	0	95	0	0	0	0
4:25 PM	28	6	0		0	15		1				0	26		19	0	94	0	0	0	0
4:30 PM	31	8	0		4	17		0				0	26		23	0	109	0	0	0	0
4:35 PM	30	12	0		9	17		0				0	27		24	0	119	0	0	0	0
4:40 PM	23	15	0		9	15		0				0	23		24	0	109	0	0	0	0
4:45 PM	28	7	0		6	14		0				0	21		24	0	100	0	0	0	0
4:50 PM	19	9	0		8	12		0				0	24		14	0	86	0	0	0	0
4:55 PM	19	7	0		10	12		0				0	14		29	0	91	0	0	0	0
5:00 PM	30	4	0		7	14		0				0	14		21	0	90	0	0	0	0
5:05 PM	22	7	0		5	15		0				0	17		24	0	90	0	0	0	0
5:10 PM	20	6	0		4	16		0				0	18		22	0	86	0	0	0	0
5:15 PM	25	14	0		5	11		0				0	21		22	0	98	0	0	0	0
5:20 PM	16	5	0		7	10		0				0	17		18	0	73	0	0	0	0
5:25 PM	13	8	0		5	15		0				0	19		14	0	74	0	0	0	0
5:30 PM	27	2	0		5	10		0				0	20		18	0	82	0	0	0	0
5:35 PM	13	7	0		4	9		0				0	23		15	0	71	0	0	0	0
5:40 PM	11	4	0		5	11		0				0	14		21	0	66	0	0	0	0
5:45 PM	14	3	0		4	15		0				0	17		13	0	66	0	0	0	0
5:50 PM	16	6	0		2	7		0				0	21		18	0	70	0	0	0	0
5:55 PM	15	8	0		4	7		0				0	21		19	0	74	0	0	0	0
Total Survey	534	178	0		128	297		1				0	533		476	0	2,146	0	0	2	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	83	24	0		9	35		0				0	94		62	0	307	0	0	1	0
4:15 PM	79	22	0		16	35		1				0	82		51	0	285	0	0	1	0
4:30 PM	84	35	0		22	49		0				0	76		71	0	337	0	0	0	0
4:45 PM	66	23	0		24	38		0				0	59		67	0	277	0	0	0	0
5:00 PM	72	17	0		16	45		0				0	49		67	0	266	0	0	0	0
5:15 PM	54	27	0		17	36		0				0	57		54	0	245	0	0	0	0
5:30 PM	51	13	0		14	30		0				0	57		54	0	219	0	0	0	0
5:45 PM	45	17	0		10	29		0				0	59		50	0	210	0	0	0	0
Total Survey	534	178	0		128	297		1				0	533		476	0	2,146	0	0	2	0

Peak Hour Summary
4:00 PM to 5:00 PM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	416	468	884	0	228	563	791	1	0	0	0	0	562	175	737	0	1,206	0	0	2	0
%HV	2.4%				3.9%				0.0%				4.1%				3.5%				
PHF	0.87				0.80				0.00				0.90				0.89				

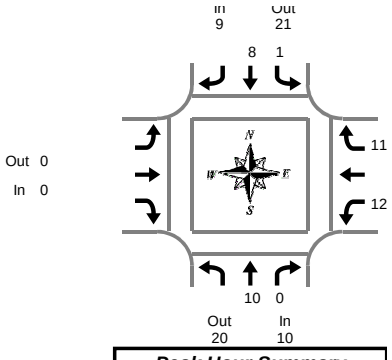
By Movement	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	312	104	416		71	157		228				0	311		251	562	1,206
%HV	NA	3.2%	0.0%	2.4%	1.4%	5.1%	NA	3.9%	NA	NA	NA	0.0%	3.9%	NA	4.4%	4.1%	3.5%
PHF		0.88	0.74	0.87	0.74	0.80		0.80				0.00	0.83		0.87	0.90	0.89

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	312	104	0		71	157		1				0	311		251	0	1,206	0	0	2	0
4:15 PM	301	97	0		78	167		1				0	266		256	0	1,165	0	0	1	0
4:30 PM	276	102	0		79	168		0				0	241		259	0	1,125	0	0	0	0
4:45 PM	243	80	0		71	149		0				0	222		242	0	1,007	0	0	0	0
5:00 PM	222	74	0		57	140		0				0	222		225	0	940	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Prairie Schooner Way

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:00 PM to 5:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total
	T	R	Total		L	T		Total				Total	L		R	Total	
4:00 PM	2	0	2		0	0		0				0	2		1	3	5
4:05 PM	2	0	2		0	0		0				0	1		0	1	3
4:10 PM	0	0	0		1	0		1				0	0		3	3	4
4:15 PM	1	0	1		0	0		0				0	2		0	2	3
4:20 PM	1	0	1		0	1		1				0	1		3	4	6
4:25 PM	0	0	0		0	1		1				0	1		2	3	4
4:30 PM	0	0	0		0	2		2				0	1		0	1	3
4:35 PM	0	0	0		0	2		2				0	0		1	1	3
4:40 PM	2	0	2		0	1		1				0	3		0	3	6
4:45 PM	1	0	1		0	0		0				0	1		0	1	2
4:50 PM	1	0	1		0	0		0				0	0		1	1	2
4:55 PM	0	0	0		0	1		1				0	0		0	0	1
5:00 PM	1	0	1		0	0		0				0	0		0	0	1
5:05 PM	0	0	0		0	0		0				0	1		0	1	1
5:10 PM	0	0	0		0	1		1				0	1		1	2	3
5:15 PM	1	0	1		0	1		1				0	0		0	0	2
5:20 PM	1	1	2		0	0		0				0	0		1	1	3
5:25 PM	0	0	0		0	1		1				0	1		0	1	2
5:30 PM	1	0	1		0	1		1				0	0		1	1	3
5:35 PM	1	0	1		0	0		0				0	1		0	1	2
5:40 PM	0	0	0		0	0		0				0	0		0	0	0
5:45 PM	0	0	0		0	0		0				0	0		1	1	1
5:50 PM	0	2	2		1	0		1				0	1		1	2	5
5:55 PM	0	0	0		0	1		1				0	0		2	2	3
Total Survey	15	3	18		2	13		15				0	17		18	35	68

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total
	T	R	Total		L	T		Total				Total	L		R	Total	
4:00 PM	4	0	4		1	0		1				0	3		4	7	12
4:15 PM	2	0	2		0	2		2				0	4		5	9	13
4:30 PM	2	0	2		0	5		5				0	4		1	5	12
4:45 PM	2	0	2		0	1		1				0	1		1	2	5
5:00 PM	1	0	1		0	1		1				0	2		1	3	5
5:15 PM	2	1	3		0	2		2				0	1		1	2	7
5:30 PM	2	0	2		0	1		1				0	1		1	2	5
5:45 PM	0	2	2		1	1		2				0	1		4	5	9
Total Survey	15	3	18		2	13		15				0	17		18	35	68

Heavy Vehicle Peak Hour Summary
4:00 PM to 5:00 PM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound Prairie Schooner Way			Westbound Prairie Schooner Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	10	20	30	9	21	30	0	0	0	23	1	24	42
PHF	0.63			0.45			0.00			0.64			0.81

By Movement	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	10	0	10		1	8		9				0	12		11	23	42
PHF	0.63	0.00	0.63		0.25	0.40		0.45				0.00	0.75		0.46	0.64	0.81

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

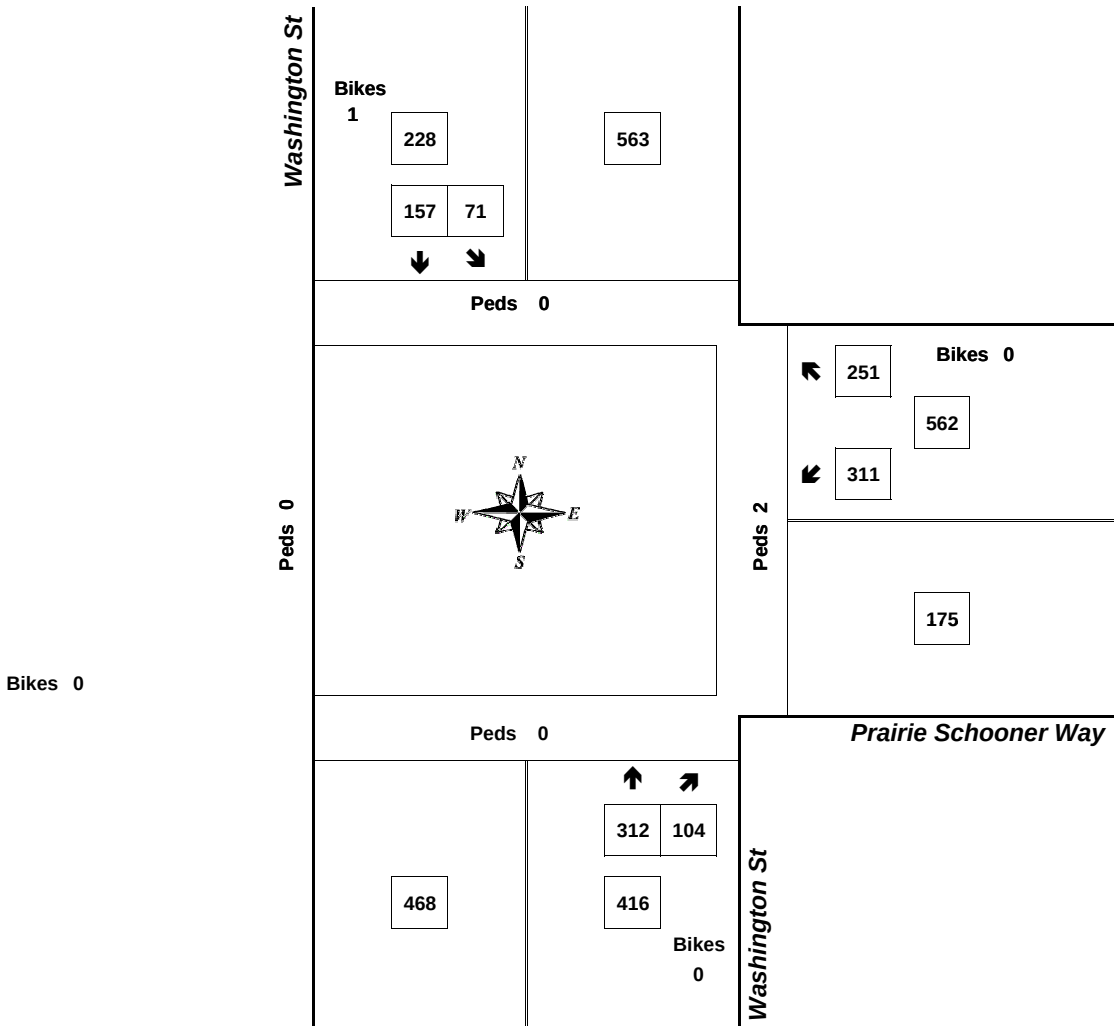
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Prairie Schooner Way				Westbound Prairie Schooner Way				Interval Total
	T	R	Total		L	T		Total				Total	L		R	Total	
4:00 PM	10	0	10		1	8		9				0	12		11	23	42
4:15 PM	7	0	7		0	9		9				0	11		8	19	35
4:30 PM	7	1	8		0	9		9				0	8		4	12	29
4:45 PM	7	1	8		0	5		5				0	5		4	9	22
5:00 PM	5	3	8		1	5		6				0	5		7	12	26

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & Prairie Schooner Way

4:00 PM to 5:00 PM
Wednesday, January 25, 2017

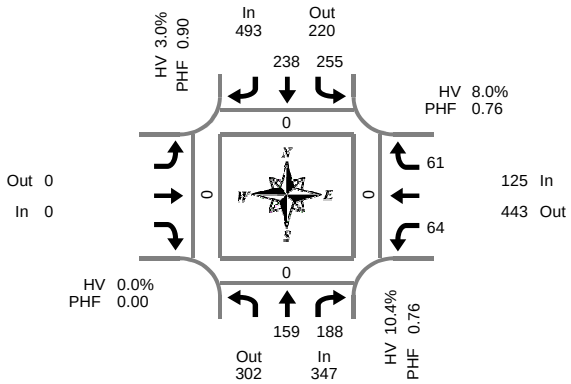


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.90	4.1%	562
NB	0.87	2.4%	416
SB	0.80	3.9%	228
Intersection	0.89	3.5%	1,206

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Washington St & Clackamas River Dr

Thursday, January 26, 2017
7:00 AM to 9:00 AM

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM		20	30	0	64	37		0				0	10		6	0	167	0	0	0	0
7:15 AM		37	47	0	77	53		0				0	11		7	0	232	0	0	0	0
7:30 AM		35	39	0	67	70		0				0	17		11	0	239	0	0	0	0
7:45 AM		53	61	0	58	65		0				0	16		22	0	275	0	0	0	0
8:00 AM		34	41	0	53	50		0				0	20		21	0	219	0	0	0	0
8:15 AM		35	56	0	53	44		0				0	19		16	0	223	0	0	0	0
8:30 AM		42	36	0	44	54		0				0	26		17	0	219	0	0	0	0
8:45 AM		53	54	0	47	51		0				0	14		18	0	237	1	0	1	0
Total Survey		309	364	0	463	424		0				0	133		118	0	1,811	1	0	1	0

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	347	302	649	0	493	220	713	0	0	0	0	0	125	443	568	0	965	0	0	0	0
%HV	10.4%				3.0%				0.0%				8.0%				6.3%				
PHF	0.76				0.90				0.00				0.76				0.88				

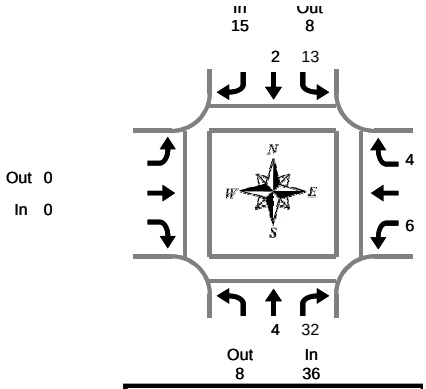
By Movement	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		159	188	347	255	238		493				0	64		61	125	965
%HV	NA	2.5%	17.0%	10.4%	5.1%	0.8%	NA	3.0%	NA	NA	NA	0.0%	9.4%	NA	6.6%	8.0%	6.3%
PHF		0.75	0.77	0.76	0.83	0.85		0.90				0.00	0.80		0.69	0.76	0.88

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM		145	177	0	266	225		0				0	54		46	0	913	0	0	0	0
7:15 AM		159	188	0	255	238		0				0	64		61	0	965	0	0	0	0
7:30 AM		157	197	0	231	229		0				0	72		70	0	956	0	0	0	0
7:45 AM		164	194	0	208	213		0				0	81		76	0	936	0	0	0	0
8:00 AM		164	187	0	197	199		0				0	79		72	0	898	1	0	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Clackamas River Dr

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:15 AM to 8:15 AM

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		2	5	7	4	0		4				0	1		0	1	12
7:15 AM		2	7	9	3	1		4				0	2		2	4	17
7:30 AM		0	8	8	7	0		7				0	0		0	0	15
7:45 AM		0	8	8	1	0		1				0	2		2	4	13
8:00 AM		2	9	11	2	1		3				0	2		0	2	16
8:15 AM		3	10	13	1	2		3				0	1		0	1	17
8:30 AM		7	10	17	1	0		1				0	5		3	8	26
8:45 AM		2	12	14	6	4		10				0	2		1	3	27
Total Survey		18	69	87	25	8		33				0	15		8	23	143

Heavy Vehicle Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Clackamas River Dr			Southbound Washington St			Eastbound Clackamas River Dr			Westbound Clackamas River Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	36	8	44	15	8	23	0	0	0	10	45	55	61
PHF	0.20			0.25			0.00			0.21			0.22

By Movement	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		4	32	36	13	2		15				0	6		4	10	61
PHF		0.08	0.25	0.20	0.23	0.08		0.25				0.00	0.19		0.25	0.21	0.22

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

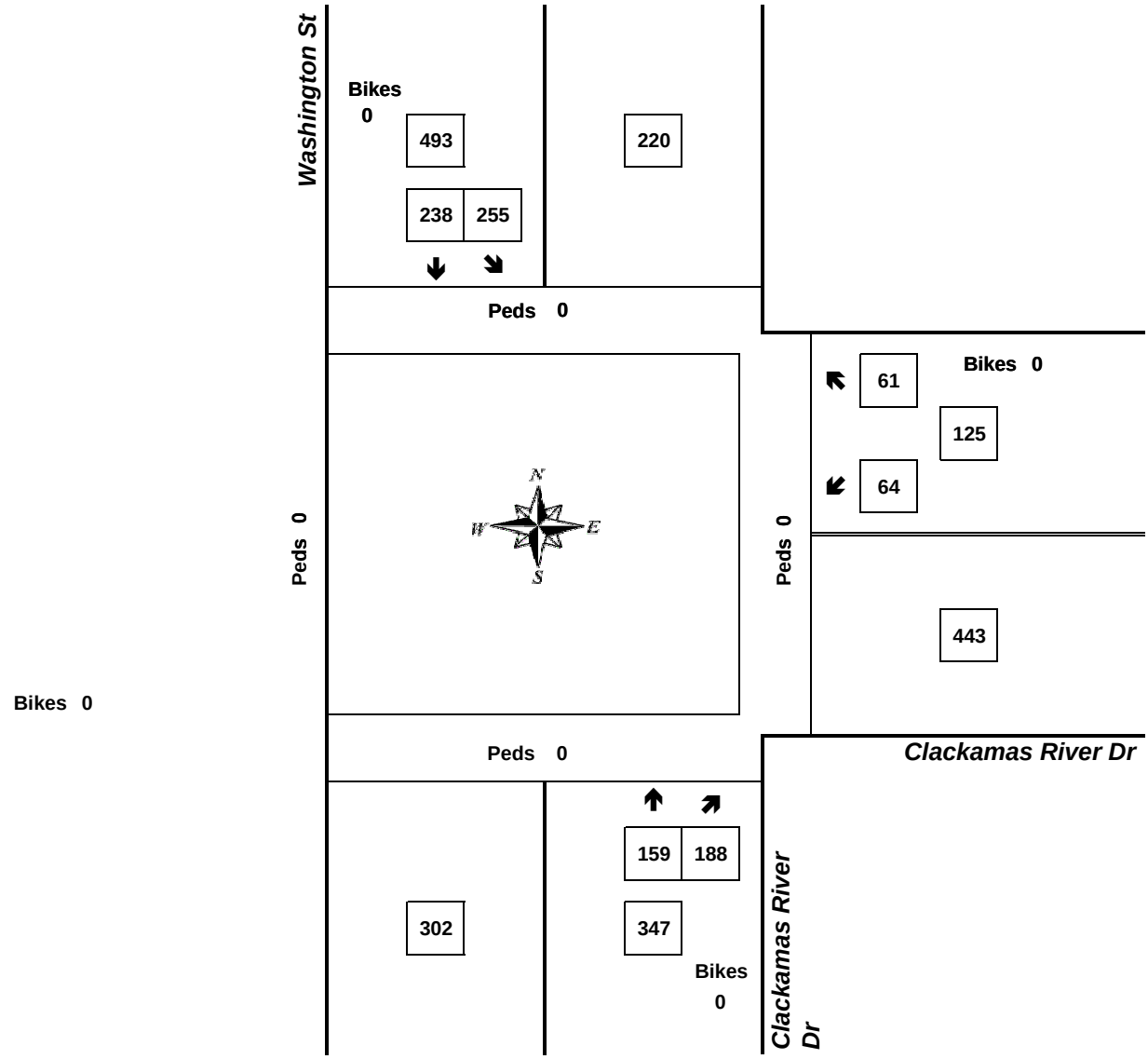
Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		4	28	32	15	1		16				0	5		4	9	57
7:15 AM		4	32	36	13	2		15				0	6		4	10	61
7:30 AM		5	35	40	11	3		14				0	5		2	7	61
7:45 AM		12	37	49	5	3		8				0	10		5	15	72
8:00 AM		14	41	55	10	7		17				0	10		4	14	86

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & Clackamas River Dr

7:15 AM to 8:15 AM
Thursday, January 26, 2017

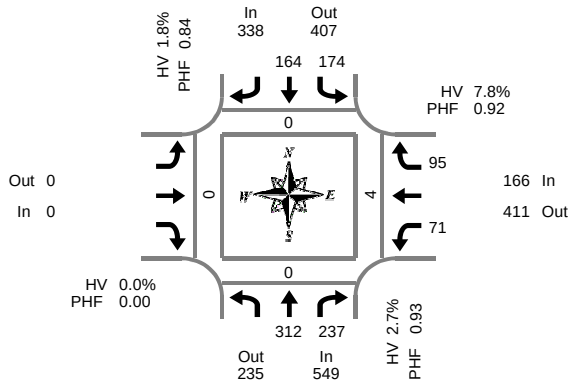


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.76	8.0%	125
NB	0.76	10.4%	347
SB	0.90	3.0%	493
Intersection	0.88	6.3%	965

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:15 PM to 5:15 PM

Washington St & Clackamas River Dr

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM		73	66	0	32	28		0				0	17		33	0	249	0	0	0	0
4:15 PM		59	72	0	39	26		0				0	20		25	0	241	0	0	0	0
4:30 PM		88	59	0	50	51		0				0	22		23	0	293	0	0	0	0
4:45 PM		87	46	0	45	44		0				0	18		20	0	260	0	0	0	0
5:00 PM		78	60	0	40	43		0				0	11		27	0	259	0	0	4	0
5:15 PM		68	44	0	38	41		0				0	17		21	0	229	0	0	0	0
5:30 PM		67	39	0	33	32		0				0	12		23	0	206	0	0	0	0
5:45 PM		59	45	0	30	25		0				0	10		19	0	188	0	0	0	0
Total Survey		579	431	0	307	290		0				0	127		191	0	1,925	0	0	4	0

Peak Hour Summary
4:15 PM to 5:15 PM

By Approach	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	549	235	784	0	338	407	745	0	0	0	0	0	166	411	577	0	1,053	0	0	4	0
%HV	2.7%				1.8%				0.0%				7.8%				3.2%				
PHF	0.93				0.84				0.00				0.92				0.90				

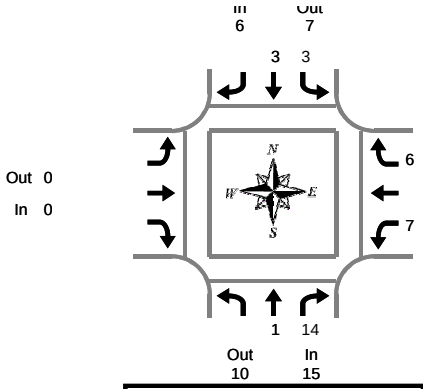
By Movement	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		312	237	549	174	164		338				0	71		95	166	1,053
%HV	NA	0.3%	5.9%	2.7%	1.7%	1.8%	NA	1.8%	NA	NA	NA	0.0%	9.9%	NA	6.3%	7.8%	3.2%
PHF		0.89	0.82	0.93	0.87	0.80		0.84				0.00	0.81		0.88	0.92	0.90

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
		T	R	Bikes	L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM		307	243	0	166	149		0				0	77		101	0	1,043	0	0	0	0
4:15 PM		312	237	0	174	164		0				0	71		95	0	1,053	0	0	4	0
4:30 PM		321	209	0	173	179		0				0	68		91	0	1,041	0	0	4	0
4:45 PM		300	189	0	156	160		0				0	58		91	0	954	0	0	4	0
5:00 PM		272	188	0	141	141		0				0	50		90	0	882	0	0	4	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Clackamas River Dr

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:15 PM to 5:15 PM

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		3	4	7	0	1		1				0	0		3	3	11
4:15 PM		0	7	7	0	0		0				0	3		1	4	11
4:30 PM		0	2	2	1	2		3				0	2		2	4	9
4:45 PM		1	3	4	0	1		1				0	1		1	2	7
5:00 PM		0	2	2	2	0		2				0	1		2	3	7
5:15 PM		0	2	2	0	1		1				0	2		0	2	5
5:30 PM		2	2	4	0	0		0				0	0		1	1	5
5:45 PM		1	2	3	0	1		1				0	1		0	1	5
Total Survey		7	24	31	3	6		9				0	10		10	20	60

Heavy Vehicle Peak Hour Summary
4:15 PM to 5:15 PM

By Approach	Northbound Clackamas River Dr			Southbound Washington St			Eastbound Clackamas River Dr			Westbound Clackamas River Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	15	10	25	6	7	13	0	0	0	13	17	30	34
PHF	0.23			0.25			0.00			0.30			0.27

By Movement	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		1	14	15	3	3		6				0	7		6	13	34
PHF		0.08	0.27	0.23	0.25	0.25		0.25				0.00	0.29		0.25	0.30	0.27

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

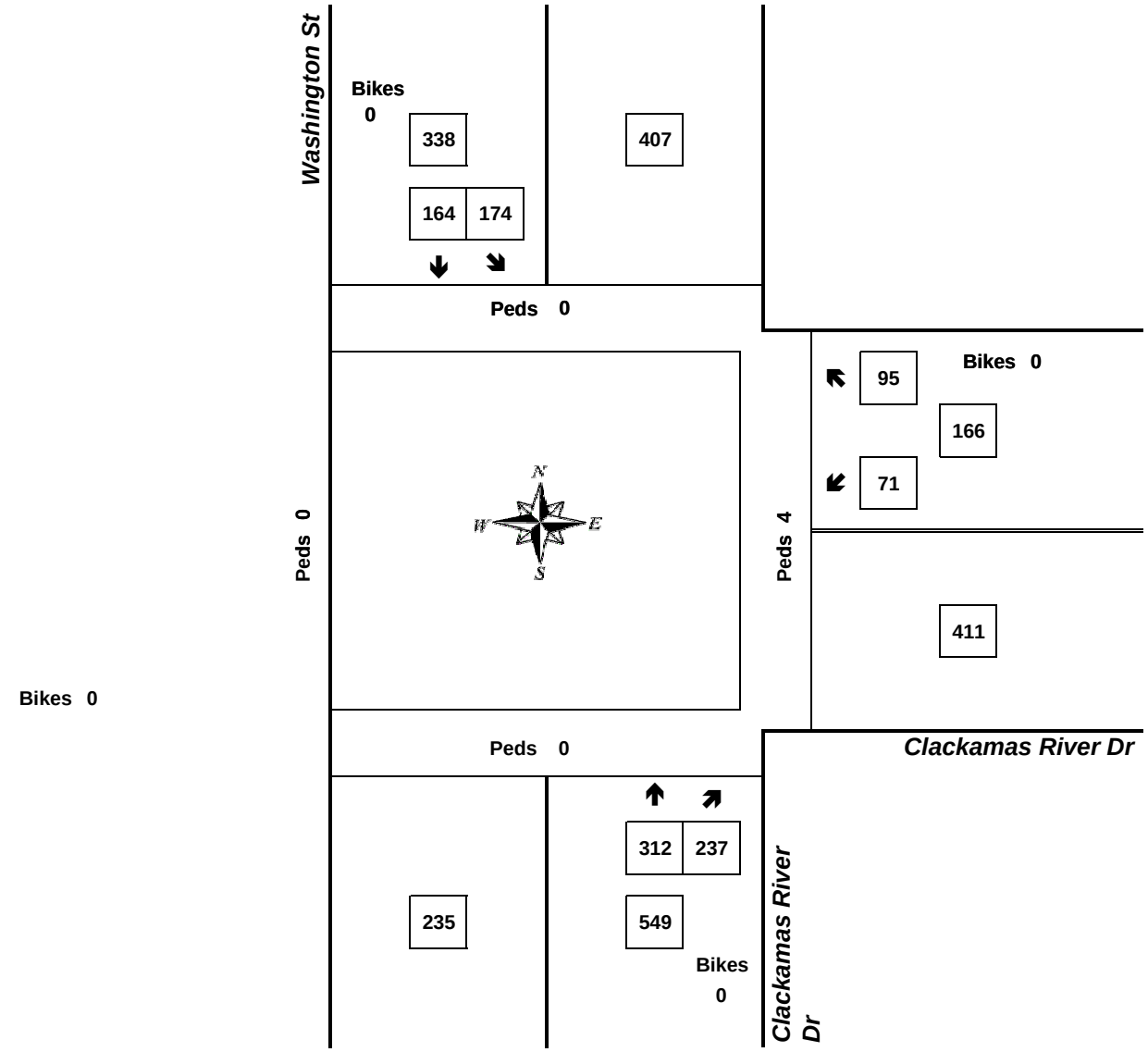
Interval Start Time	Northbound Clackamas River Dr				Southbound Washington St				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		4	16	20	1	4		5				0	6		7	13	38
4:15 PM		1	14	15	3	3		6				0	7		6	13	34
4:30 PM		1	9	10	3	4		7				0	6		5	11	28
4:45 PM		3	9	12	2	2		4				0	4		4	8	24
5:00 PM		3	8	11	2	2		4				0	4		3	7	22

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Washington St & Clackamas River Dr

4:15 PM to 5:15 PM
Wednesday, January 25, 2017

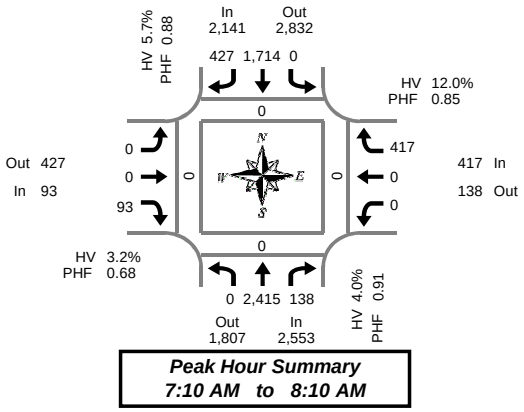


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.92	7.8%	166
NB	0.93	2.7%	549
SB	0.84	1.8%	338
Intersection	0.90	3.2%	1,053

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Hwy 213 & Clackamas River Dr

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	215	7	0	0	103	17	0	0	0	5	0	0	0	31	0	378	0	0	0	0
7:05 AM	0	237	8	0	0	95	24	0	0	0	4	0	0	0	33	0	401	0	0	0	0
7:10 AM	0	199	8	0	0	134	21	0	0	0	7	0	0	0	34	0	403	0	0	0	0
7:15 AM	0	239	7	0	0	118	39	0	0	0	6	0	0	0	31	0	440	0	0	0	0
7:20 AM	0	231	12	0	0	147	37	0	0	0	6	0	0	0	36	0	469	0	0	0	0
7:25 AM	0	201	8	1	0	117	40	0	0	0	9	0	0	0	52	0	427	0	0	0	0
7:30 AM	0	220	12	0	0	128	38	0	0	0	9	0	0	0	34	0	441	0	0	0	0
7:35 AM	0	188	13	0	0	146	30	0	0	0	3	0	0	0	32	0	412	0	0	0	0
7:40 AM	0	176	6	0	0	126	35	0	0	0	7	0	0	0	34	0	384	0	0	0	0
7:45 AM	0	158	12	0	0	173	40	0	0	0	10	0	0	0	44	0	437	0	0	0	0
7:50 AM	0	210	12	0	0	159	39	0	0	0	2	0	0	0	22	0	444	0	0	0	0
7:55 AM	0	188	13	0	0	162	38	0	0	0	8	0	0	0	36	0	445	0	0	0	0
8:00 AM	0	195	14	0	0	142	36	0	0	0	14	0	0	0	37	0	438	0	0	0	0
8:05 AM	0	210	21	0	0	162	34	0	0	0	12	0	0	0	25	0	464	0	0	0	0
8:10 AM	0	174	16	0	0	95	26	0	0	0	7	0	0	0	36	0	354	0	0	0	0
8:15 AM	0	150	12	0	0	108	36	1	0	0	11	0	0	0	54	0	371	0	0	0	0
8:20 AM	0	205	11	0	0	126	29	0	0	0	3	0	0	0	27	0	401	0	0	0	0
8:25 AM	0	178	16	0	0	132	37	0	0	0	6	0	0	0	37	0	406	0	0	0	0
8:30 AM	0	152	9	0	0	134	40	0	0	0	12	0	0	0	38	0	385	0	0	0	0
8:35 AM	0	155	13	0	0	173	40	0	0	0	14	0	0	0	37	0	432	0	0	0	0
8:40 AM	0	168	14	0	0	148	34	0	0	0	8	0	0	0	25	0	397	0	0	0	0
8:45 AM	0	145	18	0	0	153	47	0	0	0	3	0	0	0	33	0	399	0	0	1	0
8:50 AM	0	142	13	0	0	138	43	0	0	0	16	0	0	0	45	0	397	0	0	0	0
8:55 AM	0	183	17	0	0	110	37	0	0	0	9	0	0	0	36	0	392	0	0	0	0
Total Survey	0	4,519	292	1	0	3,229	837	1	0	0	191	0	0	0	849	0	9,917	0	0	1	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	651	23	0	0	332	62	0	0	0	16	0	0	0	98	0	1,182	0	0	0	0
7:15 AM	0	671	27	1	0	382	116	0	0	0	21	0	0	0	119	0	1,336	0	0	0	0
7:30 AM	0	584	31	0	0	400	103	0	0	0	19	0	0	0	100	0	1,237	0	0	0	0
7:45 AM	0	556	37	0	0	494	117	0	0	0	20	0	0	0	102	0	1,326	0	0	0	0
8:00 AM	0	579	51	0	0	399	96	0	0	0	33	0	0	0	98	0	1,256	0	0	0	0
8:15 AM	0	533	39	0	0	366	102	1	0	0	20	0	0	0	118	0	1,178	0	0	0	0
8:30 AM	0	475	36	0	0	455	114	0	0	0	34	0	0	0	100	0	1,214	0	0	0	0
8:45 AM	0	470	48	0	0	401	127	0	0	0	28	0	0	0	114	0	1,188	0	0	1	0
Total Survey	0	4,519	292	1	0	3,229	837	1	0	0	191	0	0	0	849	0	9,917	0	0	1	0

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	2,553	1,807	4,360	1	2,141	2,832	4,973	0	93	427	520	0	417	138	555	0	5,204	0	0	0	0
%HV	4.0%				5.7%				3.2%				12.0%				5.3%				
PHF	0.91				0.88				0.68				0.85				0.97				

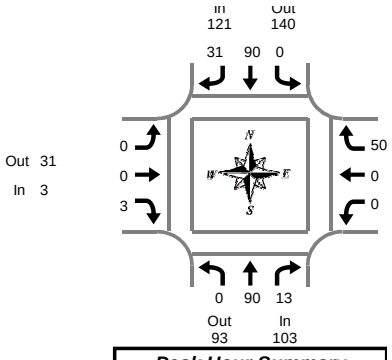
By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	2,415	138	2,553	0	1,714	427	2,141	0	0	93	93	0	0	417	417	5,204
%HV	0.0%	3.7%	9.4%	4.0%	0.0%	5.3%	7.3%	5.7%	0.0%	0.0%	3.2%	3.2%	0.0%	0.0%	12.0%	12.0%	5.3%
PHF	0.00	0.90	0.72	0.91	0.00	0.87	0.91	0.88	0.00	0.00	0.68	0.68	0.00	0.00	0.85	0.85	0.97

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	2,462	118	1	0	1,608	398	0	0	0	76	0	0	0	419	0	5,081	0	0	0	0
7:15 AM	0	2,390	146	1	0	1,675	432	0	0	0	93	0	0	0	419	0	5,155	0	0	0	0
7:30 AM	0	2,252	158	0	0	1,659	418	1	0	0	92	0	0	0	418	0	4,997	0	0	0	0
7:45 AM	0	2,143	163	0	0	1,714	429	1	0	0	107	0	0	0	418	0	4,974	0	0	0	0
8:00 AM	0	2,057	174	0	0	1,621	439	1	0	0	115	0	0	0	430	0	4,836	0	0	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 213 & Clackamas River Dr

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	7	0	7	0	6	2	8	0	0	0	0	0	0	1	1	16
7:05 AM	0	4	1	5	0	7	2	9	0	0	0	0	0	0	3	3	17
7:10 AM	0	5	1	6	0	6	1	7	0	0	0	0	0	0	3	3	16
7:15 AM	0	8	0	8	0	11	4	15	0	0	0	0	0	0	7	7	30
7:20 AM	0	8	3	11	0	7	2	9	0	0	0	0	0	0	4	4	24
7:25 AM	0	13	0	13	0	5	3	8	0	0	1	1	0	0	5	5	27
7:30 AM	0	2	2	4	0	6	4	10	0	0	0	0	0	0	2	2	16
7:35 AM	0	7	0	7	0	4	1	5	0	0	0	0	0	0	6	6	18
7:40 AM	0	5	0	5	0	6	3	9	0	0	0	0	0	0	2	2	16
7:45 AM	0	2	0	2	0	14	6	20	0	0	0	0	0	0	7	7	29
7:50 AM	0	5	1	6	0	2	2	4	0	0	0	0	0	0	2	2	12
7:55 AM	0	8	1	9	0	12	1	13	0	0	1	1	0	0	4	4	27
8:00 AM	0	14	2	16	0	9	1	10	0	0	1	1	0	0	4	4	31
8:05 AM	0	13	3	16	0	8	3	11	0	0	0	0	0	0	4	4	31
8:10 AM	0	9	0	9	0	8	3	11	0	0	0	0	0	0	5	5	25
8:15 AM	0	16	2	18	0	10	7	17	0	0	1	1	0	0	2	2	38
8:20 AM	0	12	1	13	0	7	3	10	0	0	0	0	0	0	4	4	27
8:25 AM	0	14	2	16	0	8	6	14	0	0	2	2	0	0	6	6	38
8:30 AM	0	10	1	11	0	11	5	16	0	0	0	0	0	0	6	6	33
8:35 AM	0	5	2	7	0	7	3	10	0	0	0	0	0	0	7	7	24
8:40 AM	0	6	4	10	0	11	4	15	0	0	0	0	0	0	3	3	28
8:45 AM	0	6	5	11	0	8	6	14	0	0	1	1	0	0	4	4	30
8:50 AM	0	10	0	10	0	13	3	16	0	0	1	1	0	0	8	8	35
8:55 AM	0	17	1	18	0	6	6	12	0	0	1	1	0	0	6	6	37
Total Survey	0	206	32	238	0	192	81	273	0	0	9	9	0	0	105	105	625

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	16	2	18	0	19	5	24	0	0	0	0	0	0	7	7	49
7:15 AM	0	29	3	32	0	23	9	32	0	0	1	1	0	0	16	16	81
7:30 AM	0	14	2	16	0	16	8	24	0	0	0	0	0	0	10	10	50
7:45 AM	0	15	2	17	0	28	9	37	0	0	1	1	0	0	13	13	68
8:00 AM	0	36	5	41	0	25	7	32	0	0	1	1	0	0	13	13	87
8:15 AM	0	42	5	47	0	25	16	41	0	0	3	3	0	0	12	12	103
8:30 AM	0	21	7	28	0	29	12	41	0	0	0	0	0	0	16	16	85
8:45 AM	0	33	6	39	0	27	15	42	0	0	3	3	0	0	18	18	102
Total Survey	0	206	32	238	0	192	81	273	0	0	9	9	0	0	105	105	625

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Clackamas River Dr			Westbound Clackamas River Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	103	93	196	121	140	261	3	31	34	50	13	63	277
PHF	0.63			0.82			0.38			0.78			0.78

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	90	13	103	0	90	31	121	0	0	3	3	0	0	50	50	277
PHF	0.00	0.64	0.54	0.63	0.00	0.78	0.70	0.82	0.00	0.00	0.38	0.38	0.00	0.00	0.78	0.78	0.78

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

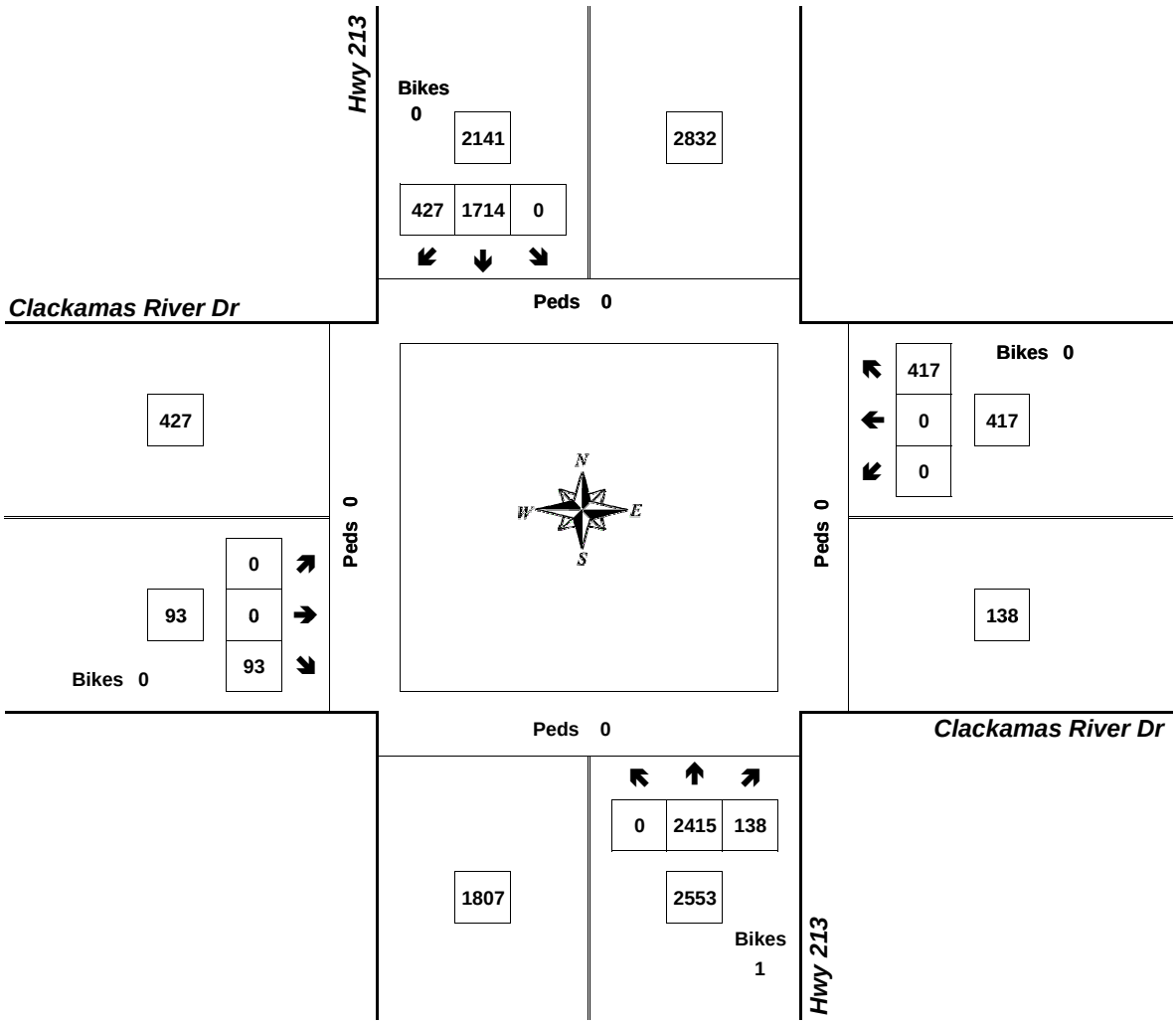
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	74	9	83	0	86	31	117	0	0	2	2	0	0	46	46	248
7:15 AM	0	94	12	106	0	92	33	125	0	0	3	3	0	0	52	52	286
7:30 AM	0	107	14	121	0	94	40	134	0	0	5	5	0	0	48	48	308
7:45 AM	0	114	19	133	0	107	44	151	0	0	5	5	0	0	54	54	343
8:00 AM	0	132	23	155	0	106	50	156	0	0	7	7	0	0	59	59	377

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 213 & Clackamas River Dr

7:10 AM to 8:10 AM
Thursday, January 26, 2017

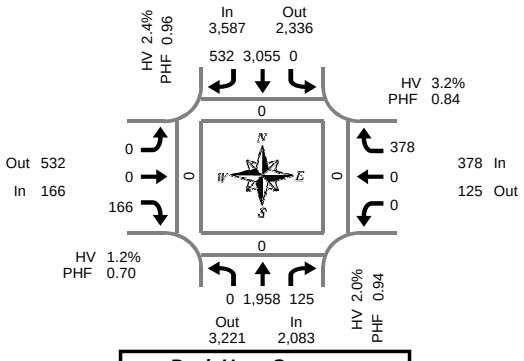


Approach	PHF	HV%	Volume
EB	0.68	3.2%	93
WB	0.85	12.0%	417
NB	0.91	4.0%	2,553
SB	0.88	5.7%	2,141
Intersection	0.97	5.3%	5,204

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:10 PM to 5:10 PM

Hwy 213 & Clackamas River Dr

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	156	13	0	0	249	49	0	0	0	14	0	0	0	24	0	505	0	0	0	0
4:05 PM	0	145	16	0	0	224	54	0	0	0	11	0	0	0	39	0	489	0	0	0	0
4:10 PM	0	194	11	0	0	264	49	0	0	0	11	0	0	0	35	0	564	0	0	0	0
4:15 PM	0	170	14	0	0	283	41	0	0	0	13	0	0	0	24	0	545	0	0	0	0
4:20 PM	0	155	10	0	0	250	46	0	0	0	14	0	0	0	24	0	499	0	0	0	0
4:25 PM	0	141	10	0	0	254	46	0	0	0	11	0	0	0	43	0	505	0	0	0	0
4:30 PM	0	170	12	0	0	241	52	0	0	0	11	0	0	0	35	0	521	0	0	0	0
4:35 PM	0	168	8	0	0	246	52	0	0	0	12	0	0	0	34	0	520	0	0	0	0
4:40 PM	0	139	12	0	0	225	42	0	0	0	34	0	0	0	29	0	481	0	0	0	0
4:45 PM	0	190	7	0	0	277	47	0	0	0	13	0	0	0	33	0	567	0	0	0	0
4:50 PM	0	162	11	0	0	270	36	0	0	0	11	0	0	0	27	0	517	0	0	0	0
4:55 PM	0	128	7	0	0	217	44	0	0	0	21	0	0	0	27	0	444	0	0	0	0
5:00 PM	0	169	9	0	0	271	37	0	0	0	10	0	0	0	31	0	527	0	0	0	0
5:05 PM	0	172	14	0	0	257	40	0	0	0	5	0	0	0	36	0	524	0	0	0	0
5:10 PM	0	172	11	0	0	235	41	0	0	0	16	0	0	0	40	0	515	0	0	0	0
5:15 PM	0	163	14	0	0	261	45	0	0	0	19	0	0	0	33	0	535	0	0	0	0
5:20 PM	0	190	14	0	0	248	37	0	0	0	12	0	0	0	20	0	521	0	0	0	0
5:25 PM	0	148	17	0	0	261	30	0	0	0	8	0	0	0	29	0	493	0	0	0	0
5:30 PM	0	115	10	0	0	238	39	0	0	0	13	0	0	0	27	0	442	0	0	0	0
5:35 PM	0	154	5	0	0	249	36	0	0	0	9	0	0	0	32	0	485	0	0	0	0
5:40 PM	0	167	15	0	0	215	36	0	0	0	10	0	0	0	17	0	460	0	0	0	0
5:45 PM	0	154	9	0	0	214	33	0	0	0	9	0	0	0	21	0	440	0	0	0	0
5:50 PM	0	165	8	0	0	252	36	0	0	0	5	0	0	0	22	0	488	0	0	0	0
5:55 PM	0	114	12	0	0	219	41	0	0	0	14	0	0	0	18	0	418	0	0	0	0
Total Survey	0	3,801	269	0	0	5,920	1,009	0	0	0	306	0	0	0	700	0	12,005	0	0	0	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	495	40	0	0	737	152	0	0	0	36	0	0	0	98	0	1,558	0	0	0	0
4:15 PM	0	466	34	0	0	787	133	0	0	0	38	0	0	0	91	0	1,549	0	0	0	0
4:30 PM	0	477	32	0	0	712	146	0	0	0	57	0	0	0	98	0	1,522	0	0	0	0
4:45 PM	0	480	25	0	0	764	127	0	0	0	45	0	0	0	87	0	1,528	0	0	0	0
5:00 PM	0	513	34	0	0	763	118	0	0	0	31	0	0	0	107	0	1,566	0	0	0	0
5:15 PM	0	501	45	0	0	770	112	0	0	0	39	0	0	0	82	0	1,549	0	0	0	0
5:30 PM	0	436	30	0	0	702	111	0	0	0	32	0	0	0	76	0	1,387	0	0	0	0
5:45 PM	0	433	29	0	0	685	110	0	0	0	28	0	0	0	61	0	1,346	0	0	0	0
Total Survey	0	3,801	269	0	0	5,920	1,009	0	0	0	306	0	0	0	700	0	12,005	0	0	0	0

Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	2,083	3,221	5,304	0	3,587	2,336	5,923	0	166	532	698	0	378	125	503	0	6,214	0	0	0	0
%HV	2.0%				2.4%				1.2%				3.2%				2.3%				
PHF	0.94				0.96				0.70				0.84				0.97				

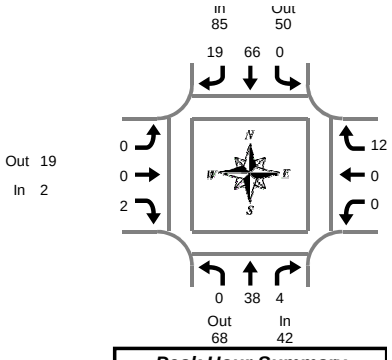
By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	1,958	125	2,083	0	3,055	532	3,587	0	0	166	166	0	0	378	378	6,214
%HV	0.0%	1.9%	3.2%	2.0%	0.0%	2.2%	3.6%	2.4%	0.0%	0.0%	1.2%	1.2%	0.0%	0.0%	3.2%	3.2%	2.3%
PHF	0.00	0.94	0.89	0.94	0.00	0.96	0.89	0.96	0.00	0.00	0.70	0.70	0.00	0.00	0.84	0.84	0.97

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	1,918	131	0	0	3,000	558	0	0	0	176	0	0	0	374	0	6,157	0	0	0	0
4:15 PM	0	1,936	125	0	0	3,026	524	0	0	0	171	0	0	0	383	0	6,165	0	0	0	0
4:30 PM	0	1,971	136	0	0	3,009	503	0	0	0	172	0	0	0	374	0	6,165	0	0	0	0
4:45 PM	0	1,930	134	0	0	2,999	468	0	0	0	147	0	0	0	352	0	6,030	0	0	0	0
5:00 PM	0	1,883	138	0	0	2,920	451	0	0	0	130	0	0	0	326	0	5,848	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 213 & Clackamas River Dr

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:10 PM to 5:10 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	6	1	7	0	4	2	6	0	0	0	0	0	0	1	1	14
4:05 PM	0	6	1	7	0	9	1	10	0	0	0	0	0	0	5	5	22
4:10 PM	0	7	0	7	0	10	4	14	0	0	1	1	0	0	1	1	23
4:15 PM	0	5	0	5	0	7	1	8	0	0	1	1	0	0	0	0	14
4:20 PM	0	3	0	3	0	5	4	9	0	0	0	0	0	0	1	1	13
4:25 PM	0	1	0	1	0	7	2	9	0	0	0	0	0	0	2	2	12
4:30 PM	0	4	0	4	0	5	1	6	0	0	0	0	0	0	0	0	10
4:35 PM	0	3	0	3	0	7	1	8	0	0	0	0	0	0	1	1	12
4:40 PM	0	3	1	4	0	3	2	5	0	0	0	0	0	0	1	1	10
4:45 PM	0	2	1	3	0	2	1	3	0	0	0	0	0	0	3	3	9
4:50 PM	0	4	1	5	0	3	1	4	0	0	0	0	0	0	0	0	9
4:55 PM	0	1	0	1	0	7	1	8	0	0	0	0	0	0	1	1	10
5:00 PM	0	3	0	3	0	5	0	5	0	0	0	0	0	0	2	2	10
5:05 PM	0	2	1	3	0	5	1	6	0	0	0	0	0	0	0	0	9
5:10 PM	0	5	2	7	0	6	3	9	0	0	0	0	0	0	1	1	17
5:15 PM	0	4	0	4	0	5	1	6	0	0	0	0	0	0	1	1	11
5:20 PM	0	2	0	2	0	8	1	9	0	0	1	1	0	0	0	0	12
5:25 PM	0	2	0	2	0	5	1	6	0	0	0	0	0	0	2	2	10
5:30 PM	0	3	0	3	0	3	1	4	0	0	0	0	0	0	0	0	7
5:35 PM	0	5	0	5	0	4	1	5	0	0	0	0	0	0	1	1	11
5:40 PM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	4
5:45 PM	0	2	1	3	0	2	2	4	0	0	0	0	0	0	0	0	7
5:50 PM	0	3	0	3	0	5	0	5	0	0	2	2	0	0	1	1	11
5:55 PM	0	1	0	1	0	1	2	3	0	0	1	1	0	0	0	0	5
Total Survey	0	78	9	87	0	121	34	155	0	0	6	6	0	0	24	24	272

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	19	2	21	0	23	7	30	0	0	1	1	0	0	7	7	59
4:15 PM	0	9	0	9	0	19	7	26	0	0	1	1	0	0	3	3	39
4:30 PM	0	10	1	11	0	15	4	19	0	0	0	0	0	0	2	2	32
4:45 PM	0	7	2	9	0	12	3	15	0	0	0	0	0	0	4	4	28
5:00 PM	0	10	3	13	0	16	4	20	0	0	0	0	0	0	3	3	36
5:15 PM	0	8	0	8	0	18	3	21	0	0	1	1	0	0	3	3	33
5:30 PM	0	9	0	9	0	10	2	12	0	0	0	0	0	0	1	1	22
5:45 PM	0	6	1	7	0	8	4	12	0	0	3	3	0	0	1	1	23
Total Survey	0	78	9	87	0	121	34	155	0	0	6	6	0	0	24	24	272

Heavy Vehicle Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Clackamas River Dr			Westbound Clackamas River Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	42	68	110	85	50	135	2	19	21	12	4	16	141
PHF	0.70			0.69			0.25			0.60			0.71

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	38	4	42	0	66	19	85	0	0	2	2	0	0	12	12	141
PHF	0.00	0.63	0.33	0.70	0.00	0.75	0.53	0.69	0.00	0.00	0.25	0.25	0.00	0.00	0.60	0.60	0.71

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

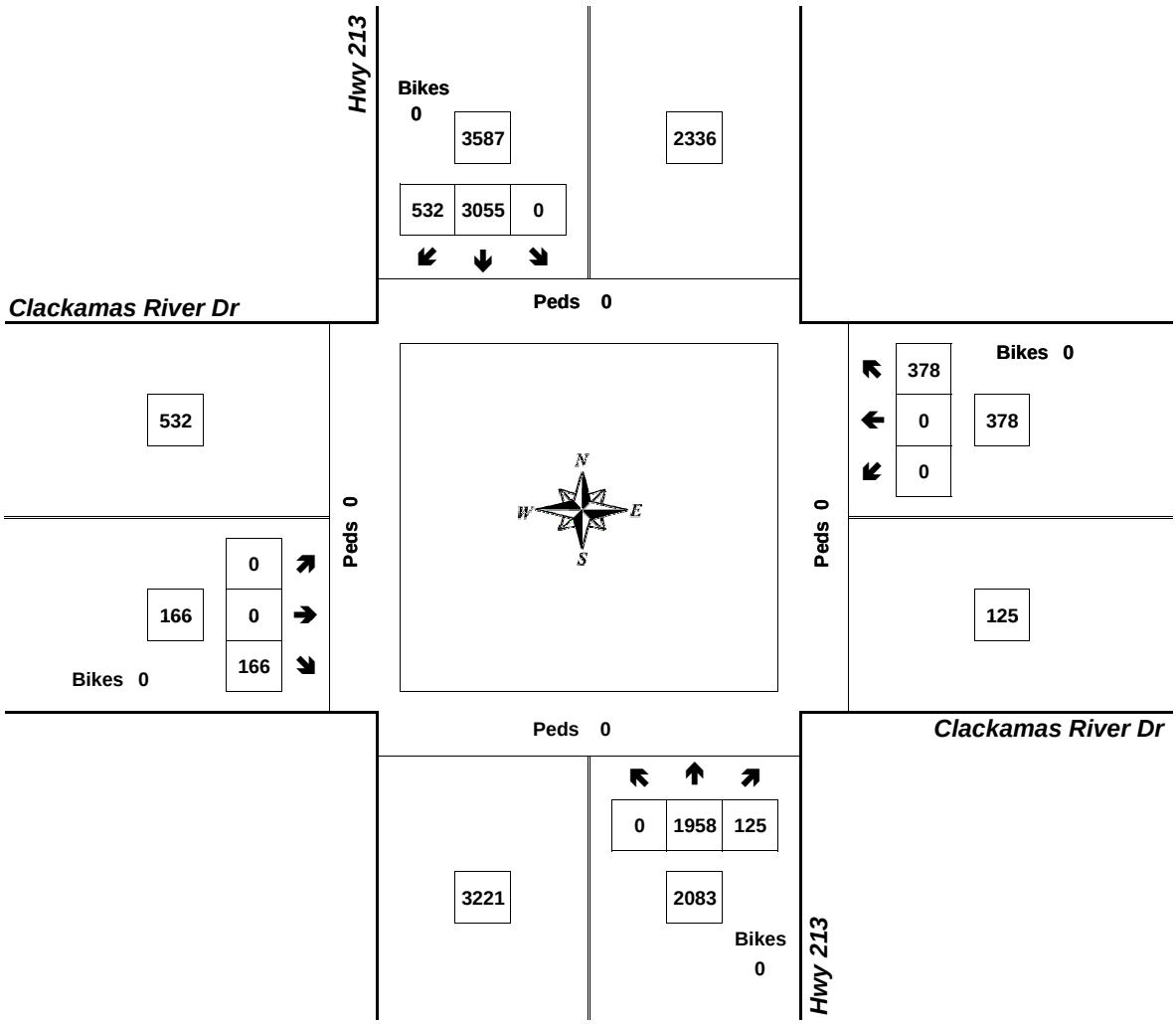
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	45	5	50	0	69	21	90	0	0	2	2	0	0	16	16	158
4:15 PM	0	36	6	42	0	62	18	80	0	0	1	1	0	0	12	12	135
4:30 PM	0	35	6	41	0	61	14	75	0	0	1	1	0	0	12	12	129
4:45 PM	0	34	5	39	0	56	12	68	0	0	1	1	0	0	11	11	119
5:00 PM	0	33	4	37	0	52	13	65	0	0	4	4	0	0	8	8	114

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 213 & Clackamas River Dr

4:10 PM to 5:10 PM
Wednesday, January 25, 2017



Approach	PHF	HV%	Volume
EB	0.70	1.2%	166
WB	0.84	3.2%	378
NB	0.94	2.0%	2,083
SB	0.96	2.4%	3,587
Intersection	0.97	2.3%	6,214

Count Period: 4:00 PM to 6:00 PM

TRIP GENERATION CALCULATIONS

Land Use: Apartment
Land Use Code: 220
Variable: Dwelling Units
Variable Value: 131

AM PEAK HOUR

Trip Rate: 0.51

	Enter	Exit	Total
Directional Distribution	20%	80%	
Trip Ends	**13**	**54**	**67**

PM PEAK HOUR

Trip Rate: 0.62

	Enter	Exit	Total
Directional Distribution	65%	35%	
Trip Ends	**53**	**28**	**81**

WEEKDAY

Trip Rate: 6.65

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**436**	**436**	**872**

SATURDAY

Trip Rate: 6.39

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**419**	**419**	**838**

Source: TRIP GENERATION, Ninth Edition

TRIP GENERATION CALCULATIONS

Land Use: Hotel
Land Use Code: 310
Variable: Rooms
Variable Value: 99

AM PEAK HOUR

Trip Rate: 0.53

	Enter	Exit	Total
Directional Distribution	59%	41%	
Trip Ends	**31**	**21**	**52**

PM PEAK HOUR

Trip Rate: 0.6

	Enter	Exit	Total
Directional Distribution	51%	49%	
Trip Ends	**30**	**29**	**59**

WEEKDAY

Trip Rate: 8.17

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**404**	**404**	**808**

SATURDAY

Trip Rate: 8.19

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**405**	**405**	**810**

Source: TRIP GENERATION, Ninth Edition

TRIP GENERATION CALCULATIONS

Land Use: Shopping Center
Land Use Code: 820
Variable: 1,000 Sq Ft Gross Leasable Area
Variable Value: 9.5

AM PEAK HOUR

Trip Rate: 0.96

	Enter	Exit	Total
Directional Distribution	62%	38%	
Trip Ends	**6**	**3**	**9**

PM PEAK HOUR

Trip Rate: 3.71

	Enter	Exit	Total
Directional Distribution	48%	52%	
Trip Ends	**17**	**18**	**35**

WEEKDAY

Trip Rate: 42.7

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**203**	**203**	**406**

SATURDAY

Trip Rate: 49.97

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**237**	**237**	**474**

Source: TRIP GENERATION, Ninth Edition

TRIP GENERATION CALCULATIONS

Land Use: Coffee/Donut Shop without Drive-Through Window
Land Use Code: 936
Variable: 1000 Sq Ft Gross Floor Area
Variable Quantity: 2.5

AM PEAK HOUR

Trip Rate: 108.38

	Enter	Exit	Total
Directional Distribution	51%	49%	
Trip Ends	**138**	**133**	**271**

PM PEAK HOUR

Trip Rate: 40.75

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**51**	**51**	**102**

SATURDAY PEAK

Trip Rate: 65.96

	Enter	Exit	Total
Directional Distribution	48%	52%	
Trip Ends	**79**	**86**	**165**

Source: TRIP GENERATION, Ninth Edition

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	Abernethy Place Mixed-Use Development	**Organization:**	Lancaster Engineering
Project Location:	Oregon City, OR	**Performed By:**	Daniel Stumpf, EI
Scenario Description:	Background plus Site Conditions	**Date:**	18-Apr-17
Analysis Year:	2022	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (***For Information Only***)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	820	9,500	Sq.Ft. GFA	9	6	3
Restaurant	936	2,500	Sq.Ft. GFA	271	138	133
Cinema/Entertainment				0		
Residential	220	131	Dwelling Units	67	13	54
Hotel	310	99	Rooms	52	31	21
All Other Land Uses[2]				0		
Total				399	188	211

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.25	0%	0%	1.25	0%	0%
Retail						
Restaurant						
Cinema/Entertainment						
Residential	1.25	0%	0%	1.25	0%	0%
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	14	0		0
Hotel	0	0	2	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	416	191	225
Internal Capture Percentage	9%	10%	8%
External Vehicle-Trips[3]	364	169	195
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	17%	0%
Restaurant	12%	2%
Cinema/Entertainment	N/A	N/A
Residential	6%	22%
Hotel	3%	10%

[1]Land Use Codes (LUCs) from ***Trip Generation Informational Report***, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	Abernethy Place Mixed-Use Development
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.25	0	0	1.25	0	0
Retail	1.00	6	6	1.00	3	3
Restaurant	1.00	138	138	1.00	133	133
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.25	13	16	1.25	54	68
Hotel	1.00	31	31	1.00	21	21

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		0	0	0	0
Restaurant	41	19		0	5	4
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	14	0		0
Hotel	16	3	2	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	32	0	0	0
Retail	0		69	0	0	0
Restaurant	0	0		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	28	0		0
Hotel	0	0	8	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	1	5	6	5	0	0
Restaurant	16	122	138	122	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	15	16	12	0	0
Hotel	1	30	31	30	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	0	3	3	3	0	0
Restaurant	2	131	133	131	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	15	53	68	42	0	0
Hotel	2	19	21	19	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	Abernethy Place Mixed-Use Development	**Organization:**	Lancaster Engineering
Project Location:	Oregon City, OR	**Performed By:**	Daniel Stumpf, EI
Scenario Description:	Background plus Site Conditions	**Date:**	18-Apr-17
Analysis Year:	2022	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (***For Information Only***)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	820	9,500	Sq.Ft. GFA	35	17	18
Restaurant	936	2,500	Sq.Ft. GFA	102	51	51
Cinema/Entertainment				0		
Residential	220	131	Dwelling Units	81	53	28
Hotel	310	99	Rooms	59	30	29
All Other Land Uses[2]				0		
Total				277	151	126

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.25	0%	0%	1.25	0%	0%
Retail						
Restaurant						
Cinema/Entertainment						
Residential	1.25	0%	0%	1.25	0%	0%
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0		0	
Retail					0	
Restaurant					0	
Cinema/Entertainment					0	
Residential		0	0			
Hotel					600	

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		5	0	5	1
Restaurant	0	9		0	9	4
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	7	0		1
Hotel	0	0	3	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	297	164	133
Internal Capture Percentage	31%	28%	35%
External Vehicle-Trips[3]	190	108	82
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	65%	61%
Restaurant	29%	43%
Cinema/Entertainment	N/A	N/A
Residential	21%	29%
Hotel	20%	10%

[1]Land Use Codes (LUCs) from ***Trip Generation Informational Report***, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	Abernethy Place Mixed-Use Development
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends							
Land Use	Table 7-P (D): Entering Trips				Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*		Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.25	0	0		1.25	0	0
Retail	1.00	17	17		1.00	18	18
Restaurant	1.00	51	51		1.00	51	51
Cinema/Entertainment	1.00	0	0		1.00	0	0
Residential	1.25	53	66		1.25	28	35
Hotel	1.00	30	30		1.00	29	29

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		5	1	5	1
Restaurant	2	21		4	9	4
Cinema/Entertainment	0	0	0		0	0
Residential	1	15	7	0		1
Hotel	0	5	20	0	1	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	1	0	3	0
Retail	0		15	0	30	5
Restaurant	0	9		0	11	21
Cinema/Entertainment	0	1	2		3	0
Residential	0	2	7	0		4
Hotel	0	0	3	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)							
Destination Land Use	Person-Trip Estimates				External Trips by Mode*		
	Internal	External	Total		Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0		0	0	0
Retail	11	6	17		6	0	0
Restaurant	15	36	51		36	0	0
Cinema/Entertainment	0	0	0		0	0	0
Residential	14	52	66		42	0	0
Hotel	6	24	30		24	0	0
All Other Land Uses[3]	0	0	0		0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)							
Origin Land Use	Person-Trip Estimates				External Trips by Mode*		
	Internal	External	Total		Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0		0	0	0
Retail	11	7	18		7	0	0
Restaurant	22	29	51		29	0	0
Cinema/Entertainment	0	0	0		0	0	0
Residential	10	25	35		20	0	0
Hotel	3	26	29		26	0	0
All Other Land Uses[3]	0	0	0		0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Table 7.1a Adjusted Internal Trip Capture Rates for Trip Origins within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Office	0.0%	0.0%
	To Retail	28.0%	20.0%
	To Restaurant	63.0%	4.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	1.0%	2.0%
	To Hotel	0.0%	0.0%
From RETAIL	To Office	29.0%	2.0%
	To Retail	0.0%	0.0%
	To Restaurant	13.0%	29.0%
	To Cinema/Entertainment	0.0%	4.0%
	To Residential	14.0%	26.0%
	To Hotel	0.0%	5.0%
From RESTAURANT	To Office	31.0%	3.0%
	To Retail	14.0%	41.0%
	To Restaurant	0.0%	0.0%
	To Cinema/Entertainment	0.0%	8.0%
	To Residential	4.0%	18.0%
	To Hotel	3.0%	7.0%
From CINEMA/ENTERTAINMENT	To Office	0.0%	2.0%
	To Retail	0.0%	21.0%
	To Restaurant	0.0%	31.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	8.0%
	To Hotel	0.0%	2.0%
From RESIDENTIAL	To Office	2.0%	4.0%
	To Retail	1.0%	42.0%
	To Restaurant	20.0%	21.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	0.0%
	To Hotel	0.0%	3.0%
From HOTEL	To Office	75.0%	0.0%
	To Retail	14.0%	16.0%
	To Restaurant	9.0%	68.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	2.0%
	To Hotel	0.0%	0.0%

Table 7.2a Adjusted Internal Trip Capture Rates for Trip Destinations within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Office	0.0%	0.0%
	From Retail	4.0%	31.0%
	From Restaurant	14.0%	30.0%
	From Cinema/Entertainment	0.0%	6.0%
	From Residential	3.0%	57.0%
	From Hotel	3.0%	0.0%
To RETAIL	From Office	32.0%	8.0%
	From Retail	0.0%	0.0%
	From Restaurant	8.0%	50.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	17.0%	10.0%
	From Hotel	4.0%	2.0%
To RESTAURANT	From Office	23.0%	2.0%
	From Retail	50.0%	29.0%
	From Restaurant	0.0%	0.0%
	From Cinema/Entertainment	0.0%	3.0%
	From Residential	20.0%	14.0%
	From Hotel	6.0%	5.0%
To CINEMA/ENTERTAINMENT	From Office	0.0%	1.0%
	From Retail	0.0%	26.0%
	From Restaurant	0.0%	32.0%
	From Cinema/Entertainment	0.0%	0.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To RESIDENTIAL	From Office	0.0%	4.0%
	From Retail	2.0%	46.0%
	From Restaurant	5.0%	16.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To HOTEL	From Office	0.0%	0.0%
	From Retail	0.0%	17.0%
	From Restaurant	4.0%	71.0%
	From Cinema/Entertainment	0.0%	1.0%
	From Residential	0.0%	12.0%
	From Hotel	0.0%	0.0%

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ATTACHMENT A

Redmond Elks
Starbucks Trip Generation Summary
TENW Project No. 2025

Starbucks Trip Generation Summary

AM PEAK HOUR TRIP GENERATION RATE (Sit-Down + Drive-Thru)

Location[1]	Square Feet	AM Peak Hour Trips[2] Entering	Exiting	Total	PM Peak Hour Trip Rates Entering	Exiting	Total
Lynnwood	1,798	89	89	178	49.5	49.5	99
Kenmore	2,782	59	59	118	21.21	21.21	42.42
Federal Way	1,983	53	53	106	26.72	26.73	53.45
Puyallup	1,820	73	73	146	40.11	40.11	80.22
Bonney Lake	1,800	48	48	96	26.66	26.67	53.33
				Average =	***32.84***	***32.84***	***65.68***

PERCENT PASS-BY/DIVERTED LINK TRIPS

Location[1]	Total Survey[2]	Primary Trips[2]	Percent Primary Trips	Percent Pass-by/Diverted Link Trips
Lynnwood	141	30	21%	79%
Kenmore	100	12	12%	88%
Federal Way	98	25	26%	74%
Puyallup	116	19	16%	84%
Bonney Lake	16	2	13%	87%
			Average =	***82%***

Notes
1. All Starbucks locations included drive through windows.
2. Data collected by Transportation Planning & Engineering 11/99-12/99.

AM PEAK HOUR TRIP GENERATION RATE (Sit Down Area)

Location[1]	Square Feet	AM Peak Hour Trips[2] Entering	Exiting	Total	AM Peak Hour Trip Rates Entering	Exiting	Total
Lynnwood	1,798	40	40	80	22.24	22.25	44.49
Kenmore	2,782	20	20	40	7.19	7.19	14.38
Federal Way	1,983	22	22	44	11.09	11.1	22.19
Puyallup	1,820	28	28	56	15.38	15.39	30.77
Bonney Lake	1,800	24	24	48	13.33	13.34	26.67
				Average =	***13.85***	***13.85***	***27.70***

AM PEAK HOUR TRIP GENERATION RATE (Drive-Thru)

Location[1]	Square Feet	AM Peak Hour Trips[2] Entering	Exiting	Total	AM Peak Hour Trip Rates Entering	Exiting	Total
Lynnwood	1,798	49	49	98	27.25	27.26	54.51
Kenmore	2,782	39	39	78	14.02	14.02	28.04
Federal Way	1,983	31	31	62	15.63	15.64	31.27
Puyallup	1,820	45	45	90	24.72	24.73	49.45
Bonney Lake	1,800	24	24	48	13.33	13.34	26.67
				Average =	***18.99***	***19.00***	***37.99***

Notes
1. All Starbucks locations included drive through windows.
2. Data collected by Transportation Planning & Engineering 11/99-12/99.

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ATTACHMENT A

Redmond Elks
Starbucks Trip Generation Summary
TENW Project No. 2025

Starbucks Trip Generation Summary

PM PEAK HOUR TRIP GENERATION RATE (Sit-Down + Drive-Thru)

		PM Peak Hour Trips[2]			PM Peak Hour Trip Rates		
Location[1]	Square Feet	Entering	Exiting	Total	Entering	Exiting	Total
Lynnwood	1,798	47	47	94	26.14	26.14	52.28
Kenmore	2,782	24	24	48	8.62	8.63	17.25
Federal Way	1,983	17	17	34	8.57	8.58	17.15
Puyallup	1,820	44	44	88	24.17	24.18	48.35
Bonney Lake	1,800	31	31	62	17.22	17.22	34.44
				Average =	***16.94***	***16.95***	***33.89***

PERCENT PASS-BY/DIVERTED LINK TRIPS

Location[1]	Total Survey[2]	Primary Trips[2]	Percent Primary Trips	Percent Pass-by/Diverted Link Trips
Lynnwood	64	12	19%	81%
Kenmore	41	13	32%	68%
Federal Way	33	7	21%	79%
Puyallup	62	9	15%	85%
Bonney Lake	24	11	46%	54%
			Average =	*73%*

Notes
1. All Starbucks locations included drive through windows.
2. Data collected by Transportation Planning & Engineering 11/99-12/99.

PM PEAK HOUR TRIP GENERATION RATE (Sit Down Area)

		PM Peak Hour Trips[2]			PM Peak Hour Trip Rates		
Location[1]	Square Feet	Entering	Exiting	Total	Entering	Exiting	Total
Lynnwood	1,798	28	28	56	15.57	15.58	31.15
Kenmore	2,782	14	14	28	5.03	5.03	10.06
Federal Way	1,983	5	5	10	2.52	2.52	5.04
Puyallup	1,820	22	22	44	12.09	12.09	24.18
Bonney Lake	1,800	23	23	46	12.78	12.78	25.56
				Average =	***9.60***	***9.60***	***19.20***

PM PEAK HOUR TRIP GENERATION RATE (Drive-Thru)

		PM Peak Hour Trips[2]			PM Peak Hour Trip Rates		
Location[1]	Square Feet	Entering	Exiting	Total	Entering	Exiting	Total
Lynnwood	1,798	19	19	38	10.56	10.57	21.13
Kenmore	2,782	10	10	20	3.59	3.6	7.19
Federal Way	1,983	12	12	24	6.05	6.05	12.1
Puyallup	1,820	22	22	44	12.09	12.09	24.18
Bonney Lake	1,800	8	8	16	4.44	4.45	8.89
				Average =	***7.35***	***7.35***	***14.70***

Notes
1. All Starbucks locations included drive through windows.
2. Data collected by Transportation Planning & Engineering 11/99-12/99.

LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	373	224	1415	271	599	918
Future Volume (vph)	373	224	1415	271	599	918
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3273	1509	4988	1510	1752	5036
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3273	1509	4988	1510	1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	405	243	1538	295	651	998
RTOR Reduction (vph)	0	0	0	207	0	0
Lane Group Flow (vph)	405	243	1538	89	651	998
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	7%	7%	4%	4%	3%	3%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.7	49.5	27.0	27.0	33.8	65.3
Effective Green, g (s)	15.7	49.5	27.0	27.0	33.8	65.3
Actuated g/C Ratio	0.17	0.55	0.30	0.30	0.38	0.73
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	570	905	1496	453	657	3653
v/s Ratio Prot	c0.12	0.10	c0.31		c0.37	0.20
v/s Ratio Perm		0.06		0.06		
v/c Ratio	0.71	0.27	1.03	0.20	0.99	0.27
Uniform Delay, d1	35.0	10.7	31.5	23.4	27.9	4.2
Progression Factor	1.00	1.00	0.93	2.14	1.00	1.00
Incremental Delay, d2	4.2	0.2	28.7	0.8	32.7	0.2
Delay (s)	39.2	10.8	57.9	50.9	60.6	4.4
Level of Service	D	B	E	D	E	A
Approach Delay (s)	28.5		56.8			26.6
Approach LOS	C		E			C

Intersection Summary			
HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	143	402	1280	880	242	1058
Future Volume (vph)	143	402	1280	880	242	1058
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1719	1538	4940	1496	1719	4940
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1719	1538	4940	1496	1719	4940
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	151	423	1347	926	255	1114
RTOR Reduction (vph)	0	259	0	319	0	0
Lane Group Flow (vph)	151	164	1347	607	255	1114
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	13.9	13.9	46.4	46.4	16.2	67.1
Effective Green, g (s)	13.9	13.9	46.4	46.4	16.2	67.1
Actuated g/C Ratio	0.15	0.15	0.52	0.52	0.18	0.75
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	265	237	2546	771	309	3683
v/s Ratio Prot	0.09		0.27		c0.15	0.23
v/s Ratio Perm		c0.11		c0.41		
v/c Ratio	0.57	0.69	0.53	0.79	0.83	0.30
Uniform Delay, d1	35.3	36.0	14.5	17.8	35.5	3.8
Progression Factor	1.00	1.00	1.00	1.00	0.81	1.38
Incremental Delay, d2	2.8	8.5	0.8	8.0	15.5	0.2
Delay (s)	38.1	44.5	15.3	25.7	44.3	5.4
Level of Service	D	D	B	C	D	A
Approach Delay (s)	42.8		19.6			12.6
Approach LOS	D		B			B

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1950	12	0	1229	0	208
Future Volume (Veh/h)	1950	12	0	1229	0	208
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	2097	13	0	1322	0	224
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.57		0.61	0.57
vC, conflicting volume			2110		2544	1055
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1445		1580	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		100	64
cM capacity (veh/h)			255		61	621

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1398	712	441	441	441	224
Volume Left	0	0	0	0	0	0
Volume Right	0	13	0	0	0	224
cSH	1700	1700	1700	1700	1700	621
Volume to Capacity	0.82	0.42	0.26	0.26	0.26	0.36
Queue Length 95th (ft)	0	0	0	0	0	41
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	14.0
Lane LOS						B
Approach Delay (s)	0.0		0.0			14.0
Approach LOS						B

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	73.8%	ICU Level of Service		D
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	1.9

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1950	12	0	1229	0	208
Future Vol, veh/h	1950	12	0	1229	0	208
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	2097	13	0	1322	0	224

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1055
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	350
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	350
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	31.8
HCM LOS			D

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	350	-
HCM Lane V/C Ratio	-	-	0.639	-
HCM Control Delay (s)	-	-	31.8	-
HCM Lane LOS	-	-	D	-
HCM 95th %tile Q(veh)	-	-	4.2	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1478	22	293	932	71	465
Future Volume (vph)	1478	22	293	932	71	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3398		1703	3406	1736	1553
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	3398		125	3406	1736	1553
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1572	23	312	991	76	495
RTOR Reduction (vph)	1	0	0	0	0	10
Lane Group Flow (vph)	1594	0	312	991	76	485
Confl. Peds. (#/hr)		1	1		3	
Heavy Vehicles (%)	6%	6%	6%	6%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	52.8		82.5	82.5	8.5	33.7
Effective Green, g (s)	52.8		82.5	82.5	8.5	33.7
Actuated g/C Ratio	0.53		0.82	0.82	0.08	0.34
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1794		500	2809	147	593
v/s Ratio Prot	c0.47		0.16	0.29	0.04	c0.21
v/s Ratio Perm			0.36			0.11
v/c Ratio	0.89		0.62	0.35	0.52	0.82
Uniform Delay, d1	21.0		25.1	2.2	43.8	30.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	7.0		2.4	0.1	3.1	8.6
Delay (s)	28.0		27.5	2.2	46.8	38.9
Level of Service	C		C	A	D	D
Approach Delay (s)	28.0			8.3	40.0	
Approach LOS	C			A	D	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	20	265	26	117	521	11	5	23	53	0	11	10
Future Volume (Veh/h)	20	265	26	117	521	11	5	23	53	0	11	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	22	285	28	126	560	12	5	25	57	0	12	11
Pedestrians		2			10			4				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			0				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.94						0.94	0.94		0.94	0.94	0.94
vC, conflicting volume	572			317			1184	1171	313	1198	1179	568
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	516			317			1165	1151	313	1180	1160	512
tC, single (s)	4.1			4.1			7.2	6.6	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	98			90			96	84	92	100	93	98
cM capacity (veh/h)	980			1233			130	158	702	115	163	533

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	22	313	698	87	23
Volume Left	22	0	126	5	0
Volume Right	0	28	12	57	11
cSH	980	1700	1233	446	244
Volume to Capacity	0.02	0.18	0.10	0.20	0.09
Queue Length 95th (ft)	2	0	9	18	8
Control Delay (s)	8.8	0.0	2.5	18.7	21.3
Lane LOS	A		A	C	C
Approach Delay (s)	0.6		2.5	18.7	21.3
Approach LOS				C	C

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	20	265	26	117	521	11	5	23	53	0	11	10
Future Vol, veh/h	20	265	26	117	521	11	5	23	53	0	11	10
Conflicting Peds, #/hr	0	0	4	4	0	0	2	0	10	10	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	4	4	4	3	3	3	9	9	9	0	0	0
Mvmt Flow	22	285	28	126	560	12	5	25	57	0	12	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	572	0	0	317	0	0	1177	1170	313	1182	1178	568
Stage 1	-	-	-	-	-	-	346	346	-	818	818	-
Stage 2	-	-	-	-	-	-	831	824	-	364	360	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.19	6.59	6.29	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.581	4.081	3.381	3.5	4	3.3
Pot Cap-1 Maneuver	991	-	-	1237	-	-	163	187	711	168	192	526
Stage 1	-	-	-	-	-	-	655	623	-	373	393	-
Stage 2	-	-	-	-	-	-	354	378	-	659	630	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	989	-	-	1225	-	-	130	155	702	117	159	525
Mov Cap-2 Maneuver	-	-	-	-	-	-	130	155	-	117	159	-
Stage 1	-	-	-	-	-	-	638	607	-	365	334	-
Stage 2	-	-	-	-	-	-	283	321	-	563	614	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.6	1.5	19	21.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	150	702	1225	-	-	989	-	-	238
HCM Lane V/C Ratio	0.201	0.081	0.103	-	-	0.022	-	-	0.095
HCM Control Delay (s)	34.9	10.6	8.3	0	-	8.7	-	-	21.7
HCM Lane LOS	D	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.7	0.3	0.3	-	-	0.1	-	-	0.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	322	45	0	353	280	136	254	7	154	126	44
Future Volume (vph)	0	322	45	0	353	280	136	254	7	154	126	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1881	1565		1863	1539	1736	1819		1703	1712	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1881	1565		1863	1539	1736	1819		1703	1712	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	379	53	0	415	329	160	299	8	181	148	52
RTOR Reduction (vph)	0	0	37	0	0	227	0	1	0	0	19	0
Lane Group Flow (vph)	0	379	16	0	415	102	160	306	0	181	181	0
Confl. Peds. (#/hr)	5		1	1		5	2		4	4		2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	4%	4%	4%	6%	6%	6%
Turn Type		NA	Perm		NA	Perm	Split	NA		Split	NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases			6			2						
Actuated Green, G (s)		18.0	18.0		18.0	18.0	14.5	14.5		11.9	11.9	
Effective Green, g (s)		18.0	18.0		18.0	18.0	14.5	14.5		11.9	11.9	
Actuated g/C Ratio		0.31	0.31		0.31	0.31	0.25	0.25		0.21	0.21	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		584	486		579	478	434	455		350	351	
v/s Ratio Prot		0.20			c0.22		0.09	c0.17		c0.11	0.11	
v/s Ratio Perm			0.01			0.07						
v/c Ratio		0.65	0.03		0.72	0.21	0.37	0.67		0.52	0.52	
Uniform Delay, d1		17.2	13.9		17.7	14.7	17.9	19.6		20.4	20.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.5	0.0		4.2	0.2	0.5	3.9		1.3	1.3	
Delay (s)		19.7	13.9		21.9	15.0	18.5	23.4		21.7	21.7	
Level of Service		B	B		C	B	B	C		C	C	
Approach Delay (s)		19.0			18.8			21.7			21.7	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	57.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	170	32	106	3	37	3	293	188	7	1	260	276
Future Volume (vph)	170	32	106	3	37	3	293	188	7	1	260	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.97		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.92	
Flt Protected		0.96	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750	1508		1838		1752	1833		1716	1646	
Flt Permitted		0.73	1.00		0.98		0.17	1.00		0.62	1.00	
Satd. Flow (perm)		1324	1508		1810		309	1833		1119	1646	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	193	36	120	3	42	3	333	214	8	1	295	314
RTOR Reduction (vph)	0	0	94	0	2	0	0	1	0	0	43	0
Lane Group Flow (vph)	0	229	26	0	46	0	333	221	0	1	566	0
Confl. Peds. (#/hr)	1		4	4		1	3		2	2		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		17.2	17.2		17.2		54.3	48.9		35.0	34.1	
Effective Green, g (s)		17.2	17.2		17.2		54.3	48.9		35.0	34.1	
Actuated g/C Ratio		0.21	0.21		0.21		0.67	0.61		0.43	0.42	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		282	322		386		489	1113		493	697	
v/s Ratio Prot							c0.13	0.12		0.00	c0.34	
v/s Ratio Perm		c0.17	0.02		0.03		0.33			0.00		
v/c Ratio		0.81	0.08		0.12		0.68	0.20		0.00	0.81	
Uniform Delay, d1		30.1	25.3		25.5		12.4	7.1		12.9	20.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		16.1	0.1		0.1		3.9	0.1		0.0	7.1	
Delay (s)		46.2	25.4		25.7		16.2	7.1		12.9	27.5	
Level of Service		D	C		C		B	A		B	C	
Approach Delay (s)		39.1			25.7			12.6			27.5	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	80.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	13	14	13	10	64	31	25	262	85	49	500	194
Future Volume (vph)	13	14	13	10	64	31	25	262	85	49	500	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.96		1.00	0.96		1.00	0.96	
Flt Protected		0.98			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1478			1669		1703	1717		1735	1740	
Flt Permitted		0.91			0.97		0.25	1.00		0.48	1.00	
Satd. Flow (perm)		1368			1621		442	1717		874	1740	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	15	16	15	11	72	35	28	294	96	55	562	218
RTOR Reduction (vph)	0	13	0	0	18	0	0	13	0	0	15	0
Lane Group Flow (vph)	0	33	0	0	100	0	28	377	0	55	765	0
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	20%	20%	20%	8%	8%	8%	6%	6%	6%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		7.7			7.7		35.5	34.1		38.3	35.5	
Effective Green, g (s)		7.7			7.7		35.5	34.1		38.3	35.5	
Actuated g/C Ratio		0.13			0.13		0.61	0.59		0.66	0.61	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		181			214		300	1007		617	1063	
v/s Ratio Prot							0.00	0.22		c0.00	c0.44	
v/s Ratio Perm		0.02			c0.06		0.05			0.05		
v/c Ratio		0.18			0.47		0.09	0.37		0.09	0.72	
Uniform Delay, d1		22.4			23.3		5.6	6.4		3.6	7.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			1.6		0.1	0.2		0.1	2.4	
Delay (s)		22.9			24.9		5.8	6.6		3.7	10.2	
Level of Service		C			C		A	A		A	B	
Approach Delay (s)		22.9			24.9			6.5			9.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	58.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	1	0	387	1	27	1	150	144	15	365	0
Future Volume (vph)	0	1	0	387	1	27	1	150	144	15	365	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		1.00		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1900		1717	1547		1700	1792	1491	1734	1827	
Flt Permitted		1.00		0.76	1.00		0.37	1.00	1.00	0.65	1.00	
Satd. Flow (perm)		1900		1369	1547		654	1792	1491	1181	1827	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1	0	450	1	31	1	174	167	17	424	0
RTOR Reduction (vph)	0	0	0	0	17	0	0	0	109	0	0	0
Lane Group Flow (vph)	0	1	0	450	15	0	1	174	58	17	424	0
Confl. Peds. (#/hr)			1	1			3		1	1		3
Heavy Vehicles (%)	0%	0%	0%	5%	5%	5%	6%	6%	6%	4%	4%	4%
Turn Type		NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		20.0		20.0	20.0		15.3	15.3	15.3	15.3	15.3	
Effective Green, g (s)		20.0		20.0	20.0		15.3	15.3	15.3	15.3	15.3	
Actuated g/C Ratio		0.45		0.45	0.45		0.35	0.35	0.35	0.35	0.35	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		857		618	698		225	618	514	407	630	
v/s Ratio Prot		0.00			0.01			0.10			c0.23	
v/s Ratio Perm				c0.33			0.00		0.04	0.01		
v/c Ratio		0.00		0.73	0.02		0.00	0.28	0.11	0.04	0.67	
Uniform Delay, d1		6.7		9.9	6.7		9.5	10.5	9.9	9.6	12.4	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		4.3	0.0		0.0	0.3	0.1	0.0	2.8	
Delay (s)		6.7		14.2	6.7		9.5	10.8	10.0	9.7	15.2	
Level of Service		A		B	A		A	B	A	A	B	
Approach Delay (s)		6.7			13.7			10.4			15.0	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	44.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	4	0	6	1	0	0	23	151	3	2	373	16
Future Volume (Veh/h)	4	0	6	1	0	0	23	151	3	2	373	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	7	1	0	0	25	164	3	2	405	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								691				
pX, platoon unblocked												
vC, conflicting volume	632	634	414	632	642	166	422			167		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	632	634	414	632	642	166	422			167		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	99	100	100	100	98			100		
cM capacity (veh/h)	386	387	639	382	383	879	1137			1411		

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1	SW 2
Volume Total	11	1	25	167	2	422
Volume Left	4	1	25	0	2	0
Volume Right	7	0	0	3	0	17
cSH	516	382	1137	1700	1411	1700
Volume to Capacity	0.02	0.00	0.02	0.10	0.00	0.25
Queue Length 95th (ft)	2	0	2	0	0	0
Control Delay (s)	12.1	14.4	8.2	0.0	7.6	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	12.1	14.4	1.1		0.0	
Approach LOS	B	B				

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	30.6%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	0.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	4	0	6	1	0	0	23	151	3	2	373	16
Future Vol, veh/h	4	0	6	1	0	0	23	151	3	2	373	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	7	1	0	0	25	164	3	2	405	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	634	635	414	638	643	166	423	0	0	167	0	0
Stage 1	418	418	-	216	216	-	-	-	-	-	-	-
Stage 2	216	217	-	422	427	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	392	396	638	389	392	878	1136	-	-	1411	-	-
Stage 1	612	591	-	786	724	-	-	-	-	-	-	-
Stage 2	786	723	-	609	585	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	385	387	638	378	383	878	1136	-	-	1411	-	-
Mov Cap-2 Maneuver	385	387	-	378	383	-	-	-	-	-	-	-
Stage 1	599	590	-	769	708	-	-	-	-	-	-	-
Stage 2	769	707	-	602	584	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.3	14.6	1.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1136	-	-	378	505	1411	-	-
HCM Lane V/C Ratio	0.022	-	-	0.003	0.022	0.002	-	-
HCM Control Delay (s)	8.2	-	-	14.6	12.3	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.1	0	-	-



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	277	150	226	38	65	232
Future Volume (vph)	277	150	226	38	65	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3155	1455	3126		1736	3471
Flt Permitted	0.95	1.00	1.00		0.39	1.00
Satd. Flow (perm)	3155	1455	3126		721	3471
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	308	167	251	42	72	258
RTOR Reduction (vph)	0	105	25	0	0	0
Lane Group Flow (vph)	308	62	268	0	72	258
Heavy Vehicles (%)	11%	11%	13%	13%	4%	4%
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	9.0	13.9	10.0		19.4	19.4
Effective Green, g (s)	9.0	13.9	10.0		19.4	19.4
Actuated g/C Ratio	0.24	0.37	0.27		0.52	0.52
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	759	715	835		506	1800
v/s Ratio Prot	c0.10	0.01	c0.09		0.02	c0.07
v/s Ratio Perm		0.03			0.06	
v/c Ratio	0.41	0.09	0.32		0.14	0.14
Uniform Delay, d1	11.9	7.6	11.0		4.8	4.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.2		0.1	0.0
Delay (s)	12.3	7.7	11.2		4.9	4.7
Level of Service	B	A	B		A	A
Approach Delay (s)	10.7		11.2			4.8
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	37.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



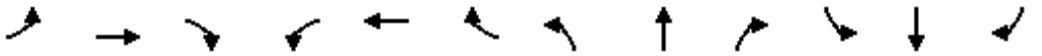
Movement	NWL	NWR	NET	NER	SWL	SWT
Right Turn Channelized				MOYes		
Traffic Volume (veh/h)	64	61	159	188	255	238
Future Volume (veh/h)	64	61	159	188	255	238
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	73	69	181	214	290	270
Approach Volume (veh/h)	142		181			560
Crossing Volume (veh/h)	181		290			73
High Capacity (veh/h)	1202		1103			1308
High v/c (veh/h)	0.12		0.16			0.43
Low Capacity (veh/h)	995		906			1091
Low v/c (veh/h)	0.14		0.20			0.51

Intersection Summary			
Maximum v/c High	0.43		
Maximum v/c Low	0.51		
Intersection Capacity Utilization	52.3%	ICU Level of Service	A

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Approach	NW	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	142	395	560
Demand Flow Rate, veh/h	154	434	577
Vehicles Circulating, veh/h	199	299	79
Vehicles Exiting, veh/h	299	357	274
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.9	3.4	10.6
Approach LOS	A	A	B

Lane	Left	Left	Bypass	Left
Designated Moves	LR	T	R	LT
Assumed Moves	LR	T	R	LT
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Critical Headway, s	5.193	5.193		5.193
Entry Flow, veh/h	154	199	235	577
Cap Entry Lane, veh/h	926	838	2090	1044
Entry HV Adj Factor	0.922	0.909	0.909	0.970
Flow Entry, veh/h	142	181	214	560
Cap Entry, veh/h	854	762	1900	1013
V/C Ratio	0.166	0.237	0.113	0.553
Control Delay, s/veh	5.9	7.4	0.0	10.6
LOS	A	A	A	B
95th %tile Queue, veh	1	1	0	3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	93	0	0	417	0	2415	138	0	1714	427
Future Volume (vph)	0	0	93	0	0	417	0	2415	138	0	1714	427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frpb, ped/bikes			1.00			1.00		1.00	0.98		1.00	1.00
Flpb, ped/bikes			1.00			1.00		1.00	1.00		1.00	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2760			2538		4988	1521		4893	1524
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2760			2538		4988	1521		4893	1524
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	96	0	0	430	0	2490	142	0	1767	440
RTOR Reduction (vph)	0	0	24	0	0	19	0	0	54	0	0	168
Lane Group Flow (vph)	0	0	72	0	0	411	0	2490	88	0	1767	272
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	12%	12%	12%	4%	4%	4%	6%	6%	6%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)			14.5			14.5		38.2	38.2		38.2	38.2
Effective Green, g (s)			14.5			14.5		38.2	38.2		38.2	38.2
Actuated g/C Ratio			0.24			0.24		0.62	0.62		0.62	0.62
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			648			596		3088	941		3029	943
v/s Ratio Prot								c0.50			0.36	
v/s Ratio Perm			0.03			c0.16			0.06			0.18
v/c Ratio			0.11			0.69		0.81	0.09		0.58	0.29
Uniform Delay, d1			18.5			21.5		8.9	4.8		7.0	5.5
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.1			3.3		1.6	0.0		0.3	0.2
Delay (s)			18.6			24.9		10.6	4.8		7.3	5.6
Level of Service			B			C		B	A		A	A
Approach Delay (s)		18.6			24.9			10.2			7.0	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	61.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	819	297	1255	219	463	1647
Future Volume (vph)	819	297	1255	219	463	1647
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	1568	5085	1526	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	1568	5085	1526	1770	5085
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	844	306	1294	226	477	1698
RTOR Reduction (vph)	0	1	0	159	0	0
Lane Group Flow (vph)	844	305	1294	67	477	1698
Confl. Peds. (#/hr)				6	6	
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	24.1	50.0	26.5	26.5	25.9	56.9
Effective Green, g (s)	24.1	50.0	26.5	26.5	25.9	56.9
Actuated g/C Ratio	0.27	0.56	0.29	0.29	0.29	0.63
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	910	949	1497	449	509	3214
v/s Ratio Prot	c0.25	0.09	c0.25		c0.27	0.33
v/s Ratio Perm		0.10		0.04		
v/c Ratio	0.93	0.32	0.86	0.15	0.94	0.53
Uniform Delay, d1	32.1	10.8	30.0	23.4	31.3	9.1
Progression Factor	1.00	1.00	0.84	1.85	1.00	1.00
Incremental Delay, d2	15.1	0.2	6.0	0.6	24.9	0.6
Delay (s)	47.2	11.0	31.1	44.0	56.2	9.8
Level of Service	D	B	C	D	E	A
Approach Delay (s)	37.6		33.0			19.9
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	115	412	1112	763	391	2030
Future Volume (vph)	115	412	1112	763	391	2030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	5036	1510	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	5036	1510	1770	5085
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	117	420	1135	779	399	2071
RTOR Reduction (vph)	0	365	0	305	0	0
Lane Group Flow (vph)	117	55	1135	474	399	2071
Confl. Peds. (#/hr)				7	7	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	11.7	11.7	40.6	40.6	24.2	69.3
Effective Green, g (s)	11.7	11.7	40.6	40.6	24.2	69.3
Actuated g/C Ratio	0.13	0.13	0.45	0.45	0.27	0.77
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	230	205	2271	681	475	3915
v/s Ratio Prot	c0.07		0.23		c0.23	0.41
v/s Ratio Perm		0.03		c0.31		
v/c Ratio	0.51	0.27	0.50	0.70	0.84	0.53
Uniform Delay, d1	36.5	35.3	17.5	19.8	31.1	4.0
Progression Factor	1.00	1.00	1.00	1.00	1.01	0.72
Incremental Delay, d2	1.8	0.7	0.8	5.8	9.6	0.4
Delay (s)	38.2	36.0	18.3	25.6	40.9	3.3
Level of Service	D	D	B	C	D	A
Approach Delay (s)	36.5		21.3			9.4
Approach LOS	D		C			A

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1654	12	0	2175	0	208
Future Volume (Veh/h)	1654	12	0	2175	0	208
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1741	13	0	2289	0	219
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.69		0.77	0.69
vC, conflicting volume			1757		2514	880
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1204		1096	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	71
cM capacity (veh/h)			393		160	748

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1161	593	763	763	763	219
Volume Left	0	0	0	0	0	0
Volume Right	0	13	0	0	0	219
cSH	1700	1700	1700	1700	1700	748
Volume to Capacity	0.68	0.35	0.45	0.45	0.45	0.29
Queue Length 95th (ft)	0	0	0	0	0	30
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.8
Lane LOS						B
Approach Delay (s)	0.0		0.0			11.8
Approach LOS						B

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	65.7%	ICU Level of Service		C
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	1.1

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1654	12	0	2175	0	208
Future Vol, veh/h	1654	12	0	2175	0	208
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1741	13	0	2289	0	219

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	880
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	444
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	443
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	443	-
HCM Lane V/C Ratio	-	-	0.494	-
HCM Control Delay (s)	-	-	20.8	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	2.7	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1298	46	397	1792	63	341
Future Volume (vph)	1298	46	397	1792	63	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3452		1770	3539	1787	1599
Flt Permitted	1.00		0.09	1.00	0.95	1.00
Satd. Flow (perm)	3452		173	3539	1787	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1338	47	409	1847	65	352
RTOR Reduction (vph)	2	0	0	0	0	14
Lane Group Flow (vph)	1383	0	409	1847	65	338
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	4%	4%	2%	2%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	54.6		83.1	83.1	7.9	31.9
Effective Green, g (s)	54.6		83.1	83.1	7.9	31.9
Actuated g/C Ratio	0.55		0.83	0.83	0.08	0.32
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1884		527	2940	141	582
v/s Ratio Prot	0.40		c0.19	0.52	0.04	c0.14
v/s Ratio Perm			c0.46			0.07
v/c Ratio	0.73		0.78	0.63	0.46	0.58
Uniform Delay, d1	17.2		25.0	3.0	44.0	28.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6		7.1	0.4	2.4	1.5
Delay (s)	19.8		32.1	3.4	46.4	30.0
Level of Service	B		C	A	D	C
Approach Delay (s)	19.8			8.6	32.5	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	24	389	27	64	384	11	19	19	146	2	16	22
Future Volume (Veh/h)	24	389	27	64	384	11	19	19	146	2	16	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	26	414	29	68	409	12	20	20	155	2	17	23
Pedestrians		1			7			9				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			1				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.97						0.97	0.97		0.97	0.97	0.97
vC, conflicting volume	421			452			1073	1046	444	1112	1055	416
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	390			452			1061	1034	444	1100	1042	385
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			94			88	90	74	98	92	96
cM capacity (veh/h)	1141			1099			162	204	600	118	205	648

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	26	443	489	195	42
Volume Left	26	0	68	20	2
Volume Right	0	29	12	155	23
cSH	1141	1700	1099	755	310
Volume to Capacity	0.02	0.26	0.06	0.26	0.14
Queue Length 95th (ft)	2	0	5	26	12
Control Delay (s)	8.2	0.0	1.8	16.6	18.4
Lane LOS	A		A	C	C
Approach Delay (s)	0.5		1.8	16.6	18.4
Approach LOS				C	C

Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	66.3%	ICU Level of Service		C
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	24	389	27	64	384	11	19	19	146	2	16	22
Future Vol, veh/h	24	389	27	64	384	11	19	19	146	2	16	22
Conflicting Peds, #/hr	0	0	9	9	0	0	1	0	7	7	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	2	2	2	4	4	4	0	0	0
Mvmt Flow	26	414	29	68	409	12	20	20	155	2	17	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	420	0	0	452	0	0	1060	1044	444	1047	1054	415
Stage 1	-	-	-	-	-	-	488	488	-	551	551	-
Stage 2	-	-	-	-	-	-	572	556	-	496	503	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.14	6.54	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.536	4.036	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	1145	-	-	1109	-	-	200	227	610	208	228	642
Stage 1	-	-	-	-	-	-	558	547	-	522	519	-
Stage 2	-	-	-	-	-	-	502	509	-	559	545	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1144	-	-	1102	-	-	165	202	601	131	203	641
Mov Cap-2 Maneuver	-	-	-	-	-	-	165	202	-	131	203	-
Stage 1	-	-	-	-	-	-	541	530	-	510	477	-
Stage 2	-	-	-	-	-	-	428	468	-	387	528	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.4	1.2	16.7	18.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	182	601	1102	-	-	1144	-	-	312
HCM Lane V/C Ratio	0.222	0.258	0.062	-	-	0.022	-	-	0.136
HCM Control Delay (s)	30.3	13.1	8.5	0	-	8.2	-	-	18.4
HCM Lane LOS	D	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	1	0.2	-	-	0.1	-	-	0.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	472	115	0	321	266	83	165	16	274	242	26
Future Volume (vph)	0	472	115	0	321	266	83	165	16	274	242	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1881	1535		1863	1530	1770	1833		1770	1830	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1881	1535		1863	1530	1770	1833		1770	1830	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	502	122	0	341	283	88	176	17	291	257	28
RTOR Reduction (vph)	0	0	57	0	0	185	0	5	0	0	5	0
Lane Group Flow (vph)	0	502	65	0	341	98	88	188	0	291	280	0
Confl. Peds. (#/hr)	8		12	12		8	7		4	4		7
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA	Perm		NA	Perm	Split	NA		Split	NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases			6			2						
Actuated Green, G (s)		21.4	21.4		21.4	21.4	12.0	12.0		15.1	15.1	
Effective Green, g (s)		21.4	21.4		21.4	21.4	12.0	12.0		15.1	15.1	
Actuated g/C Ratio		0.35	0.35		0.35	0.35	0.19	0.19		0.24	0.24	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		649	529		643	528	342	354		431	445	
v/s Ratio Prot		c0.27			0.18		0.05	c0.10		c0.16	0.15	
v/s Ratio Perm			0.04			0.06						
v/c Ratio		0.77	0.12		0.53	0.19	0.26	0.53		0.68	0.63	
Uniform Delay, d1		18.1	13.9		16.3	14.2	21.2	22.5		21.2	20.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.7	0.1		0.8	0.2	0.4	1.5		4.2	2.8	
Delay (s)		23.9	14.0		17.1	14.4	21.6	24.0		25.4	23.7	
Level of Service		C	B		B	B	C	C		C	C	
Approach Delay (s)		21.9			15.9			23.3			24.6	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	62.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	340	42	180	14	59	8	209	221	9	5	326	143
Future Volume (vph)	340	42	180	14	59	8	209	221	9	5	326	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.95	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1795	1537		1797		1787	1868		1745	1744	
Flt Permitted		0.73	1.00		0.92		0.20	1.00		0.60	1.00	
Satd. Flow (perm)		1371	1537		1663		375	1868		1109	1744	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	46	196	15	64	9	227	240	10	5	354	155
RTOR Reduction (vph)	0	0	130	0	5	0	0	2	0	0	20	0
Lane Group Flow (vph)	0	416	66	0	83	0	227	248	0	5	489	0
Confl. Peds. (#/hr)	2		9	9		2	5		5	5		5
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		25.6	25.6		25.6		41.1	35.7		28.8	27.9	
Effective Green, g (s)		25.6	25.6		25.6		41.1	35.7		28.8	27.9	
Actuated g/C Ratio		0.34	0.34		0.34		0.54	0.47		0.38	0.37	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		463	519		562		365	880		429	642	
v/s Ratio Prot							c0.07	0.13		0.00	c0.28	
v/s Ratio Perm		c0.30	0.04		0.05		0.27			0.00		
v/c Ratio		0.90	0.13		0.15		0.62	0.28		0.01	0.76	
Uniform Delay, d1		23.8	17.3		17.4		12.2	12.2		14.6	21.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		19.8	0.1		0.1		3.3	0.2		0.0	5.3	
Delay (s)		43.6	17.4		17.6		15.5	12.4		14.6	26.3	
Level of Service		D	B		B		B	B		B	C	
Approach Delay (s)		35.2			17.6			13.8			26.2	
Approach LOS		D			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	75.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	40	8	14	27	114	27	30	484	53	39	430	104
Future Volume (vph)	40	8	14	27	114	27	30	484	53	39	430	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.99		1.00	0.97	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1799		1786	1849		1769	1798	
Flt Permitted		0.74			0.93		0.33	1.00		0.33	1.00	
Satd. Flow (perm)		1223			1695		619	1849		608	1798	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	9	15	29	121	29	32	515	56	41	457	111
RTOR Reduction (vph)	0	12	0	0	12	0	0	6	0	0	12	0
Lane Group Flow (vph)	0	55	0	0	167	0	32	565	0	41	556	0
Confl. Peds. (#/hr)	3		4	4		3	6		3	3		6
Heavy Vehicles (%)	10%	10%	10%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		8.4			8.4		24.8	23.3		24.8	23.3	
Effective Green, g (s)		8.4			8.4		24.8	23.3		24.8	23.3	
Actuated g/C Ratio		0.18			0.18		0.53	0.50		0.53	0.50	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		219			304		366	922		360	897	
v/s Ratio Prot							0.00	0.31		c0.00	c0.31	
v/s Ratio Perm		0.04			c0.10		0.04			0.06		
v/c Ratio		0.25			0.55		0.09	0.61		0.11	0.62	
Uniform Delay, d1		16.4			17.4		5.7	8.4		5.7	8.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			2.0		0.1	1.2		0.1	1.3	
Delay (s)		17.0			19.4		5.8	9.7		5.9	9.8	
Level of Service		B			B		A	A		A	A	
Approach Delay (s)		17.0			19.4			9.5			9.5	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	46.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	0	6	184	1	30	5	244	307	31	367	1
Future Volume (vph)	2	0	6	184	1	30	5	244	307	31	367	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.98		1.00	0.98		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.90		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1654		1734	1529		1784	1881	1562	1749	1844	
Flt Permitted		0.95		0.75	1.00		0.50	1.00	1.00	0.59	1.00	
Satd. Flow (perm)		1591		1372	1529		936	1881	1562	1091	1844	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	0	7	204	1	33	6	271	341	34	408	1
RTOR Reduction (vph)	0	7	0	0	25	0	0	0	170	0	0	0
Lane Group Flow (vph)	0	2	0	204	9	0	6	271	171	34	409	0
Confl. Peds. (#/hr)	1		1	1		1	3		3	3		3
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		9.1		9.1	9.1		18.2	18.2	18.2	18.2	18.2	
Effective Green, g (s)		9.1		9.1	9.1		18.2	18.2	18.2	18.2	18.2	
Actuated g/C Ratio		0.25		0.25	0.25		0.50	0.50	0.50	0.50	0.50	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		398		343	383		469	943	783	547	924	
v/s Ratio Prot					0.01			0.14			c0.22	
v/s Ratio Perm		0.00		c0.15			0.01		0.11	0.03		
v/c Ratio		0.01		0.59	0.02		0.01	0.29	0.22	0.06	0.44	
Uniform Delay, d1		10.2		12.0	10.3		4.5	5.3	5.1	4.7	5.8	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		2.8	0.0		0.0	0.2	0.1	0.0	0.3	
Delay (s)		10.2		14.7	10.3		4.6	5.4	5.2	4.7	6.1	
Level of Service		B		B	B		A	A	A	A	A	
Approach Delay (s)		10.2			14.1			5.3			6.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	36.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	14	0	20	2	0	1	20	255	1	0	377	13
Future Volume (Veh/h)	14	0	20	2	0	1	20	255	1	0	377	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	0	22	2	0	1	22	277	1	0	410	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								691				
pX, platoon unblocked												
vC, conflicting volume	739	739	417	754	746	278	424			278		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	739	739	417	754	746	278	424			278		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	97	99	100	100	98			100		
cM capacity (veh/h)	328	338	636	310	335	761	1135			1285		

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1	SW 2
Volume Total	37	3	22	278	0	424
Volume Left	15	2	22	0	0	0
Volume Right	22	1	0	1	0	14
cSH	460	386	1135	1700	1700	1700
Volume to Capacity	0.08	0.01	0.02	0.16	0.00	0.25
Queue Length 95th (ft)	7	1	1	0	0	0
Control Delay (s)	13.5	14.4	8.2	0.0	0.0	0.0
Lane LOS	B	B	A			
Approach Delay (s)	13.5	14.4	0.6		0.0	
Approach LOS	B	B				

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	30.6%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	0.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	14	0	20	2	0	1	20	255	1	0	377	13
Future Vol, veh/h	14	0	20	2	0	1	20	255	1	0	377	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	0	22	2	0	1	22	277	1	0	410	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	739	739	417	749	745	278	424	0	0	278	0	0
Stage 1	417	417	-	321	321	-	-	-	-	-	-	-
Stage 2	322	322	-	428	424	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	333	345	636	328	342	761	1135	-	-	1285	-	-
Stage 1	613	591	-	691	652	-	-	-	-	-	-	-
Stage 2	690	651	-	605	587	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	328	338	636	312	335	761	1135	-	-	1285	-	-
Mov Cap-2 Maneuver	328	338	-	312	335	-	-	-	-	-	-	-
Stage 1	601	591	-	678	639	-	-	-	-	-	-	-
Stage 2	676	638	-	584	587	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	13.5	14.4	0.6	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1135	-	-	388	459	1285	-	-
HCM Lane V/C Ratio	0.019	-	-	0.008	0.081	-	-	-
HCM Control Delay (s)	8.2	-	-	14.4	13.5	0	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.3	0	-	-



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	311	251	312	104	71	157
Future Volume (vph)	311	251	312	104	71	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3367	1553	3395		1735	3471
Flt Permitted	0.95	1.00	1.00		0.33	1.00
Satd. Flow (perm)	3367	1553	3395		607	3471
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	349	282	351	117	80	176
RTOR Reduction (vph)	0	169	61	0	0	0
Lane Group Flow (vph)	349	113	407	0	80	176
Confl. Peds. (#/hr)				2	2	
Heavy Vehicles (%)	4%	4%	2%	2%	4%	4%
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	9.6	16.1	10.5		21.5	21.5
Effective Green, g (s)	9.6	16.1	10.5		21.5	21.5
Actuated g/C Ratio	0.24	0.40	0.26		0.54	0.54
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	806	797	888		508	1861
v/s Ratio Prot	c0.10	c0.02	c0.12		0.03	0.05
v/s Ratio Perm		0.05			0.06	
v/c Ratio	0.43	0.14	0.46		0.16	0.09
Uniform Delay, d1	12.9	7.6	12.4		4.8	4.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.4		0.1	0.0
Delay (s)	13.3	7.7	12.8		5.0	4.6
Level of Service	B	A	B		A	A
Approach Delay (s)	10.8		12.8			4.7
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	40.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



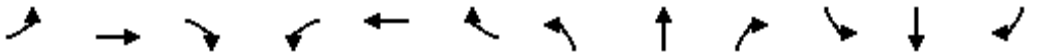
Movement	NWL	NWR	NET	NER	SWL	SWT
Right Turn Channelized				MOYes		
Traffic Volume (veh/h)	71	95	312	237	174	164
Future Volume (veh/h)	71	95	312	237	174	164
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	79	106	347	263	193	182
Approach Volume (veh/h)	185		347			375
Crossing Volume (veh/h)	347		193			79
High Capacity (veh/h)	1054		1191			1302
High v/c (veh/h)	0.18		0.29			0.29
Low Capacity (veh/h)	862		985			1086
Low v/c (veh/h)	0.21		0.35			0.35

Intersection Summary			
Maximum v/c High	0.29		
Maximum v/c Low	0.35		
Intersection Capacity Utilization	54.4%	ICU Level of Service	A

Intersection	
Intersection Delay, s/veh	6.1
Intersection LOS	A

Approach	NW	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	185	610	375
Demand Flow Rate, veh/h	199	628	383
Vehicles Circulating, veh/h	357	197	85
Vehicles Exiting, veh/h	197	271	471
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	4	0	0
Ped Cap Adj	0.999	1.000	1.000
Approach Delay, s/veh	7.8	4.8	7.4
Approach LOS	A	A	A

Lane	Left	Left	Bypass	Left
Designated Moves	LR	T	R	LT
Assumed Moves	LR	T	R	LT
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Critical Headway, s	5.193	5.193		5.193
Entry Flow, veh/h	199	357	271	383
Cap Entry Lane, veh/h	791	928	1957	1038
Entry HV Adj Factor	0.930	0.971	0.971	0.980
Flow Entry, veh/h	185	347	263	375
Cap Entry, veh/h	735	901	1900	1017
V/C Ratio	0.252	0.385	0.138	0.369
Control Delay, s/veh	7.8	8.4	0.0	7.4
LOS	A	A	A	A
95th %tile Queue, veh	1	2	0	2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	166	0	0	378	0	1958	125	0	3055	532
Future Volume (vph)	0	0	166	0	0	378	0	1958	125	0	3055	532
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2814			2760		5085	1583		5085	1583
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2814			2760		5085	1583		5085	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	171	0	0	390	0	2019	129	0	3149	548
RTOR Reduction (vph)	0	0	15	0	0	31	0	0	36	0	0	153
Lane Group Flow (vph)	0	0	156	0	0	359	0	2019	93	0	3149	395
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)			15.5			15.5		63.1	63.1		63.1	63.1
Effective Green, g (s)			15.5			15.5		63.1	63.1		63.1	63.1
Actuated g/C Ratio			0.18			0.18		0.72	0.72		0.72	0.72
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			497			488		3662	1140		3662	1140
v/s Ratio Prot								0.40			c0.62	
v/s Ratio Perm			0.06			c0.13			0.06			0.25
v/c Ratio			0.31			0.74		0.55	0.08		0.86	0.35
Uniform Delay, d1			31.4			34.1		5.7	3.6		9.0	4.6
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.4			5.7		0.2	0.0		2.2	0.2
Delay (s)			31.8			39.8		5.9	3.7		11.2	4.7
Level of Service			C			D		A	A		B	A
Approach Delay (s)		31.8			39.8			5.7			10.3	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	87.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	412	247	1466	299	661	951
Future Volume (vph)	412	247	1466	299	661	951
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3273	1509	4988	1510	1752	5036
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3273	1509	4988	1510	1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	448	268	1593	325	718	1034
RTOR Reduction (vph)	0	0	0	228	0	0
Lane Group Flow (vph)	448	268	1593	98	718	1034
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	7%	7%	4%	4%	3%	3%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	16.3	49.5	27.0	27.0	33.2	64.7
Effective Green, g (s)	16.3	49.5	27.0	27.0	33.2	64.7
Actuated g/C Ratio	0.18	0.55	0.30	0.30	0.37	0.72
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	592	905	1496	453	646	3620
v/s Ratio Prot	c0.14	0.11	c0.32		c0.41	0.21
v/s Ratio Perm		0.07		0.06		
v/c Ratio	0.76	0.30	1.06	0.22	1.11	0.29
Uniform Delay, d1	35.0	10.9	31.5	23.6	28.4	4.5
Progression Factor	1.00	1.00	0.96	2.27	1.00	1.00
Incremental Delay, d2	5.5	0.2	40.4	0.9	70.0	0.2
Delay (s)	40.5	11.1	70.8	54.3	98.4	4.7
Level of Service	D	B	E	D	F	A
Approach Delay (s)	29.5		68.0			43.1
Approach LOS	C		E			D

Intersection Summary			
HCM 2000 Control Delay	51.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	158	444	1327	972	267	1097
Future Volume (vph)	158	444	1327	972	267	1097
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1719	1538	4940	1496	1719	4940
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1719	1538	4940	1496	1719	4940
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	166	467	1397	1023	281	1155
RTOR Reduction (vph)	0	258	0	325	0	0
Lane Group Flow (vph)	166	209	1397	698	281	1155
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.2	15.2	44.5	44.5	16.8	65.8
Effective Green, g (s)	15.2	15.2	44.5	44.5	16.8	65.8
Actuated g/C Ratio	0.17	0.17	0.49	0.49	0.19	0.73
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	290	259	2442	739	320	3611
v/s Ratio Prot	0.10		0.28		c0.16	0.23
v/s Ratio Perm		c0.14		c0.47		
v/c Ratio	0.57	0.81	0.57	0.94	0.88	0.32
Uniform Delay, d1	34.4	36.0	16.0	21.6	35.6	4.2
Progression Factor	1.00	1.00	1.00	1.00	0.79	1.49
Incremental Delay, d2	2.7	16.4	1.0	22.0	21.5	0.2
Delay (s)	37.1	52.4	17.0	43.6	49.6	6.6
Level of Service	D	D	B	D	D	A
Approach Delay (s)	48.4		28.3			15.0
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	2021	13	0	1274	0	230
Future Volume (Veh/h)	2021	13	0	1274	0	230
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	2173	14	0	1370	0	247
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.52		0.56	0.52
vC, conflicting volume			2187		2637	1094
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1449		1541	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		100	57
cM capacity (veh/h)			233		60	568

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1449	738	457	457	457	247
Volume Left	0	0	0	0	0	0
Volume Right	0	14	0	0	0	247
cSH	1700	1700	1700	1700	1700	568
Volume to Capacity	0.85	0.43	0.27	0.27	0.27	0.43
Queue Length 95th (ft)	0	0	0	0	0	55
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	16.1
Lane LOS						C
Approach Delay (s)	0.0		0.0			16.1
Approach LOS						C

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	77.2%	ICU Level of Service		D
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	2.7

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	2021	13	0	1274	0	230
Future Vol, veh/h	2021	13	0	1274	0	230
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	2173	14	0	1370	0	247

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1094
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	332
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	332
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	41.7
HCM LOS			E

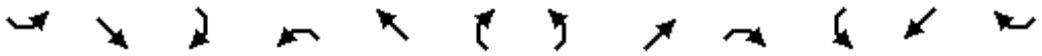
Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	332	-
HCM Lane V/C Ratio	-	-	0.745	-
HCM Control Delay (s)	-	-	41.7	-
HCM Lane LOS	-	-	E	-
HCM 95th %tile Q(veh)	-	-	5.7	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1532	24	323	966	78	513
Future Volume (vph)	1532	24	323	966	78	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3397		1703	3406	1736	1553
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	3397		129	3406	1736	1553
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1630	26	344	1028	83	546
RTOR Reduction (vph)	1	0	0	0	0	8
Lane Group Flow (vph)	1655	0	344	1028	83	538
Confl. Peds. (#/hr)		1	1		3	
Heavy Vehicles (%)	6%	6%	6%	6%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	51.2		82.1	82.1	8.9	35.3
Effective Green, g (s)	51.2		82.1	82.1	8.9	35.3
Actuated g/C Ratio	0.51		0.82	0.82	0.09	0.35
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1739		521	2796	154	618
v/s Ratio Prot	c0.49		0.17	0.30	0.05	c0.23
v/s Ratio Perm			0.37			0.12
v/c Ratio	0.95		0.66	0.37	0.54	0.87
Uniform Delay, d1	23.2		25.8	2.3	43.6	30.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	12.8		3.1	0.1	3.6	12.8
Delay (s)	36.1		29.0	2.4	47.2	43.0
Level of Service	D		C	A	D	D
Approach Delay (s)	36.1			9.0	43.5	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	22	293	29	129	575	12	6	25	59	0	12	11
Future Volume (Veh/h)	22	293	29	129	575	12	6	25	59	0	12	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	24	315	31	139	618	13	6	27	63	0	13	12
Pedestrians		2			10			4				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			0				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.93						0.93	0.93		0.93	0.93	0.93
vC, conflicting volume	631			350			1306	1292	344	1320	1300	626
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	562			350			1290	1275	344	1306	1285	557
tC, single (s)	4.1			4.1			7.2	6.6	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	97			88			94	79	91	100	90	98
cM capacity (veh/h)	926			1199			101	129	674	86	132	493

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	24	346	770	96	25
Volume Left	24	0	139	6	0
Volume Right	0	31	13	63	12
cSH	926	1700	1199	359	204
Volume to Capacity	0.03	0.20	0.12	0.27	0.12
Queue Length 95th (ft)	2	0	10	27	10
Control Delay (s)	9.0	0.0	2.8	22.4	25.1
Lane LOS	A		A	C	D
Approach Delay (s)	0.6		2.8	22.4	25.1
Approach LOS				C	D

Intersection Summary				
Average Delay	4.1			
Intersection Capacity Utilization	73.8%	ICU Level of Service	D	
Analysis Period (min)	15			

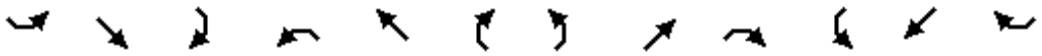
Intersection	
Int Delay, s/veh	3.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	22	293	29	129	575	12	6	25	59	0	12	11
Future Vol, veh/h	22	293	29	129	575	12	6	25	59	0	12	11
Conflicting Peds, #/hr	0	0	4	4	0	0	2	0	10	10	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	4	4	4	3	3	3	9	9	9	0	0	0
Mvmt Flow	24	315	31	139	618	13	6	27	63	0	13	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	631	0	0	350	0	0	1299	1291	345	1303	1300	627
Stage 1	-	-	-	-	-	-	382	382	-	902	902	-
Stage 2	-	-	-	-	-	-	917	909	-	401	398	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.19	6.59	6.29	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.581	4.081	3.381	3.5	4	3.3
Pot Cap-1 Maneuver	942	-	-	1203	-	-	134	158	682	139	163	487
Stage 1	-	-	-	-	-	-	627	601	-	335	359	-
Stage 2	-	-	-	-	-	-	317	345	-	630	606	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	940	-	-	1192	-	-	102	126	673	89	130	486
Mov Cap-2 Maneuver	-	-	-	-	-	-	102	126	-	89	130	-
Stage 1	-	-	-	-	-	-	609	583	-	326	294	-
Stage 2	-	-	-	-	-	-	242	283	-	525	588	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.6	1.5	22.9	25.5
HCM LOS			C	D

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	121	673	1192	-	-	940	-	-	200
HCM Lane V/C Ratio	0.275	0.094	0.116	-	-	0.025	-	-	0.124
HCM Control Delay (s)	45.7	10.9	8.4	0	-	8.9	-	-	25.5
HCM Lane LOS	E	B	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	1	0.3	0.4	-	-	0.1	-	-	0.4



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	356	50	0	390	309	150	280	8	170	139	49
Future Volume (vph)	0	356	50	0	390	309	150	280	8	170	139	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1881	1564		1863	1539	1736	1818		1703	1712	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1881	1564		1863	1539	1736	1818		1703	1712	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	419	59	0	459	364	176	329	9	200	164	58
RTOR Reduction (vph)	0	0	40	0	0	249	0	1	0	0	19	0
Lane Group Flow (vph)	0	419	19	0	459	115	176	337	0	200	203	0
Confl. Peds. (#/hr)	5		1	1		5	2		4	4		2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	4%	4%	4%	6%	6%	6%
Turn Type		NA	Perm		NA	Perm	Split	NA		Split	NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases			6			2						
Actuated Green, G (s)		19.2	19.2		19.2	19.2	15.4	15.4		12.6	12.6	
Effective Green, g (s)		19.2	19.2		19.2	19.2	15.4	15.4		12.6	12.6	
Actuated g/C Ratio		0.32	0.32		0.32	0.32	0.25	0.25		0.21	0.21	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		594	494		589	486	440	461		353	355	
v/s Ratio Prot		0.22			c0.25		0.10	c0.19		0.12	c0.12	
v/s Ratio Perm			0.01			0.07						
v/c Ratio		0.71	0.04		0.78	0.24	0.40	0.73		0.57	0.57	
Uniform Delay, d1		18.3	14.4		18.8	15.3	18.8	20.7		21.6	21.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.8	0.0		6.5	0.3	0.6	5.7		2.1	2.2	
Delay (s)		22.1	14.4		25.3	15.6	19.4	26.5		23.7	23.8	
Level of Service		C	B		C	B	B	C		C	C	
Approach Delay (s)		21.1			21.0			24.1			23.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	60.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	188	35	117	3	41	3	323	208	8	1	287	305
Future Volume (vph)	188	35	117	3	41	3	323	208	8	1	287	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.97		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.92	
Flt Protected		0.96	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750	1507		1840		1752	1833		1716	1646	
Flt Permitted		0.75	1.00		0.98		0.14	1.00		0.61	1.00	
Satd. Flow (perm)		1361	1507		1814		255	1833		1096	1646	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	214	40	133	3	47	3	367	236	9	1	326	347
RTOR Reduction (vph)	0	0	105	0	2	0	0	2	0	0	43	0
Lane Group Flow (vph)	0	254	28	0	51	0	367	243	0	1	630	0
Confl. Peds. (#/hr)	1		4	4		1	3		2	2		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		17.8	17.8		17.8		58.7	53.3		39.1	38.2	
Effective Green, g (s)		17.8	17.8		17.8		58.7	53.3		39.1	38.2	
Actuated g/C Ratio		0.21	0.21		0.21		0.69	0.62		0.46	0.45	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		283	313		377		455	1142		507	735	
v/s Ratio Prot							c0.15	0.13		0.00	0.38	
v/s Ratio Perm		c0.19	0.02		0.03		c0.40			0.00		
v/c Ratio		0.90	0.09		0.13		0.81	0.21		0.00	0.86	
Uniform Delay, d1		33.0	27.3		27.6		18.9	7.0		12.6	21.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		28.4	0.1		0.2		10.1	0.1		0.0	9.7	
Delay (s)		61.4	27.4		27.7		28.9	7.1		12.6	30.9	
Level of Service		E	C		C		C	A		B	C	
Approach Delay (s)		49.7			27.7			20.2			30.9	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	85.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	14	15	14	11	71	34	28	289	94	54	552	214
Future Volume (vph)	14	15	14	11	71	34	28	289	94	54	552	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.96		1.00	0.96		1.00	0.96	
Flt Protected		0.98			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1478			1670		1703	1717		1735	1740	
Flt Permitted		0.88			0.97		0.21	1.00		0.46	1.00	
Satd. Flow (perm)		1329			1623		384	1717		837	1740	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	16	17	16	12	80	38	31	325	106	61	620	240
RTOR Reduction (vph)	0	14	0	0	18	0	0	12	0	0	13	0
Lane Group Flow (vph)	0	35	0	0	112	0	31	419	0	61	847	0
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	20%	20%	20%	8%	8%	8%	6%	6%	6%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		8.5			8.5		43.4	41.9		45.8	43.1	
Effective Green, g (s)		8.5			8.5		43.4	41.9		45.8	43.1	
Actuated g/C Ratio		0.13			0.13		0.65	0.63		0.69	0.65	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		169			207		279	1080		612	1126	
v/s Ratio Prot							0.00	0.24		c0.00	c0.49	
v/s Ratio Perm		0.03			c0.07		0.07			0.06		
v/c Ratio		0.21			0.54		0.11	0.39		0.10	0.75	
Uniform Delay, d1		26.0			27.2		6.1	6.1		3.5	8.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			2.7		0.2	0.2		0.1	2.9	
Delay (s)		26.6			29.9		6.3	6.3		3.6	11.0	
Level of Service		C			C		A	A		A	B	
Approach Delay (s)		26.6			29.9			6.3			10.5	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	66.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	1	0	427	1	30	1	166	159	17	403	0
Future Volume (vph)	0	1	0	427	1	30	1	166	159	17	403	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		1.00		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1900		1717	1546		1700	1792	1491	1734	1827	
Flt Permitted		1.00		0.76	1.00		0.30	1.00	1.00	0.64	1.00	
Satd. Flow (perm)		1900		1368	1546		535	1792	1491	1161	1827	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1	0	497	1	35	1	193	185	20	469	0
RTOR Reduction (vph)	0	0	0	0	19	0	0	0	121	0	0	0
Lane Group Flow (vph)	0	1	0	497	17	0	1	193	64	20	469	0
Confl. Peds. (#/hr)			1	1			3		1	1		3
Heavy Vehicles (%)	0%	0%	0%	5%	5%	5%	6%	6%	6%	4%	4%	4%
Turn Type		NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		22.6		22.6	22.6		16.8	16.8	16.8	16.8	16.8	
Effective Green, g (s)		22.6		22.6	22.6		16.8	16.8	16.8	16.8	16.8	
Actuated g/C Ratio		0.47		0.47	0.47		0.35	0.35	0.35	0.35	0.35	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		887		638	721		185	622	517	402	634	
v/s Ratio Prot		0.00			0.01			0.11			c0.26	
v/s Ratio Perm				c0.36			0.00		0.04	0.02		
v/c Ratio		0.00		0.78	0.02		0.01	0.31	0.12	0.05	0.74	
Uniform Delay, d1		6.9		10.8	7.0		10.3	11.6	10.8	10.5	13.9	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		6.0	0.0		0.0	0.3	0.1	0.1	4.5	
Delay (s)		6.9		16.8	7.0		10.3	11.8	10.9	10.5	18.4	
Level of Service		A		B	A		B	B	B	B	B	
Approach Delay (s)		6.9			16.1			11.4			18.1	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	48.4	Sum of lost time (s)	9.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	4	0	6	1	0	0	23	170	3	2	413	16
Future Volume (Veh/h)	4	0	6	1	0	0	23	170	3	2	413	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	7	1	0	0	25	185	3	2	449	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								691				
pX, platoon unblocked												
vC, conflicting volume	696	700	458	696	706	186	466			188		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	696	700	458	696	706	186	466			188		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	99	100	100	100	98			100		
cM capacity (veh/h)	349	355	603	345	352	856	1095			1386		

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1	SW 2
Volume Total	11	1	25	188	2	466
Volume Left	4	1	25	0	2	0
Volume Right	7	0	0	3	0	17
cSH	477	345	1095	1700	1386	1700
Volume to Capacity	0.02	0.00	0.02	0.11	0.00	0.27
Queue Length 95th (ft)	2	0	2	0	0	0
Control Delay (s)	12.7	15.5	8.4	0.0	7.6	0.0
Lane LOS	B	C	A		A	
Approach Delay (s)	12.7	15.5	1.0		0.0	
Approach LOS	B	C				

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	32.7%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	0.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	4	0	6	1	0	0	23	170	3	2	413	16
Future Vol, veh/h	4	0	6	1	0	0	23	170	3	2	413	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	7	1	0	0	25	185	3	2	449	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	698	700	458	701	707	186	466	0	0	188	0	0
Stage 1	462	462	-	236	236	-	-	-	-	-	-	-
Stage 2	236	238	-	465	471	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	355	363	603	353	360	856	1095	-	-	1386	-	-
Stage 1	580	565	-	767	710	-	-	-	-	-	-	-
Stage 2	767	708	-	578	560	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	348	354	603	343	351	856	1095	-	-	1386	-	-
Mov Cap-2 Maneuver	348	354	-	343	351	-	-	-	-	-	-	-
Stage 1	567	564	-	749	694	-	-	-	-	-	-	-
Stage 2	749	692	-	571	559	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	12.9	15.5	1	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1095	-	-	343	466	1386	-	-
HCM Lane V/C Ratio	0.023	-	-	0.003	0.023	0.002	-	-
HCM Control Delay (s)	8.4	-	-	15.5	12.9	7.6	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.1	0	-	-



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	306	166	250	42	72	256
Future Volume (vph)	306	166	250	42	72	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3155	1455	3125		1736	3471
Flt Permitted	0.95	1.00	1.00		0.39	1.00
Satd. Flow (perm)	3155	1455	3125		704	3471
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	340	184	278	47	80	284
RTOR Reduction (vph)	0	114	26	0	0	0
Lane Group Flow (vph)	340	70	299	0	80	284
Heavy Vehicles (%)	11%	11%	13%	13%	4%	4%
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	9.6	14.6	10.2		19.7	19.7
Effective Green, g (s)	9.6	14.6	10.2		19.7	19.7
Actuated g/C Ratio	0.25	0.38	0.27		0.51	0.51
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	790	725	832		496	1785
v/s Ratio Prot	c0.11	0.01	c0.10		0.02	c0.08
v/s Ratio Perm		0.04			0.06	
v/c Ratio	0.43	0.10	0.36		0.16	0.16
Uniform Delay, d1	12.1	7.6	11.4		5.0	4.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.3		0.2	0.0
Delay (s)	12.4	7.7	11.7		5.2	5.0
Level of Service	B	A	B		A	A
Approach Delay (s)	10.8		11.7			5.0
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	38.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



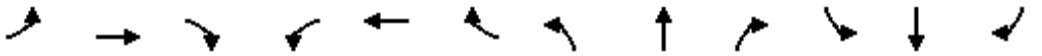
Movement	NWL	NWR	NET	NER	SWL	SWT
Right Turn Channelized				MOYes		
Traffic Volume (veh/h)	71	67	176	208	282	263
Future Volume (veh/h)	71	67	176	208	282	263
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	81	76	200	236	320	299
Approach Volume (veh/h)	157		200			619
Crossing Volume (veh/h)	200		320			81
High Capacity (veh/h)	1184		1077			1300
High v/c (veh/h)	0.13		0.19			0.48
Low Capacity (veh/h)	979		883			1084
Low v/c (veh/h)	0.16		0.23			0.57

Intersection Summary			
Maximum v/c High	0.48		
Maximum v/c Low	0.57		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Approach	NW	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	157	436	619
Demand Flow Rate, veh/h	169	480	638
Vehicles Circulating, veh/h	220	330	87
Vehicles Exiting, veh/h	330	395	302
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.2	3.7	12.2
Approach LOS	A	A	B

Lane	Left	Left	Bypass	Left
Designated Moves	LR	T	R	LT
Assumed Moves	LR	T	R	LT
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Critical Headway, s	5.193	5.193		5.193
Entry Flow, veh/h	169	220	260	638
Cap Entry Lane, veh/h	907	812	2090	1036
Entry HV Adj Factor	0.929	0.909	0.909	0.970
Flow Entry, veh/h	157	200	236	619
Cap Entry, veh/h	842	738	1900	1005
V/C Ratio	0.186	0.271	0.124	0.616
Control Delay, s/veh	6.2	8.0	0.0	12.2
LOS	A	A	A	B
95th %tile Queue, veh	1	1	0	4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	103	0	0	460	0	2558	152	0	1816	471
Future Volume (vph)	0	0	103	0	0	460	0	2558	152	0	1816	471
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frpb, ped/bikes			1.00			1.00		1.00	0.98		1.00	1.00
Flpb, ped/bikes			1.00			1.00		1.00	1.00		1.00	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2760			2538		4988	1521		4893	1524
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2760			2538		4988	1521		4893	1524
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	106	0	0	474	0	2637	157	0	1872	486
RTOR Reduction (vph)	0	0	19	0	0	19	0	0	61	0	0	189
Lane Group Flow (vph)	0	0	87	0	0	455	0	2637	96	0	1872	297
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	12%	12%	12%	4%	4%	4%	6%	6%	6%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)			15.2			15.2		38.1	38.1		38.1	38.1
Effective Green, g (s)			15.2			15.2		38.1	38.1		38.1	38.1
Actuated g/C Ratio			0.24			0.24		0.61	0.61		0.61	0.61
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			673			619		3050	930		2992	932
v/s Ratio Prot								c0.53			0.38	
v/s Ratio Perm			0.03			c0.18			0.06			0.20
v/c Ratio			0.13			0.74		0.86	0.10		0.63	0.32
Uniform Delay, d1			18.4			21.7		10.0	5.0		7.6	5.8
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.1			4.5		2.8	0.0		0.4	0.2
Delay (s)			18.5			26.2		12.8	5.1		8.0	6.0
Level of Service			B			C		B	A		A	A
Approach Delay (s)		18.5			26.2			12.3			7.6	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	904	328	1301	242	511	1707
Future Volume (vph)	904	328	1301	242	511	1707
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	1568	5085	1526	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	1568	5085	1526	1770	5085
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	932	338	1341	249	527	1760
RTOR Reduction (vph)	0	0	0	178	0	0
Lane Group Flow (vph)	932	338	1341	71	527	1760
Confl. Peds. (#/hr)				6	6	
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	24.5	51.0	25.5	25.5	26.5	56.5
Effective Green, g (s)	24.5	51.0	25.5	25.5	26.5	56.5
Actuated g/C Ratio	0.27	0.57	0.28	0.28	0.29	0.63
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	925	966	1440	432	521	3192
v/s Ratio Prot	c0.27	0.10	c0.26		c0.30	0.35
v/s Ratio Perm		0.11		0.05		
v/c Ratio	1.01	0.35	0.93	0.16	1.01	0.55
Uniform Delay, d1	32.8	10.5	31.4	24.2	31.8	9.5
Progression Factor	1.00	1.00	0.92	2.24	1.00	1.00
Incremental Delay, d2	31.5	0.2	10.3	0.7	42.3	0.7
Delay (s)	64.2	10.8	39.2	55.1	74.1	10.2
Level of Service	E	B	D	E	E	B
Approach Delay (s)	50.0		41.7			24.9
Approach LOS	D		D			C

Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	127	455	1152	842	432	2104
Future Volume (vph)	127	455	1152	842	432	2104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	5036	1510	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	5036	1510	1770	5085
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	130	464	1176	859	441	2147
RTOR Reduction (vph)	0	391	0	312	0	0
Lane Group Flow (vph)	130	73	1176	547	441	2147
Confl. Peds. (#/hr)				7	7	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	12.2	12.2	37.9	37.9	26.4	68.8
Effective Green, g (s)	12.2	12.2	37.9	37.9	26.4	68.8
Actuated g/C Ratio	0.14	0.14	0.42	0.42	0.29	0.76
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	239	214	2120	635	519	3887
v/s Ratio Prot	c0.07		0.23		c0.25	0.42
v/s Ratio Perm		0.05		c0.36		
v/c Ratio	0.54	0.34	0.55	0.86	0.85	0.55
Uniform Delay, d1	36.3	35.3	19.7	23.7	29.9	4.3
Progression Factor	1.00	1.00	1.00	1.00	0.94	0.79
Incremental Delay, d2	2.5	1.0	1.1	14.3	8.9	0.4
Delay (s)	38.8	36.2	20.7	38.0	36.9	3.8
Level of Service	D	D	C	D	D	A
Approach Delay (s)	36.8		28.0			9.4
Approach LOS	D		C			A

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1714	13	0	2254	0	230
Future Volume (Veh/h)	1714	13	0	2254	0	230
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1804	14	0	2373	0	242
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.64		0.73	0.64
vC, conflicting volume			1821		2605	912
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1172		992	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	65
cM capacity (veh/h)			377		178	697

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1203	615	791	791	791	242
Volume Left	0	0	0	0	0	0
Volume Right	0	14	0	0	0	242
cSH	1700	1700	1700	1700	1700	697
Volume to Capacity	0.71	0.36	0.47	0.47	0.47	0.35
Queue Length 95th (ft)	0	0	0	0	0	39
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	12.9
Lane LOS						B
Approach Delay (s)	0.0		0.0			12.9
Approach LOS						B

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	68.7%	ICU Level of Service		C
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	1.3

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1714	13	0	2254	0	230
Future Vol, veh/h	1714	13	0	2254	0	230
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1804	14	0	2373	0	242

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	912
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	425
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	424
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	24.2
HCM LOS			C

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	424	-
HCM Lane V/C Ratio	-	-	0.571	-
HCM Control Delay (s)	-	-	24.2	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	3.5	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1345	51	438	1857	70	376
Future Volume (vph)	1345	51	438	1857	70	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3450		1770	3539	1787	1599
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	3450		134	3539	1787	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1387	53	452	1914	72	388
RTOR Reduction (vph)	2	0	0	0	0	11
Lane Group Flow (vph)	1438	0	452	1914	72	377
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	4%	4%	2%	2%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	51.1		82.8	82.8	8.2	35.4
Effective Green, g (s)	51.1		82.8	82.8	8.2	35.4
Actuated g/C Ratio	0.51		0.83	0.83	0.08	0.35
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1762		555	2930	146	638
v/s Ratio Prot	0.42		c0.22	0.54	0.04	c0.16
v/s Ratio Perm			c0.45			0.08
v/c Ratio	0.82		0.81	0.65	0.49	0.59
Uniform Delay, d1	20.5		27.5	3.2	43.9	26.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3		8.9	0.5	2.6	1.5
Delay (s)	24.8		36.4	3.8	46.5	27.9
Level of Service	C		D	A	D	C
Approach Delay (s)	24.8			10.0	30.8	
Approach LOS	C			A	C	

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	26	429	30	71	424	12	21	21	161	2	18	24
Future Volume (Veh/h)	26	429	30	71	424	12	21	21	161	2	18	24
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	28	456	32	76	451	13	22	22	171	2	19	26
Pedestrians		1			7			9				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			1				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.95						0.95	0.95		0.95	0.95	0.95
vC, conflicting volume	464			497			1183	1153	488	1225	1162	458
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	411			497			1167	1135	488	1211	1145	405
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			93			83	87	70	98	89	96
cM capacity (veh/h)	1097			1058			129	171	567	88	172	618

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	28	488	540	215	47
Volume Left	28	0	76	22	2
Volume Right	0	32	13	171	26
cSH	1097	1700	1058	713	268
Volume to Capacity	0.03	0.29	0.07	0.30	0.18
Queue Length 95th (ft)	2	0	6	32	16
Control Delay (s)	8.4	0.0	2.0	19.1	21.3
Lane LOS	A		A	C	C
Approach Delay (s)	0.5		2.0	19.1	21.3
Approach LOS				C	C

Intersection Summary				
Average Delay	4.9			
Intersection Capacity Utilization	71.3%	ICU Level of Service	C	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	4.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	26	429	30	71	424	12	21	21	161	2	18	24
Future Vol, veh/h	26	429	30	71	424	12	21	21	161	2	18	24
Conflicting Peds, #/hr	0	0	9	9	0	0	1	0	7	7	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	2	2	2	4	4	4	0	0	0
Mvmt Flow	28	456	32	76	451	13	22	22	171	2	19	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	464	0	0	497	0	0	1169	1152	488	1155	1162	458
Stage 1	-	-	-	-	-	-	537	537	-	609	609	-
Stage 2	-	-	-	-	-	-	632	615	-	546	553	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.14	6.54	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.536	4.036	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	1103	-	-	1067	-	-	169	196	576	175	197	607
Stage 1	-	-	-	-	-	-	524	520	-	486	488	-
Stage 2	-	-	-	-	-	-	465	479	-	526	518	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1102	-	-	1060	-	-	133	171	567	99	172	606
Mov Cap-2 Maneuver	-	-	-	-	-	-	133	171	-	99	172	-
Stage 1	-	-	-	-	-	-	506	502	-	474	441	-
Stage 2	-	-	-	-	-	-	384	433	-	340	501	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.4	1.2	19.2	21.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	150	567	1060	-	-	1102	-	-	268
HCM Lane V/C Ratio	0.298	0.302	0.071	-	-	0.025	-	-	0.175
HCM Control Delay (s)	38.9	14.1	8.7	0	-	8.4	-	-	21.3
HCM Lane LOS	E	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	1.2	1.3	0.2	-	-	0.1	-	-	0.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	521	127	0	354	294	92	182	18	303	267	29
Future Volume (vph)	0	521	127	0	354	294	92	182	18	303	267	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1881	1533		1863	1529	1770	1833		1770	1829	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1881	1533		1863	1529	1770	1833		1770	1829	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	554	135	0	377	313	98	194	19	322	284	31
RTOR Reduction (vph)	0	0	56	0	0	202	0	5	0	0	5	0
Lane Group Flow (vph)	0	554	79	0	377	111	98	208	0	322	310	0
Confl. Peds. (#/hr)	8		12	12		8	7		4	4		7
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA	Perm		NA	Perm	Split	NA		Split	NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases			6			2						
Actuated Green, G (s)		23.2	23.2		23.2	23.2	12.7	12.7		16.0	16.0	
Effective Green, g (s)		23.2	23.2		23.2	23.2	12.7	12.7		16.0	16.0	
Actuated g/C Ratio		0.35	0.35		0.35	0.35	0.19	0.19		0.24	0.24	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		667	543		660	542	343	355		433	447	
v/s Ratio Prot		c0.29			0.20		0.06	c0.11		c0.18	0.17	
v/s Ratio Perm			0.05			0.07						
v/c Ratio		0.83	0.15		0.57	0.20	0.29	0.59		0.74	0.69	
Uniform Delay, d1		19.3	14.4		17.1	14.7	22.5	24.0		22.8	22.5	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		8.7	0.1		1.2	0.2	0.5	2.5		6.8	4.6	
Delay (s)		28.0	14.5		18.3	14.9	22.9	26.4		29.6	27.1	
Level of Service		C	B		B	B	C	C		C	C	
Approach Delay (s)		25.3			16.7			25.3			28.3	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	65.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	375	46	199	15	65	9	231	244	10	6	360	158
Future Volume (vph)	375	46	199	15	65	9	231	244	10	6	360	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.95	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1795	1535		1798		1787	1868		1745	1743	
Flt Permitted		0.72	1.00		0.91		0.15	1.00		0.59	1.00	
Satd. Flow (perm)		1345	1535		1649		281	1868		1083	1743	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	408	50	216	16	71	10	251	265	11	7	391	172
RTOR Reduction (vph)	0	0	141	0	5	0	0	2	0	0	19	0
Lane Group Flow (vph)	0	458	75	0	92	0	251	274	0	7	544	0
Confl. Peds. (#/hr)	2		9	9		2	5		5	5		5
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		28.0	28.0		28.0		43.6	38.1		30.9	29.9	
Effective Green, g (s)		28.0	28.0		28.0		43.6	38.1		30.9	29.9	
Actuated g/C Ratio		0.35	0.35		0.35		0.54	0.47		0.38	0.37	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		467	533		572		323	883		423	646	
v/s Ratio Prot							c0.09	0.15		0.00	c0.31	
v/s Ratio Perm		c0.34	0.05		0.06		0.33			0.01		
v/c Ratio		0.98	0.14		0.16		0.78	0.31		0.02	0.84	
Uniform Delay, d1		26.0	18.0		18.2		14.6	13.1		15.4	23.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		36.5	0.1		0.1		11.2	0.2		0.0	9.7	
Delay (s)		62.5	18.2		18.3		25.7	13.3		15.4	32.9	
Level of Service		E	B		B		C	B		B	C	
Approach Delay (s)		48.3			18.3			19.2			32.7	
Approach LOS		D			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	33.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	80.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	44	9	15	30	126	30	33	534	59	43	475	115
Future Volume (vph)	44	9	15	30	126	30	33	534	59	43	475	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.99		1.00	0.97	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1612			1799		1786	1849		1769	1798	
Flt Permitted		0.76			0.94		0.27	1.00		0.26	1.00	
Satd. Flow (perm)		1261			1706		499	1849		488	1798	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	47	10	16	32	134	32	35	568	63	46	505	122
RTOR Reduction (vph)	0	13	0	0	12	0	0	6	0	0	12	0
Lane Group Flow (vph)	0	60	0	0	186	0	35	625	0	46	615	0
Confl. Peds. (#/hr)	3		4	4		3	6		3	3		6
Heavy Vehicles (%)	10%	10%	10%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		11.1			11.1		26.7	25.1		26.7	25.1	
Effective Green, g (s)		11.1			11.1		26.7	25.1		26.7	25.1	
Actuated g/C Ratio		0.22			0.22		0.52	0.49		0.52	0.49	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		272			369		299	904		293	879	
v/s Ratio Prot							0.00	0.34		c0.00	c0.34	
v/s Ratio Perm		0.05			c0.11		0.06			0.08		
v/c Ratio		0.22			0.50		0.12	0.69		0.16	0.70	
Uniform Delay, d1		16.5			17.7		6.9	10.1		7.0	10.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4			1.1		0.2	2.3		0.3	2.5	
Delay (s)		17.0			18.8		7.1	12.4		7.3	12.6	
Level of Service		B			B		A	B		A	B	
Approach Delay (s)		17.0			18.8			12.1			12.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	51.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	0	7	203	1	33	6	269	339	34	405	1
Future Volume (vph)	2	0	7	203	1	33	6	269	339	34	405	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.98		1.00	0.98		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.89		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1649		1734	1528		1784	1881	1562	1749	1844	
Flt Permitted		0.96		0.75	1.00		0.43	1.00	1.00	0.58	1.00	
Satd. Flow (perm)		1607		1371	1528		813	1881	1562	1063	1844	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	0	8	226	1	37	7	299	377	38	450	1
RTOR Reduction (vph)	0	7	0	0	26	0	0	0	200	0	0	0
Lane Group Flow (vph)	0	3	0	226	12	0	7	299	177	38	451	0
Confl. Peds. (#/hr)	1		1	1		1	3		3	3		3
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		12.2		12.2	12.2		18.7	18.7	18.7	18.7	18.7	
Effective Green, g (s)		12.2		12.2	12.2		18.7	18.7	18.7	18.7	18.7	
Actuated g/C Ratio		0.31		0.31	0.31		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		491		419	467		381	881	732	498	864	
v/s Ratio Prot					0.01			0.16			c0.24	
v/s Ratio Perm		0.00		c0.16			0.01		0.11	0.04		
v/c Ratio		0.01		0.54	0.03		0.02	0.34	0.24	0.08	0.52	
Uniform Delay, d1		9.6		11.5	9.7		5.7	6.7	6.4	5.8	7.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		1.3	0.0		0.0	0.2	0.2	0.1	0.6	
Delay (s)		9.6		12.9	9.7		5.7	6.9	6.5	5.9	8.0	
Level of Service		A		B	A		A	A	A	A	A	
Approach Delay (s)		9.6			12.4			6.7			7.9	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	39.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	14	0	20	2	0	1	20	283	1	0	418	13
Future Volume (Veh/h)	14	0	20	2	0	1	20	283	1	0	418	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	0	22	2	0	1	22	308	1	0	454	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								691				
pX, platoon unblocked	0.99	0.99		0.99	0.99	0.99				0.99		
vC, conflicting volume	814	814	461	828	820	308	468			309		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	806	806	461	821	813	295	468			295		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	96	99	100	100	98			100		
cM capacity (veh/h)	292	306	600	275	303	736	1094			1252		

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1	SW 2
Volume Total	37	3	22	309	0	468
Volume Left	15	2	22	0	0	0
Volume Right	22	1	0	1	0	14
cSH	420	348	1094	1700	1700	1700
Volume to Capacity	0.09	0.01	0.02	0.18	0.00	0.28
Queue Length 95th (ft)	7	1	2	0	0	0
Control Delay (s)	14.4	15.4	8.4	0.0	0.0	0.0
Lane LOS	B	C	A			
Approach Delay (s)	14.4	15.4	0.6		0.0	
Approach LOS	B	C				

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	32.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	0.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	14	0	20	2	0	1	20	283	1	0	418	13
Future Vol, veh/h	14	0	20	2	0	1	20	283	1	0	418	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	0	22	2	0	1	22	308	1	0	454	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	813	813	461	824	820	308	468	0	0	309	0	0
Stage 1	461	461	-	352	352	-	-	-	-	-	-	-
Stage 2	352	352	-	472	468	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	297	313	600	292	310	732	1094	-	-	1252	-	-
Stage 1	581	565	-	665	632	-	-	-	-	-	-	-
Stage 2	665	632	-	573	561	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	292	307	600	277	304	732	1094	-	-	1252	-	-
Mov Cap-2 Maneuver	292	307	-	277	304	-	-	-	-	-	-	-
Stage 1	569	565	-	652	619	-	-	-	-	-	-	-
Stage 2	651	619	-	552	561	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	14.4	15.4	0.5	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1094	-	-	349	418	1252	-	-
HCM Lane V/C Ratio	0.02	-	-	0.009	0.088	-	-	-
HCM Control Delay (s)	8.4	-	-	15.4	14.4	0	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.3	0	-	-



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	343	277	344	115	78	173
Future Volume (vph)	343	277	344	115	78	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3367	1553	3395		1735	3471
Flt Permitted	0.95	1.00	1.00		0.31	1.00
Satd. Flow (perm)	3367	1553	3395		560	3471
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	385	311	387	129	88	194
RTOR Reduction (vph)	0	145	59	0	0	0
Lane Group Flow (vph)	385	166	457	0	88	194
Confl. Peds. (#/hr)				2	2	
Heavy Vehicles (%)	4%	4%	2%	2%	4%	4%
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	10.2	16.9	11.6		22.8	22.8
Effective Green, g (s)	10.2	16.9	11.6		22.8	22.8
Actuated g/C Ratio	0.24	0.40	0.28		0.54	0.54
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	817	791	937		491	1884
v/s Ratio Prot	c0.11	c0.03	c0.13		0.03	0.06
v/s Ratio Perm		0.07			0.07	
v/c Ratio	0.47	0.21	0.49		0.18	0.10
Uniform Delay, d1	13.6	8.2	12.7		5.0	4.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.4		0.2	0.0
Delay (s)	14.0	8.3	13.1		5.2	4.7
Level of Service	B	A	B		A	A
Approach Delay (s)	11.5		13.1			4.8
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	42.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



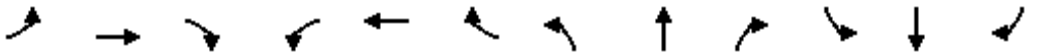
Movement	NWL	NWR	NET	NER	SWL	SWT
Right Turn Channelized				MOYes		
Traffic Volume (veh/h)	78	105	344	262	192	181
Future Volume (veh/h)	78	105	344	262	192	181
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	87	117	382	291	213	201
Approach Volume (veh/h)	204		382			414
Crossing Volume (veh/h)	382		213			87
High Capacity (veh/h)	1025		1172			1294
High v/c (veh/h)	0.20		0.33			0.32
Low Capacity (veh/h)	836		968			1079
Low v/c (veh/h)	0.24		0.39			0.38

Intersection Summary				
Maximum v/c High		0.33		
Maximum v/c Low		0.39		
Intersection Capacity Utilization		59.0%	ICU Level of Service	B

Intersection	
Intersection Delay, s/veh	6.7
Intersection LOS	A

Approach	NW	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	204	673	414
Demand Flow Rate, veh/h	220	693	422
Vehicles Circulating, veh/h	393	217	94
Vehicles Exiting, veh/h	217	299	519
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	4	0	0
Ped Cap Adj	0.999	1.000	1.000
Approach Delay, s/veh	8.6	5.3	8.1
Approach LOS	A	A	A

Lane	Left	Left	Bypass	Left
Designated Moves	LR	T	R	LT
Assumed Moves	LR	T	R	LT
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Critical Headway, s	5.193	5.193		5.193
Entry Flow, veh/h	220	393	300	422
Cap Entry Lane, veh/h	763	910	1957	1029
Entry HV Adj Factor	0.927	0.971	0.971	0.981
Flow Entry, veh/h	204	382	291	414
Cap Entry, veh/h	707	883	1900	1009
V/C Ratio	0.289	0.432	0.153	0.410
Control Delay, s/veh	8.6	9.3	0.0	8.1
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	183	0	0	417	0	2074	138	0	3236	587
Future Volume (vph)	0	0	183	0	0	417	0	2074	138	0	3236	587
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2814			2760		5085	1583		5085	1583
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2814			2760		5085	1583		5085	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	189	0	0	430	0	2138	142	0	3336	605
RTOR Reduction (vph)	0	0	15	0	0	24	0	0	41	0	0	174
Lane Group Flow (vph)	0	0	174	0	0	406	0	2138	101	0	3336	431
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)			16.5			16.5		63.0	63.0		63.0	63.0
Effective Green, g (s)			16.5			16.5		63.0	63.0		63.0	63.0
Actuated g/C Ratio			0.19			0.19		0.71	0.71		0.71	0.71
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			524			514		3619	1126		3619	1126
v/s Ratio Prot								0.42			c0.66	
v/s Ratio Perm			0.06			c0.15			0.06			0.27
v/c Ratio			0.33			0.79		0.59	0.09		0.92	0.38
Uniform Delay, d1			31.2			34.3		6.3	3.9		10.7	5.0
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.4			7.9		0.3	0.0		4.5	0.2
Delay (s)			31.6			42.2		6.6	4.0		15.2	5.3
Level of Service			C			D		A	A		B	A
Approach Delay (s)		31.6			42.2			6.4			13.7	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	416	247	1477	301	661	959
Future Volume (vph)	416	247	1477	301	661	959
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3273	1509	4988	1510	1752	5036
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3273	1509	4988	1510	1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	452	268	1605	327	718	1042
RTOR Reduction (vph)	0	0	0	229	0	0
Lane Group Flow (vph)	452	268	1605	98	718	1042
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	7%	7%	4%	4%	3%	3%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	16.4	49.5	27.0	27.0	33.1	64.6
Effective Green, g (s)	16.4	49.5	27.0	27.0	33.1	64.6
Actuated g/C Ratio	0.18	0.55	0.30	0.30	0.37	0.72
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	596	905	1496	453	644	3614
v/s Ratio Prot	c0.14	0.11	c0.32		c0.41	0.21
v/s Ratio Perm		0.07		0.06		
v/c Ratio	0.76	0.30	1.07	0.22	1.11	0.29
Uniform Delay, d1	34.9	10.9	31.5	23.6	28.4	4.5
Progression Factor	1.00	1.00	0.97	2.31	1.00	1.00
Incremental Delay, d2	5.5	0.2	43.3	0.9	71.4	0.2
Delay (s)	40.4	11.1	73.8	55.3	99.8	4.7
Level of Service	D	B	E	E	F	A
Approach Delay (s)	29.5		70.7			43.5
Approach LOS	C		E			D

Intersection Summary			
HCM 2000 Control Delay	53.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	159	444	1340	977	267	1109
Future Volume (vph)	159	444	1340	977	267	1109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1719	1538	4940	1496	1719	4940
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1719	1538	4940	1496	1719	4940
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	167	467	1411	1028	281	1167
RTOR Reduction (vph)	0	258	0	325	0	0
Lane Group Flow (vph)	167	209	1411	703	281	1167
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.2	15.2	44.5	44.5	16.8	65.8
Effective Green, g (s)	15.2	15.2	44.5	44.5	16.8	65.8
Actuated g/C Ratio	0.17	0.17	0.49	0.49	0.19	0.73
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	290	259	2442	739	320	3611
v/s Ratio Prot	0.10		0.29		c0.16	0.24
v/s Ratio Perm		c0.14		c0.47		
v/c Ratio	0.58	0.81	0.58	0.95	0.88	0.32
Uniform Delay, d1	34.4	36.0	16.1	21.7	35.6	4.3
Progression Factor	1.00	1.00	1.00	1.00	0.79	1.49
Incremental Delay, d2	2.8	16.7	1.0	23.1	21.4	0.2
Delay (s)	37.2	52.7	17.1	44.8	49.5	6.6
Level of Service	D	D	B	D	D	A
Approach Delay (s)	48.6		28.8			14.9
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1973	61	0	1287	0	296
Future Volume (Veh/h)	1973	61	0	1287	0	296
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	2122	66	0	1384	0	318
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.52		0.56	0.52
vC, conflicting volume			2188		2616	1094
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1441		1484	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		100	44
cM capacity (veh/h)			233		65	565

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1415	773	461	461	461	318
Volume Left	0	0	0	0	0	0
Volume Right	0	66	0	0	0	318
cSH	1700	1700	1700	1700	1700	565
Volume to Capacity	0.83	0.45	0.27	0.27	0.27	0.56
Queue Length 95th (ft)	0	0	0	0	0	87
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	19.3
Lane LOS						C
Approach Delay (s)	0.0		0.0			19.3
Approach LOS						C

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	81.5%	ICU Level of Service	D	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	6.2

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1973	61	0	1287	0	296
Future Vol, veh/h	1973	61	0	1287	0	296
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	2122	66	0	1384	0	318

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1094
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	332
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	332
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	75.6
HCM LOS			F

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	332	-
HCM Lane V/C Ratio	-	-	0.959	-
HCM Control Delay (s)	-	-	75.6	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	10.1	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1532	25	336	966	80	513
Future Volume (vph)	1532	25	336	966	80	513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3397		1703	3406	1736	1553
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	3397		129	3406	1736	1553
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1630	27	357	1028	85	546
RTOR Reduction (vph)	1	0	0	0	0	7
Lane Group Flow (vph)	1656	0	357	1028	85	539
Confl. Peds. (#/hr)		1	1		3	
Heavy Vehicles (%)	6%	6%	6%	6%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	50.9		82.0	82.0	9.0	35.6
Effective Green, g (s)	50.9		82.0	82.0	9.0	35.6
Actuated g/C Ratio	0.51		0.82	0.82	0.09	0.36
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1729		524	2792	156	622
v/s Ratio Prot	c0.49		0.18	0.30	0.05	c0.23
v/s Ratio Perm			0.38			0.12
v/c Ratio	0.96		0.68	0.37	0.54	0.87
Uniform Delay, d1	23.5		26.2	2.3	43.5	30.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	13.7		3.6	0.1	3.9	12.1
Delay (s)	37.2		29.8	2.4	47.4	42.1
Level of Service	D		C	A	D	D
Approach Delay (s)	37.2			9.5	42.8	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	22	307	29	133	577	12	6	25	62	0	12	11
Future Volume (Veh/h)	22	307	29	133	577	12	6	25	62	0	12	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	24	330	31	143	620	13	6	27	67	0	13	12
Pedestrians		2			10			4				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			0				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.92						0.92	0.92		0.92	0.92	0.92
vC, conflicting volume	633			365			1330	1316	360	1348	1326	628
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	561			365			1316	1301	360	1335	1311	556
tC, single (s)	4.1			4.1			7.2	6.6	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	97			88			94	78	90	100	90	98
cM capacity (veh/h)	924			1184			95	123	661	80	126	492

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	24	361	776	100	25
Volume Left	24	0	143	6	0
Volume Right	0	31	13	67	12
cSH	924	1700	1184	357	196
Volume to Capacity	0.03	0.21	0.12	0.28	0.13
Queue Length 95th (ft)	2	0	10	28	11
Control Delay (s)	9.0	0.0	2.9	22.9	26.0
Lane LOS	A		A	C	D
Approach Delay (s)	0.6		2.9	22.9	26.0
Approach LOS				C	D

Intersection Summary				
Average Delay	4.2			
Intersection Capacity Utilization	74.8%	ICU Level of Service	D	
Analysis Period (min)	15			

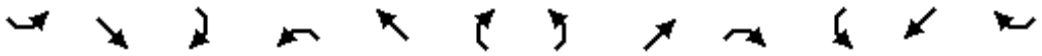
Intersection	
Int Delay, s/veh	3.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	22	307	29	133	577	12	6	25	62	0	12	11
Future Vol, veh/h	22	307	29	133	577	12	6	25	62	0	12	11
Conflicting Peds, #/hr	0	0	4	4	0	0	2	0	10	10	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	4	4	4	3	3	3	9	9	9	0	0	0
Mvmt Flow	24	330	31	143	620	13	6	27	67	0	13	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	633	0	0	365	0	0	1324	1316	360	1329	1326	629
Stage 1	-	-	-	-	-	-	397	397	-	913	913	-
Stage 2	-	-	-	-	-	-	927	919	-	416	413	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.19	6.59	6.29	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.581	4.081	3.381	3.5	4	3.3
Pot Cap-1 Maneuver	940	-	-	1188	-	-	129	153	669	133	157	486
Stage 1	-	-	-	-	-	-	615	591	-	330	355	-
Stage 2	-	-	-	-	-	-	313	341	-	618	597	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	938	-	-	1177	-	-	97	121	660	83	124	485
Mov Cap-2 Maneuver	-	-	-	-	-	-	97	121	-	83	124	-
Stage 1	-	-	-	-	-	-	597	574	-	322	288	-
Stage 2	-	-	-	-	-	-	236	277	-	511	580	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.5	1.6	23.6	26.4
HCM LOS			C	D

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	115	660	1177	-	-	938	-	-	193
HCM Lane V/C Ratio	0.29	0.101	0.122	-	-	0.025	-	-	0.128
HCM Control Delay (s)	48.6	11.1	8.5	0	-	8.9	-	-	26.4
HCM Lane LOS	E	B	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	1.1	0.3	0.4	-	-	0.1	-	-	0.4



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	356	50	0	390	316	150	286	8	179	147	49
Future Volume (vph)	0	356	50	0	390	316	150	286	8	179	147	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1881	1564		1863	1538	1736	1819		1703	1715	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1881	1564		1863	1538	1736	1819		1703	1715	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	419	59	0	459	372	176	336	9	211	173	58
RTOR Reduction (vph)	0	0	41	0	0	256	0	1	0	0	18	0
Lane Group Flow (vph)	0	419	18	0	459	116	176	344	0	211	213	0
Confl. Peds. (#/hr)	5		1	1		5	2		4	4		2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	4%	4%	4%	6%	6%	6%
Turn Type		NA	Perm		NA	Perm	Split	NA		Split	NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases			6			2						
Actuated Green, G (s)		19.2	19.2		19.2	19.2	15.6	15.6		13.1	13.1	
Effective Green, g (s)		19.2	19.2		19.2	19.2	15.6	15.6		13.1	13.1	
Actuated g/C Ratio		0.31	0.31		0.31	0.31	0.25	0.25		0.21	0.21	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		588	489		582	480	441	462		363	365	
v/s Ratio Prot		0.22			c0.25		0.10	c0.19		0.12	c0.12	
v/s Ratio Perm			0.01			0.08						
v/c Ratio		0.71	0.04		0.79	0.24	0.40	0.74		0.58	0.58	
Uniform Delay, d1		18.7	14.7		19.2	15.7	19.0	21.1		21.7	21.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		4.1	0.0		7.0	0.3	0.6	6.4		2.4	2.4	
Delay (s)		22.7	14.7		26.3	16.0	19.6	27.4		24.1	24.1	
Level of Service		C	B		C	B	B	C		C	C	
Approach Delay (s)		21.7			21.6			24.8			24.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	61.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	205	35	117	3	41	3	323	221	8	1	304	311
Future Volume (vph)	205	35	117	3	41	3	323	221	8	1	304	311
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.97		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.92	
Flt Protected		0.96	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1749	1507		1840		1752	1834		1716	1649	
Flt Permitted		0.75	1.00		0.98		0.12	1.00		0.60	1.00	
Satd. Flow (perm)		1373	1507		1813		222	1834		1081	1649	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	233	40	133	3	47	3	367	251	9	1	345	353
RTOR Reduction (vph)	0	0	104	0	2	0	0	1	0	0	40	0
Lane Group Flow (vph)	0	273	29	0	51	0	367	259	0	1	658	0
Confl. Peds. (#/hr)	1		4	4		1	3		2	2		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		19.2	19.2		19.2		60.3	54.9		40.6	39.7	
Effective Green, g (s)		19.2	19.2		19.2		60.3	54.9		40.6	39.7	
Actuated g/C Ratio		0.22	0.22		0.22		0.68	0.62		0.46	0.45	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		297	326		393		429	1137		502	739	
v/s Ratio Prot							c0.16	0.14		0.00	0.40	
v/s Ratio Perm		c0.20	0.02		0.03		c0.43			0.00		
v/c Ratio		0.92	0.09		0.13		0.86	0.23		0.00	0.89	
Uniform Delay, d1		33.9	27.7		27.9		22.2	7.4		13.0	22.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		31.6	0.1		0.1		15.3	0.1		0.0	12.9	
Delay (s)		65.5	27.8		28.1		37.5	7.5		13.0	35.3	
Level of Service		E	C		C		D	A		B	D	
Approach Delay (s)		53.1			28.1			25.1			35.3	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	62	15	14	11	71	38	28	319	94	59	575	280
Future Volume (vph)	62	15	14	11	71	38	28	319	94	59	575	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.96		1.00	0.97		1.00	0.95	
Flt Protected		0.97			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1493			1663		1703	1722		1735	1725	
Flt Permitted		0.66			0.97		0.15	1.00		0.41	1.00	
Satd. Flow (perm)		1016			1619		260	1722		748	1725	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	70	17	16	12	80	43	31	358	106	66	646	315
RTOR Reduction (vph)	0	8	0	0	19	0	0	12	0	0	17	0
Lane Group Flow (vph)	0	95	0	0	116	0	31	452	0	66	944	0
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	20%	20%	20%	8%	8%	8%	6%	6%	6%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		12.1			12.1		47.0	45.3		52.0	47.8	
Effective Green, g (s)		12.1			12.1		47.0	45.3		52.0	47.8	
Actuated g/C Ratio		0.16			0.16		0.63	0.60		0.69	0.64	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		163			260		195	1038		573	1097	
v/s Ratio Prot							0.00	0.26		c0.01	c0.55	
v/s Ratio Perm		c0.09			0.07		0.10			0.07		
v/c Ratio		0.59			0.45		0.16	0.44		0.12	0.86	
Uniform Delay, d1		29.2			28.5		9.5	8.0		4.2	11.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		5.3			1.2		0.4	0.3		0.1	7.0	
Delay (s)		34.5			29.7		9.9	8.3		4.3	18.0	
Level of Service		C			C		A	A		A	B	
Approach Delay (s)		34.5			29.7			8.4			17.1	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	5	3	6	408	2	54	6	250	152	31	510	4
Future Volume (vph)	5	3	6	408	2	54	6	250	152	31	510	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.99		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.94		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1738		1717	1546		1701	1792	1491	1734	1824	
Flt Permitted		0.94		0.75	1.00		0.21	1.00	1.00	0.54	1.00	
Satd. Flow (perm)		1672		1350	1546		369	1792	1491	984	1824	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	6	3	7	474	2	63	7	291	177	36	593	5
RTOR Reduction (vph)	0	4	0	0	36	0	0	0	106	0	1	0
Lane Group Flow (vph)	0	12	0	474	29	0	7	291	71	36	597	0
Confl. Peds. (#/hr)			1	1			3		1	1		3
Heavy Vehicles (%)	0%	0%	0%	5%	5%	5%	6%	6%	6%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		22.3		22.3	22.3		20.9	20.9	20.9	20.9	20.9	
Effective Green, g (s)		22.3		22.3	22.3		20.9	20.9	20.9	20.9	20.9	
Actuated g/C Ratio		0.43		0.43	0.43		0.40	0.40	0.40	0.40	0.40	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		714		576	660		147	717	596	393	730	
v/s Ratio Prot					0.02			0.16			c0.33	
v/s Ratio Perm		0.01		c0.35			0.02		0.05	0.04		
v/c Ratio		0.02		0.82	0.04		0.05	0.41	0.12	0.09	0.82	
Uniform Delay, d1		8.6		13.2	8.7		9.6	11.2	9.9	9.7	14.0	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		9.3	0.0		0.1	0.4	0.1	0.1	7.1	
Delay (s)		8.6		22.5	8.8		9.7	11.6	9.9	9.8	21.1	
Level of Service		A		C	A		A	B	A	A	C	
Approach Delay (s)		8.6			20.8			10.9			20.4	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	15	63	54	255	482	18
Future Volume (Veh/h)	15	63	54	255	482	18
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	68	59	277	524	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				212		
pX, platoon unblocked	0.89					
vC, conflicting volume	929	534	544			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	860	534	544			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	88	94			
cM capacity (veh/h)	274	546	1025			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	84	336	544
Volume Left	16	59	0
Volume Right	68	0	20
cSH	459	1025	1700
Volume to Capacity	0.18	0.06	0.32
Queue Length 95th (ft)	17	5	0
Control Delay (s)	14.6	2.0	0.0
Lane LOS	B	A	
Approach Delay (s)	14.6	2.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.8

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	15	63	54	255	482	18
Future Vol, veh/h	15	63	54	255	482	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	68	59	277	524	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	929	534	543	0	-	0
Stage 1	534	-	-	-	-	-
Stage 2	395	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	297	546	1026	-	-	-
Stage 1	588	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	277	546	1026	-	-	-
Mov Cap-2 Maneuver	277	-	-	-	-	-
Stage 1	588	-	-	-	-	-
Stage 2	635	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	14.6	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1026	-	460	-	-
HCM Lane V/C Ratio	0.057	-	0.184	-	-
HCM Control Delay (s)	8.7	0	14.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	29	0	82	1	0	0	87	180	3	2	417	41
Future Volume (Veh/h)	29	0	82	1	0	0	87	180	3	2	417	41
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	0	89	1	0	0	95	196	3	2	453	45
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								691				
pX, platoon unblocked												
vC, conflicting volume	866	868	476	934	890	198	498			199		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	866	868	476	934	890	198	498			199		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	100	85	99	100	100	91			100		
cM capacity (veh/h)	255	264	589	195	257	844	1066			1373		

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1	SW 2
Volume Total	121	1	95	199	2	498
Volume Left	32	1	95	0	2	0
Volume Right	89	0	0	3	0	45
cSH	437	195	1066	1700	1373	1700
Volume to Capacity	0.28	0.01	0.09	0.12	0.00	0.29
Queue Length 95th (ft)	28	0	7	0	0	0
Control Delay (s)	16.3	23.6	8.7	0.0	7.6	0.0
Lane LOS	C	C	A		A	
Approach Delay (s)	16.3	23.6	2.8		0.0	
Approach LOS	C	C				

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	45.3%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	3.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	29	0	82	1	0	0	87	180	3	2	417	41
Future Vol, veh/h	29	0	82	1	0	0	87	180	3	2	417	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	0	89	1	0	0	95	196	3	2	453	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	866	868	476	910	888	197	498	0	0	199	0	0
Stage 1	480	480	-	386	386	-	-	-	-	-	-	-
Stage 2	386	388	-	524	502	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	274	290	589	255	283	844	1066	-	-	1373	-	-
Stage 1	567	554	-	637	610	-	-	-	-	-	-	-
Stage 2	637	609	-	537	542	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	255	264	589	201	257	844	1066	-	-	1373	-	-
Mov Cap-2 Maneuver	255	264	-	201	257	-	-	-	-	-	-	-
Stage 1	516	553	-	580	556	-	-	-	-	-	-	-
Stage 2	580	555	-	455	541	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	16.3	23	2.8	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1066	-	-	201	439	1373	-	-
HCM Lane V/C Ratio	0.089	-	-	0.005	0.275	0.002	-	-
HCM Control Delay (s)	8.7	-	-	23	16.3	7.6	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0	1.1	0	-	-



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	327	166	281	46	72	264
Future Volume (vph)	327	166	281	46	72	264
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3155	1455	3127		1736	3471
Flt Permitted	0.95	1.00	1.00		0.38	1.00
Satd. Flow (perm)	3155	1455	3127		686	3471
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	363	184	312	51	80	293
RTOR Reduction (vph)	0	113	24	0	0	0
Lane Group Flow (vph)	363	71	339	0	80	293
Heavy Vehicles (%)	11%	11%	13%	13%	4%	4%
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	10.1	15.0	10.6		20.0	20.0
Effective Green, g (s)	10.1	15.0	10.6		20.0	20.0
Actuated g/C Ratio	0.26	0.38	0.27		0.51	0.51
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	814	725	847		482	1775
v/s Ratio Prot	c0.12	0.01	c0.11		0.02	c0.08
v/s Ratio Perm		0.04			0.06	
v/c Ratio	0.45	0.10	0.40		0.17	0.17
Uniform Delay, d1	12.2	7.7	11.7		5.2	5.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.1	0.3		0.2	0.0
Delay (s)	12.5	7.8	12.0		5.3	5.1
Level of Service	B	A	B		A	A
Approach Delay (s)	10.9		12.0			5.2
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	39.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



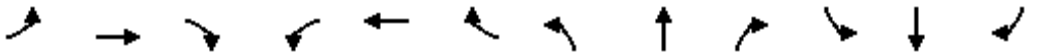
Movement	NWL	NWR	NET	NER	SWL	SWT
Right Turn Channelized				MOYes		
Traffic Volume (veh/h)	75	67	180	235	282	267
Future Volume (veh/h)	75	67	180	235	282	267
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	85	76	205	267	320	303
Approach Volume (veh/h)	161		205			623
Crossing Volume (veh/h)	205		320			85
High Capacity (veh/h)	1179		1077			1296
High v/c (veh/h)	0.14		0.19			0.48
Low Capacity (veh/h)	975		883			1080
Low v/c (veh/h)	0.17		0.23			0.58

Intersection Summary			
Maximum v/c High	0.48		
Maximum v/c Low	0.58		
Intersection Capacity Utilization	57.4%	ICU Level of Service	B

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Approach	NW	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	161	472	623
Demand Flow Rate, veh/h	174	520	642
Vehicles Circulating, veh/h	225	330	92
Vehicles Exiting, veh/h	330	404	307
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.3	3.5	12.5
Approach LOS	A	A	B

Lane	Left	Left	Bypass	Left
Designated Moves	LR	T	R	LT
Assumed Moves	LR	T	R	LT
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Critical Headway, s	5.193	5.193		5.193
Entry Flow, veh/h	174	226	294	642
Cap Entry Lane, veh/h	902	812	2090	1031
Entry HV Adj Factor	0.925	0.909	0.909	0.970
Flow Entry, veh/h	161	205	267	623
Cap Entry, veh/h	835	738	1900	1000
V/C Ratio	0.193	0.278	0.141	0.623
Control Delay, s/veh	6.3	8.1	0.0	12.5
LOS	A	A	A	B
95th %tile Queue, veh	1	1	0	5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	107	0	0	487	0	2558	156	0	1816	492
Future Volume (vph)	0	0	107	0	0	487	0	2558	156	0	1816	492
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frpb, ped/bikes			1.00			1.00		1.00	0.98		1.00	1.00
Flpb, ped/bikes			1.00			1.00		1.00	1.00		1.00	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2760			2538		4988	1521		4893	1524
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2760			2538		4988	1521		4893	1524
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	110	0	0	502	0	2637	161	0	1872	507
RTOR Reduction (vph)	0	0	19	0	0	19	0	0	63	0	0	199
Lane Group Flow (vph)	0	0	91	0	0	483	0	2637	98	0	1872	308
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	12%	12%	12%	4%	4%	4%	6%	6%	6%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)			15.7			15.7		38.1	38.1		38.1	38.1
Effective Green, g (s)			15.7			15.7		38.1	38.1		38.1	38.1
Actuated g/C Ratio			0.25			0.25		0.61	0.61		0.61	0.61
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			690			634		3026	922		2968	924
v/s Ratio Prot								c0.53			0.38	
v/s Ratio Perm			0.03			c0.19			0.06			0.20
v/c Ratio			0.13			0.76		0.87	0.11		0.63	0.33
Uniform Delay, d1			18.3			21.8		10.3	5.2		7.9	6.1
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.1			5.4		3.0	0.1		0.4	0.2
Delay (s)			18.4			27.2		13.3	5.2		8.3	6.3
Level of Service			B			C		B	A		A	A
Approach Delay (s)		18.4			27.2			12.9			7.9	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	909	328	1309	243	511	1717
Future Volume (vph)	909	328	1309	243	511	1717
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	1568	5085	1526	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	1568	5085	1526	1770	5085
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	937	338	1349	251	527	1770
RTOR Reduction (vph)	0	0	0	180	0	0
Lane Group Flow (vph)	937	338	1349	71	527	1770
Confl. Peds. (#/hr)				6	6	
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	24.6	51.1	25.4	25.4	26.5	56.4
Effective Green, g (s)	24.6	51.1	25.4	25.4	26.5	56.4
Actuated g/C Ratio	0.27	0.57	0.28	0.28	0.29	0.63
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	929	968	1435	430	521	3186
v/s Ratio Prot	c0.28	0.10	c0.27		c0.30	0.35
v/s Ratio Perm		0.11		0.05		
v/c Ratio	1.01	0.35	0.94	0.16	1.01	0.56
Uniform Delay, d1	32.7	10.5	31.6	24.3	31.8	9.6
Progression Factor	1.00	1.00	0.93	2.28	1.00	1.00
Incremental Delay, d2	31.7	0.2	11.2	0.7	42.3	0.7
Delay (s)	64.4	10.7	40.4	56.0	74.1	10.3
Level of Service	E	B	D	E	E	B
Approach Delay (s)	50.1		42.9			25.0
Approach LOS	D		D			C

Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	129	455	1161	846	432	2119
Future Volume (vph)	129	455	1161	846	432	2119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	5036	1510	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	5036	1510	1770	5085
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	132	464	1185	863	441	2162
RTOR Reduction (vph)	0	389	0	313	0	0
Lane Group Flow (vph)	132	75	1185	550	441	2162
Confl. Peds. (#/hr)				7	7	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	12.3	12.3	37.8	37.8	26.4	68.7
Effective Green, g (s)	12.3	12.3	37.8	37.8	26.4	68.7
Actuated g/C Ratio	0.14	0.14	0.42	0.42	0.29	0.76
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	241	216	2115	634	519	3881
v/s Ratio Prot	c0.07		0.24		c0.25	0.43
v/s Ratio Perm		0.05		c0.36		
v/c Ratio	0.55	0.35	0.56	0.87	0.85	0.56
Uniform Delay, d1	36.3	35.2	19.8	23.8	29.9	4.4
Progression Factor	1.00	1.00	1.00	1.00	0.94	0.79
Incremental Delay, d2	2.5	1.0	1.1	14.9	8.9	0.4
Delay (s)	38.8	36.2	20.9	38.8	37.0	3.9
Level of Service	D	D	C	D	D	A
Approach Delay (s)	36.7		28.4			9.5
Approach LOS	D		C			A

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1714	13	0	2271	0	243
Future Volume (Veh/h)	1714	13	0	2271	0	243
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1804	14	0	2391	0	256
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.64		0.73	0.64
vC, conflicting volume			1821		2611	912
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1159		966	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	63
cM capacity (veh/h)			379		184	693

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1203	615	797	797	797	256
Volume Left	0	0	0	0	0	0
Volume Right	0	14	0	0	0	256
cSH	1700	1700	1700	1700	1700	693
Volume to Capacity	0.71	0.36	0.47	0.47	0.47	0.37
Queue Length 95th (ft)	0	0	0	0	0	43
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.2
Lane LOS						B
Approach Delay (s)	0.0		0.0			13.2
Approach LOS						B

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	69.5%	ICU Level of Service		C
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	1.5

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1714	13	0	2271	0	243
Future Vol, veh/h	1714	13	0	2271	0	243
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1804	14	0	2391	0	256

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	912
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	425
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	424
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	25.6
HCM LOS			D

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	424	-
HCM Lane V/C Ratio	-	-	0.603	-
HCM Control Delay (s)	-	-	25.6	-
HCM Lane LOS	-	-	D	-
HCM 95th %tile Q(veh)	-	-	3.9	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1345	53	455	1857	71	376
Future Volume (vph)	1345	53	455	1857	71	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3449		1770	3539	1787	1599
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	3449		135	3539	1787	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1387	55	469	1914	73	388
RTOR Reduction (vph)	2	0	0	0	0	9
Lane Group Flow (vph)	1440	0	469	1914	73	379
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	4%	4%	2%	2%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	50.6		82.7	82.7	8.3	35.9
Effective Green, g (s)	50.6		82.7	82.7	8.3	35.9
Actuated g/C Ratio	0.51		0.83	0.83	0.08	0.36
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1745		562	2926	148	645
v/s Ratio Prot	0.42		c0.23	0.54	0.04	c0.16
v/s Ratio Perm			c0.46			0.08
v/c Ratio	0.82		0.83	0.65	0.49	0.59
Uniform Delay, d1	20.9		27.7	3.3	43.8	26.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.6		10.3	0.5	2.6	1.4
Delay (s)	25.5		38.0	3.8	46.4	27.4
Level of Service	C		D	A	D	C
Approach Delay (s)	25.5			10.5	30.4	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	26	448	30	74	425	12	21	21	164	2	18	24
Future Volume (Veh/h)	26	448	30	74	425	12	21	21	164	2	18	24
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	28	477	32	79	452	13	22	22	174	2	19	26
Pedestrians		1			7			9				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			1				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.95						0.95	0.95		0.95	0.95	0.95
vC, conflicting volume	465			518			1211	1181	509	1254	1190	460
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	408			518			1195	1164	509	1241	1174	402
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			92			82	87	68	98	88	96
cM capacity (veh/h)	1096			1039			122	163	552	81	164	618

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	28	509	544	218	47
Volume Left	28	0	79	22	2
Volume Right	0	32	13	174	26
cSH	1096	1700	1039	691	257
Volume to Capacity	0.03	0.30	0.08	0.32	0.18
Queue Length 95th (ft)	2	0	6	34	16
Control Delay (s)	8.4	0.0	2.1	19.9	22.1
Lane LOS	A		A	C	C
Approach Delay (s)	0.4		2.1	19.9	22.1
Approach LOS				C	C

Intersection Summary				
Average Delay	5.0			
Intersection Capacity Utilization	72.5%	ICU Level of Service	C	
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	4.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	26	448	30	74	425	12	21	21	164	2	18	24
Future Vol, veh/h	26	448	30	74	425	12	21	21	164	2	18	24
Conflicting Peds, #/hr	0	0	9	9	0	0	1	0	7	7	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	2	2	2	4	4	4	0	0	0
Mvmt Flow	28	477	32	79	452	13	22	22	174	2	19	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	465	0	0	518	0	0	1196	1179	509	1182	1189	460
Stage 1	-	-	-	-	-	-	557	557	-	616	616	-
Stage 2	-	-	-	-	-	-	639	622	-	566	573	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.14	6.54	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.536	4.036	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	1102	-	-	1048	-	-	161	189	560	168	190	605
Stage 1	-	-	-	-	-	-	511	509	-	481	485	-
Stage 2	-	-	-	-	-	-	461	476	-	513	507	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1101	-	-	1041	-	-	126	164	551	92	165	604
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	164	-	92	165	-
Stage 1	-	-	-	-	-	-	494	492	-	469	435	-
Stage 2	-	-	-	-	-	-	378	427	-	324	490	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.4	1.3	19.9	22
HCM LOS			C	C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	143	551	1041	-	-	1101	-	-	258
HCM Lane V/C Ratio	0.312	0.317	0.076	-	-	0.025	-	-	0.181
HCM Control Delay (s)	41.2	14.5	8.7	0	-	8.4	-	-	22
HCM Lane LOS	E	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	1.2	1.4	0.2	-	-	0.1	-	-	0.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	521	127	0	354	303	92	190	18	310	273	29
Future Volume (vph)	0	521	127	0	354	303	92	190	18	310	273	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1881	1533		1863	1529	1770	1834		1770	1830	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1881	1533		1863	1529	1770	1834		1770	1830	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	554	135	0	377	322	98	202	19	330	290	31
RTOR Reduction (vph)	0	0	56	0	0	208	0	5	0	0	5	0
Lane Group Flow (vph)	0	554	79	0	377	114	98	216	0	330	316	0
Confl. Peds. (#/hr)	8		12	12		8	7		4	4		7
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA	Perm		NA	Perm	Split	NA		Split	NA	
Protected Phases		6			2		4	4		8	8	
Permitted Phases			6			2						
Actuated Green, G (s)		23.3	23.3		23.3	23.3	13.0	13.0		16.2	16.2	
Effective Green, g (s)		23.3	23.3		23.3	23.3	13.0	13.0		16.2	16.2	
Actuated g/C Ratio		0.35	0.35		0.35	0.35	0.20	0.20		0.25	0.25	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		664	541		657	539	348	361		434	449	
v/s Ratio Prot		c0.29			0.20		0.06	c0.12		c0.19	0.17	
v/s Ratio Perm			0.05			0.07						
v/c Ratio		0.83	0.15		0.57	0.21	0.28	0.60		0.76	0.70	
Uniform Delay, d1		19.6	14.6		17.3	14.9	22.5	24.1		23.1	22.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		8.9	0.1		1.2	0.2	0.4	2.7		7.7	4.9	
Delay (s)		28.5	14.7		18.5	15.1	23.0	26.8		30.8	27.7	
Level of Service		C	B		B	B	C	C		C	C	
Approach Delay (s)		25.8			17.0			25.6			29.2	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	66.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	397	46	199	15	65	9	231	261	10	6	373	162
Future Volume (vph)	397	46	199	15	65	9	231	261	10	6	373	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.95	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1794	1535		1798		1787	1868		1745	1744	
Flt Permitted		0.71	1.00		0.89		0.13	1.00		0.58	1.00	
Satd. Flow (perm)		1340	1535		1613		249	1868		1065	1744	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	432	50	216	16	71	10	251	284	11	7	405	176
RTOR Reduction (vph)	0	0	139	0	5	0	0	2	0	0	19	0
Lane Group Flow (vph)	0	482	77	0	92	0	251	293	0	7	562	0
Confl. Peds. (#/hr)	2		9	9		2	5		5	5		5
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		29.3	29.3		29.3		43.8	38.3		31.5	30.5	
Effective Green, g (s)		29.3	29.3		29.3		43.8	38.3		31.5	30.5	
Actuated g/C Ratio		0.36	0.36		0.36		0.53	0.47		0.38	0.37	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		478	547		575		297	871		416	647	
v/s Ratio Prot							c0.09	0.16		0.00	0.32	
v/s Ratio Perm		c0.36	0.05		0.06		c0.36			0.01		
v/c Ratio		1.01	0.14		0.16		0.85	0.34		0.02	0.87	
Uniform Delay, d1		26.4	17.9		18.0		15.8	13.9		15.7	23.9	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		43.3	0.1		0.1		19.3	0.2		0.0	11.9	
Delay (s)		69.7	18.0		18.1		35.1	14.1		15.7	35.8	
Level of Service		E	B		B		D	B		B	D	
Approach Delay (s)		53.7			18.1			23.7			35.6	
Approach LOS		D			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	37.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	82.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	44	9	15	30	126	34	33	573	59	46	492	128
Future Volume (vph)	44	9	15	30	126	34	33	573	59	46	492	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.99		1.00	0.97	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1612			1794		1786	1851		1769	1794	
Flt Permitted		0.73			0.94		0.26	1.00		0.22	1.00	
Satd. Flow (perm)		1216			1703		492	1851		412	1794	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	47	10	16	32	134	36	35	610	63	49	523	136
RTOR Reduction (vph)	0	13	0	0	13	0	0	5	0	0	13	0
Lane Group Flow (vph)	0	60	0	0	189	0	35	668	0	49	646	0
Confl. Peds. (#/hr)	3		4	4		3	6		3	3		6
Heavy Vehicles (%)	10%	10%	10%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		11.3			11.3		28.6	26.9		30.4	27.8	
Effective Green, g (s)		11.3			11.3		28.6	26.9		30.4	27.8	
Actuated g/C Ratio		0.21			0.21		0.53	0.50		0.56	0.51	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		253			354		299	916		295	918	
v/s Ratio Prot							0.00	c0.36		c0.01	0.36	
v/s Ratio Perm		0.05			c0.11		0.06			0.08		
v/c Ratio		0.24			0.53		0.12	0.73		0.17	0.70	
Uniform Delay, d1		17.9			19.1		7.1	10.8		7.0	10.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			1.5		0.2	2.9		0.3	2.5	
Delay (s)		18.4			20.7		7.3	13.8		7.3	12.6	
Level of Service		B			C		A	B		A	B	
Approach Delay (s)		18.4			20.7			13.4			12.2	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	54.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	6	1	12	203	3	40	12	307	338	40	433	6
Future Volume (vph)	6	1	12	203	3	40	12	307	338	40	433	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.99		1.00	0.98		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.92		1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1690		1734	1539		1784	1881	1562	1749	1840	
Flt Permitted		0.93		0.74	1.00		0.40	1.00	1.00	0.54	1.00	
Satd. Flow (perm)		1601		1357	1539		753	1881	1562	997	1840	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	7	1	13	226	3	44	13	341	376	44	481	7
RTOR Reduction (vph)	0	9	0	0	31	0	0	0	195	0	1	0
Lane Group Flow (vph)	0	12	0	226	16	0	13	341	181	44	487	0
Confl. Peds. (#/hr)	1		1	1		1	3		3	3		3
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		12.4		12.4	12.4		19.8	19.8	19.8	19.8	19.8	
Effective Green, g (s)		12.4		12.4	12.4		19.8	19.8	19.8	19.8	19.8	
Actuated g/C Ratio		0.30		0.30	0.30		0.48	0.48	0.48	0.48	0.48	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		481		408	463		361	903	750	479	884	
v/s Ratio Prot					0.01			0.18			c0.26	
v/s Ratio Perm		0.01		c0.17			0.02		0.12	0.04		
v/c Ratio		0.02		0.55	0.04		0.04	0.38	0.24	0.09	0.55	
Uniform Delay, d1		10.1		12.1	10.2		5.7	6.8	6.3	5.8	7.6	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		1.6	0.0		0.0	0.3	0.2	0.1	0.7	
Delay (s)		10.2		13.7	10.2		5.7	7.1	6.5	5.9	8.3	
Level of Service		B		B	B		A	A	A	A	A	
Approach Delay (s)		10.2			13.1			6.7			8.1	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	41.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	15	22	24	329	457	20
Future Volume (Veh/h)	15	22	24	329	457	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	24	26	358	497	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				212		
pX, platoon unblocked	0.89					
vC, conflicting volume	918	508	519			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	843	508	519			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	96	98			
cM capacity (veh/h)	289	565	1047			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	40	384	519
Volume Left	16	26	0
Volume Right	24	0	22
cSH	408	1047	1700
Volume to Capacity	0.10	0.02	0.31
Queue Length 95th (ft)	8	2	0
Control Delay (s)	14.8	0.8	0.0
Lane LOS	B	A	
Approach Delay (s)	14.8	0.8	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.9

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	15	22	24	329	457	20
Future Vol, veh/h	15	22	24	329	457	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	24	26	358	497	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	918	508	518	0	-	0
Stage 1	508	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	302	565	1048	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	293	565	1048	-	-	-
Mov Cap-2 Maneuver	293	-	-	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	649	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	14.7	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1048	-	411	-	-
HCM Lane V/C Ratio	0.025	-	0.098	-	-
HCM Control Delay (s)	8.5	0	14.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	35	0	52	2	0	1	55	288	1	0	423	42
Future Volume (Veh/h)	35	0	52	2	0	1	55	288	1	0	423	42
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	0	57	2	0	1	60	313	1	0	460	46
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								691				
pX, platoon unblocked												
vC, conflicting volume	917	917	483	950	940	314	506			314		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	917	917	483	950	940	314	506			314		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	84	100	90	99	100	100	94			100		
cM capacity (veh/h)	241	257	584	207	249	727	1059			1246		

Direction, Lane #	SE 1	NW 1	NE 1	NE 2	SW 1	SW 2
Volume Total	95	3	60	314	0	506
Volume Left	38	2	60	0	0	0
Volume Right	57	1	0	1	0	46
cSH	372	272	1059	1700	1700	1700
Volume to Capacity	0.26	0.01	0.06	0.18	0.00	0.30
Queue Length 95th (ft)	25	1	4	0	0	0
Control Delay (s)	17.9	18.4	8.6	0.0	0.0	0.0
Lane LOS	C	C	A			
Approach Delay (s)	17.9	18.4	1.4		0.0	
Approach LOS	C	C				

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	43.4%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	2.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	35	0	52	2	0	1	55	288	1	0	423	42
Future Vol, veh/h	35	0	52	2	0	1	55	288	1	0	423	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	120	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	0	57	2	0	1	60	313	1	0	460	46

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	917	917	483	944	938	314	505	0	0	314	0	0
Stage 1	483	483	-	433	433	-	-	-	-	-	-	-
Stage 2	434	434	-	511	505	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	253	272	584	242	264	726	1060	-	-	1246	-	-
Stage 1	565	553	-	601	582	-	-	-	-	-	-	-
Stage 2	600	581	-	545	540	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	242	257	584	209	249	726	1060	-	-	1246	-	-
Mov Cap-2 Maneuver	242	257	-	209	249	-	-	-	-	-	-	-
Stage 1	533	553	-	567	549	-	-	-	-	-	-	-
Stage 2	565	548	-	492	540	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	17.9	18.3	1.4	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	1060	-	-	274	372	1246	-	-
HCM Lane V/C Ratio	0.056	-	-	0.012	0.254	-	-	-
HCM Control Delay (s)	8.6	-	-	18.3	17.9	0	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0	1	0	-	-



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	369	277	367	118	78	181
Future Volume (vph)	369	277	367	118	78	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3367	1553	3398		1735	3471
Flt Permitted	0.95	1.00	1.00		0.29	1.00
Satd. Flow (perm)	3367	1553	3398		536	3471
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	415	311	412	133	88	203
RTOR Reduction (vph)	0	131	56	0	0	0
Lane Group Flow (vph)	415	180	489	0	88	203
Confl. Peds. (#/hr)				2	2	
Heavy Vehicles (%)	4%	4%	2%	2%	4%	4%
Turn Type	Prot	pm+ov	NA		pm+pt	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	10.8	17.5	12.5		23.7	23.7
Effective Green, g (s)	10.8	17.5	12.5		23.7	23.7
Actuated g/C Ratio	0.25	0.40	0.29		0.54	0.54
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	835	785	976		476	1891
v/s Ratio Prot	c0.12	c0.04	c0.14		0.03	0.06
v/s Ratio Perm		0.08			0.07	
v/c Ratio	0.50	0.23	0.50		0.18	0.11
Uniform Delay, d1	14.0	8.6	12.9		5.2	4.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.5	0.1	0.4		0.2	0.0
Delay (s)	14.5	8.7	13.3		5.4	4.8
Level of Service	B	A	B		A	A
Approach Delay (s)	12.0		13.3			5.0
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	43.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



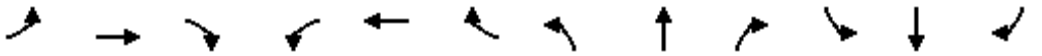
Movement	NWL	NWR	NET	NER	SWL	SWT
Right Turn Channelized				MOYes		
Traffic Volume (veh/h)	82	105	347	282	192	185
Future Volume (veh/h)	82	105	347	282	192	185
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	91	117	386	313	213	206
Approach Volume (veh/h)	208		386			419
Crossing Volume (veh/h)	386		213			91
High Capacity (veh/h)	1022		1172			1290
High v/c (veh/h)	0.20		0.33			0.32
Low Capacity (veh/h)	834		968			1075
Low v/c (veh/h)	0.25		0.40			0.39

Intersection Summary				
Maximum v/c High		0.33		
Maximum v/c Low		0.40		
Intersection Capacity Utilization		59.6%	ICU Level of Service	B

Intersection	
Intersection Delay, s/veh	6.7
Intersection LOS	A

Approach	NW	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	208	699	419
Demand Flow Rate, veh/h	224	720	427
Vehicles Circulating, veh/h	398	217	98
Vehicles Exiting, veh/h	217	308	524
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	4	0	0
Ped Cap Adj	0.999	1.000	1.000
Approach Delay, s/veh	8.7	5.2	8.2
Approach LOS	A	A	A

Lane	Left	Left	Bypass	Left
Designated Moves	LR	T	R	LT
Assumed Moves	LR	T	R	LT
RT Channelized			Free	
Lane Util	1.000	1.000		1.000
Critical Headway, s	5.193	5.193		5.193
Entry Flow, veh/h	224	398	322	427
Cap Entry Lane, veh/h	759	910	1957	1024
Entry HV Adj Factor	0.929	0.971	0.971	0.981
Flow Entry, veh/h	208	386	313	419
Cap Entry, veh/h	704	883	1900	1005
V/C Ratio	0.295	0.438	0.165	0.417
Control Delay, s/veh	8.7	9.4	0.0	8.2
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	186	0	0	437	0	2074	142	0	3236	613
Future Volume (vph)	0	0	186	0	0	437	0	2074	142	0	3236	613
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2814			2760		5085	1583		5085	1583
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2814			2760		5085	1583		5085	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	192	0	0	451	0	2138	146	0	3336	632
RTOR Reduction (vph)	0	0	15	0	0	24	0	0	42	0	0	184
Lane Group Flow (vph)	0	0	177	0	0	427	0	2138	104	0	3336	448
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)			16.8			16.8		63.0	63.0		63.0	63.0
Effective Green, g (s)			16.8			16.8		63.0	63.0		63.0	63.0
Actuated g/C Ratio			0.19			0.19		0.71	0.71		0.71	0.71
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			532			522		3607	1123		3607	1123
v/s Ratio Prot								0.42			c0.66	
v/s Ratio Perm			0.06			c0.15			0.07			0.28
v/c Ratio			0.33			0.82		0.59	0.09		0.92	0.40
Uniform Delay, d1			31.2			34.5		6.5	4.0		10.9	5.2
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.4			9.6		0.3	0.0		4.7	0.2
Delay (s)			31.5			44.1		6.7	4.0		15.6	5.5
Level of Service			C			D		A	A		B	A
Approach Delay (s)		31.5			44.1			6.6			14.0	
Approach LOS		C			D			A			B	

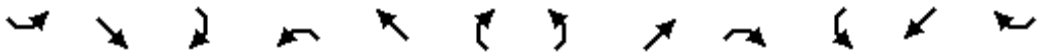
Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	88.8	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1532	25	336	966	80	533
Future Volume (vph)	1532	25	336	966	80	533
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	0.95
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	0.89	0.85
Flt Protected	1.00		0.95	1.00	0.99	1.00
Satd. Flow (prot)	3397		1703	3406	1603	1475
Flt Permitted	1.00		0.07	1.00	0.99	1.00
Satd. Flow (perm)	3397		128	3406	1603	1475
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1630	27	357	1028	85	567
RTOR Reduction (vph)	1	0	0	0	105	8
Lane Group Flow (vph)	1656	0	357	1028	224	315
Confl. Peds. (#/hr)		1	1		3	
Heavy Vehicles (%)	6%	6%	6%	6%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	51.7		74.5	74.5	16.5	34.8
Effective Green, g (s)	51.7		74.5	74.5	16.5	34.8
Actuated g/C Ratio	0.52		0.74	0.74	0.16	0.35
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1756		383	2537	264	579
v/s Ratio Prot	0.49		c0.17	0.30	c0.14	0.10
v/s Ratio Perm			c0.52			0.11
v/c Ratio	0.94		0.93	0.41	0.85	0.54
Uniform Delay, d1	22.8		32.2	4.7	40.5	26.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	11.7		29.3	0.1	21.5	1.0
Delay (s)	34.4		61.5	4.8	62.0	27.3
Level of Service	C		E	A	E	C
Approach Delay (s)	34.4			19.4	44.8	
Approach LOS	C			B	D	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	22	307	29	133	597	12	6	25	62	0	12	11
Future Volume (vph)	22	307	29	133	597	12	6	25	62	0	12	11
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	24	330	31	143	642	13	6	27	67	0	13	12

Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NE 1	NE 2	SW 1
Volume Total (vph)	189	196	464	334	33	67	25
Volume Left (vph)	24	0	143	0	6	0	0
Volume Right (vph)	0	31	0	13	0	67	12
Hadj (s)	0.13	-0.04	0.21	0.02	0.24	-0.55	-0.29
Departure Headway (s)	6.0	5.8	5.6	5.4	7.3	6.5	6.7
Degree Utilization, x	0.31	0.32	0.72	0.50	0.07	0.12	0.05
Capacity (veh/h)	576	599	636	654	452	503	488
Control Delay (s)	10.5	10.3	20.3	12.5	9.6	9.2	10.1
Approach Delay (s)	10.4		17.1		9.4		10.1
Approach LOS	B		C		A		B

Intersection Summary				
Delay	14.4			
Level of Service	B			
Intersection Capacity Utilization	49.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	15.5
Intersection LOS	C

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	22	307	29	0	133	597	12	0	6	25	62
Future Vol, veh/h	0	22	307	29	0	133	597	12	0	6	25	62
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	4	4	4	2	3	3	3	2	9	9	9
Mvmt Flow	0	24	330	31	0	143	642	13	0	6	27	67
Number of Lanes	0	0	2	0	0	0	2	0	0	0	1	1

Approach	SE	NW	NE
Opposing Approach	NW	SE	SW
Opposing Lanes	2	2	1
Conflicting Approach Left	SW	NE	SE
Conflicting Lanes Left	1	2	2
Conflicting Approach Right	NE	SW	NW
Conflicting Lanes Right	2	1	2
HCM Control Delay	11.4	18.2	10.4
HCM LOS	B	C	B

Lane	NELn1	NELn2	NWLn1	NWLn2	SELn1	SELn2	SWLn1
Vol Left, %	19%	0%	31%	0%	13%	0%	0%
Vol Thru, %	81%	0%	69%	96%	87%	84%	52%
Vol Right, %	0%	100%	0%	4%	0%	16%	48%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	62	432	311	176	183	23
LT Vol	6	0	133	0	22	0	0
Through Vol	25	0	299	299	154	154	12
RT Vol	0	62	0	12	0	29	11
Lane Flow Rate	33	67	464	334	189	196	25
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.069	0.122	0.722	0.503	0.315	0.318	0.048
Departure Headway (Hd)	7.419	6.607	5.605	5.422	6.009	5.833	6.917
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	543	645	664	598	616	518
Service Time	5.159	4.347	3.329	3.146	3.742	3.566	4.956
HCM Lane V/C Ratio	0.068	0.123	0.719	0.503	0.316	0.318	0.048
HCM Control Delay	10.7	10.3	21.6	13.5	11.5	11.3	10.3
HCM Lane LOS	B	B	C	B	B	B	B
HCM 95th-tile Q	0.2	0.4	6.1	2.8	1.3	1.4	0.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	0	12	11
Future Vol, veh/h	0	0	12	11
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	13	12
Number of Lanes	0	0	1	0

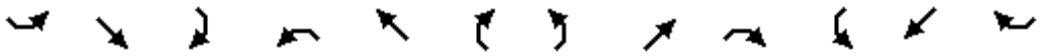
Approach	SW
Opposing Approach	NE
Opposing Lanes	2
Conflicting Approach Left	NW
Conflicting Lanes Left	2
Conflicting Approach Right	SE
Conflicting Lanes Right	2
HCM Control Delay	10.3
HCM LOS	B



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1345	53	455	1857	71	376
Future Volume (vph)	1345	53	455	1857	71	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	0.95
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	0.90	0.85
Flt Protected	1.00		0.95	1.00	0.98	1.00
Satd. Flow (prot)	3449		1770	3539	1661	1519
Flt Permitted	1.00		0.08	1.00	0.98	1.00
Satd. Flow (perm)	3449		141	3539	1661	1519
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1387	55	469	1914	73	388
RTOR Reduction (vph)	3	0	0	0	85	9
Lane Group Flow (vph)	1439	0	469	1914	151	216
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	4%	4%	2%	2%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	48.3		77.6	77.6	13.4	38.2
Effective Green, g (s)	48.3		77.6	77.6	13.4	38.2
Actuated g/C Ratio	0.48		0.78	0.78	0.13	0.38
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1665		513	2746	222	648
v/s Ratio Prot	0.42		c0.23	0.54	c0.09	0.08
v/s Ratio Perm			c0.48			0.06
v/c Ratio	0.86		0.91	0.70	0.68	0.33
Uniform Delay, d1	22.9		29.9	5.5	41.3	21.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	6.3		20.8	0.8	8.3	0.3
Delay (s)	29.2		50.7	6.3	49.6	22.2
Level of Service	C		D	A	D	C
Approach Delay (s)	29.2			15.0	36.2	
Approach LOS	C			B	D	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	26	448	30	74	425	12	21	21	164	2	18	24
Future Volume (vph)	26	448	30	74	425	12	21	21	164	2	18	24
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	28	477	32	79	452	13	22	22	174	2	19	26

Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NE 1	NE 2	SW 1
Volume Total (vph)	267	271	305	239	44	174	47
Volume Left (vph)	28	0	79	0	22	0	2
Volume Right (vph)	0	32	0	13	0	174	26
Hadj (s)	0.07	-0.07	0.16	0.00	0.32	-0.63	-0.32
Departure Headway (s)	6.2	6.1	6.3	6.1	7.5	6.5	7.0
Degree Utilization, x	0.46	0.46	0.53	0.41	0.09	0.31	0.09
Capacity (veh/h)	557	575	557	570	448	513	458
Control Delay (s)	13.2	12.9	15.0	12.0	10.0	11.2	10.8
Approach Delay (s)	13.0		13.7		11.0		10.8
Approach LOS	B		B		B		B

Intersection Summary				
Delay	12.9			
Level of Service	B			
Intersection Capacity Utilization	48.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	14
Intersection LOS	B

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	26	448	30	0	74	425	12	0	21	21	164
Future Vol, veh/h	0	26	448	30	0	74	425	12	0	21	21	164
Peak Hour Factor	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	1	1	1	2	2	2	2	2	4	4	4
Mvmt Flow	0	28	477	32	0	79	452	13	0	22	22	174
Number of Lanes	0	0	2	0	0	0	2	0	0	0	1	1

Approach	SE	NW	NE
Opposing Approach	NW	SE	SW
Opposing Lanes	2	2	1
Conflicting Approach Left	SW	NE	SE
Conflicting Lanes Left	1	2	2
Conflicting Approach Right	NE	SW	NW
Conflicting Lanes Right	2	1	2
HCM Control Delay	14.1	14.8	12.1
HCM LOS	B	B	B

Lane	NELn1	NELn2	NWLn1	NWLn2	SELn1	SELn2	SWLn1
Vol Left, %	50%	0%	26%	0%	10%	0%	5%
Vol Thru, %	50%	0%	74%	95%	90%	88%	41%
Vol Right, %	0%	100%	0%	5%	0%	12%	55%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	164	287	225	250	254	44
LT Vol	21	0	74	0	26	0	2
Through Vol	21	0	213	213	224	224	18
RT Vol	0	164	0	12	0	30	24
Lane Flow Rate	45	174	305	239	266	270	47
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.094	0.318	0.535	0.408	0.461	0.459	0.095
Departure Headway (Hd)	7.538	6.569	6.321	6.152	6.246	6.109	7.279
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	474	544	567	583	574	586	489
Service Time	5.312	4.342	4.086	3.916	4.01	3.873	5.37
HCM Lane V/C Ratio	0.095	0.32	0.538	0.41	0.463	0.461	0.096
HCM Control Delay	11.1	12.4	16.2	13.1	14.3	14	11.1
HCM Lane LOS	B	B	C	B	B	B	B
HCM 95th-tile Q	0.3	1.4	3.1	2	2.4	2.4	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	2	18	24
Future Vol, veh/h	0	2	18	24
Peak Hour Factor	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	2	19	26
Number of Lanes	0	0	1	0

Approach	SW
Opposing Approach	NE
Opposing Lanes	2
Conflicting Approach Left	NW
Conflicting Lanes Left	2
Conflicting Approach Right	SE
Conflicting Lanes Right	2
HCM Control Delay	11.1
HCM LOS	B

Intersection: 4: OR-99E & 14th Street

Movement	NB	NB	SB	SB	SB	NW	NW
Directions Served	T	TR	L	T	T	LR	R
Maximum Queue (ft)	618	610	312	199	180	126	133
Average Queue (ft)	458	408	176	99	54	115	113
95th Queue (ft)	657	627	279	168	125	123	133
Link Distance (ft)	569	569	665	665	665	109	109
Upstream Blk Time (%)	11	8				36	23
Queuing Penalty (veh)	0	0				111	72
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Main Street & 14th Street

Movement	SE	SE	NW	NW	NE	NE	SW
Directions Served	LT	TR	LT	TR	LT	R	LTR
Maximum Queue (ft)	130	117	413	383	67	73	40
Average Queue (ft)	64	70	239	175	24	33	19
95th Queue (ft)	104	109	406	347	56	61	44
Link Distance (ft)	109	109	461	461	296		163
Upstream Blk Time (%)	0	0	1	0			
Queuing Penalty (veh)	0	1	0	0			
Storage Bay Dist (ft)						130	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 184

Intersection: 4: OR-99E & 14th Street

Movement	NB	NB	SB	SB	SB	NW	NW
Directions Served	T	TR	L	T	T	LR	R
Maximum Queue (ft)	595	597	469	401	275	121	127
Average Queue (ft)	444	397	239	179	122	110	92
95th Queue (ft)	651	611	381	304	223	131	134
Link Distance (ft)	569	569	580	580	580	109	109
Upstream Blk Time (%)	9	6	0	0		18	4
Queuing Penalty (veh)	0	0	0	0		43	9
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Main Street & 14th Street

Movement	SE	SE	NW	NW	NE	NE	SW
Directions Served	LT	TR	LT	TR	LT	R	LTR
Maximum Queue (ft)	133	141	227	187	68	86	41
Average Queue (ft)	81	84	96	44	29	46	25
95th Queue (ft)	123	126	180	123	57	73	48
Link Distance (ft)	109	109	468	468	296		163
Upstream Blk Time (%)	1	1					
Queuing Penalty (veh)	1	2					
Storage Bay Dist (ft)						130	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 56

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	4	0	4	0	8	0	4	0	4	0	4	0	0
TURNING MOVEMENTS	0	2	1	3	0	2	0	2	1	3	0	3	0	0
YEAR 2015 TOTAL	**0**	**6**	**1**	**7**	**0**	**10**	**0**	**6**	**1**	**7**	**0**	**7**	**0**	**0**
YEAR: 2014														
REAR-END	0	2	0	2	0	3	0	2	0	1	1	2	0	0
TURNING MOVEMENTS	0	1	2	3	0	1	0	3	0	2	1	3	0	0
YEAR 2014 TOTAL	**0**	**3**	**2**	**5**	**0**	**4**	**0**	**5**	**0**	**3**	**2**	**5**	**0**	**0**
YEAR: 2013														
REAR-END	0	0	1	1	0	0	0	0	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2012														
PEDESTRIAN	0	1	0	1	0	1	0	0	1	1	0	1	0	0
REAR-END	0	2	2	4	0	2	0	2	2	2	2	4	0	0
TURNING MOVEMENTS	0	4	2	6	0	6	0	4	2	2	4	6	0	0
YEAR 2012 TOTAL	**0**	**7**	**4**	**11**	**0**	**9**	**0**	**6**	**5**	**5**	**6**	**11**	**0**	**0**
YEAR: 2011														
REAR-END	0	4	1	5	0	6	0	3	2	5	0	5	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2011 TOTAL	**0**	**4**	**2**	**6**	**0**	**6**	**0**	**3**	**3**	**6**	**0**	**6**	**0**	**0**
FINAL TOTAL	**0**	**20**	**10**	**30**	**0**	**29**	**0**	**20**	**9**	**22**	**8**	**30**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00210	N	N	N			01/18/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE						TU		WB EX PAC HY 99E	N		TRF SIGNAL	N	WET	REAR		UNKN	N -S									000		00
						10A			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK		026	000		07
																							UNK					
															02	NONE 0	STOP											
																PRVTE	N -S									012		00
																PSNGR CAR		01	DRVR	NONE	45	M	OR-Y		000	000		00
																							OR<25					
02676	N	N	N			07/27/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NO RPT						WE		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
						12P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	28	M	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									011		00
																PSNGR CAR		01	DRVR	NONE	20	M	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									011		00
																PSNGR CAR		02	PSNG	INJC	55	M			000	000		00
03094	N	N	N			08/24/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						WE		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
						9A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	52	F	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									012		00
																PSNGR CAR		01	DRVR	INJC	38	F	OR-Y		000	000		00
																							OR<25					
01210	Y	Y	N	N	N	03/31/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											01,07
STATE						SA		WB EX PAC HY 99E	N		L-TURN REF	N	WET	REAR		PRVTE	N -S									000		00
						1A			06	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	64	F	OR-Y		026,047	000		01,07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									012		00
																PSNGR CAR		01	DRVR	INJC	48	F	OR-Y		000	000		00
																							OR<25					
05299	N	N	N			12/30/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013,099	27,29
NO RPT						TU		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
						6P			06	2		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	22	F	OR-Y		016,026	038	099	27,29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									011	013	00
																PSNGR CAR		01	DRVR	INJC	26	M	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	STOP											
																PRVTE	N -S									022		00
																PSNGR CAR		01	DRVR	NONE	77	M	OR-Y		000	000		00
																							OR<25					
01064	N	N	N			03/27/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
NO RPT						FR		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		UNKN	E -W									000		00
						11A			06	1		N	DAY	INJ		UNKNOWN		01	DRVR	NONE	00	Unk	UNK		026	000		29

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																							UNK					
															02	NONE 0	STOP											
																PRVTE	E -W									011	013	00
																PSNGR CAR		01	DRVR	NONE	34	M	OTH-Y		000	000		00
																							N-RES					
															03	NONE 0	STOP											
																PRVTE	E -W									022	013	00
																PSNGR CAR		01	DRVR	INJC	58	F	OR-Y		000	000		00
																							OR<25					
															04	NONE 0	STOP											
																PRVTE	E -W									022		00
																PSNGR CAR		01	DRVR	INJC	43	M	UNK		000	000		00
																							UNK					
															04	NONE 0	STOP											
																PRVTE	E -W									022		00
																PSNGR CAR		02	PSNG	INJC	44	F			000	000		00
															04	NONE 0	STOP											
																PRVTE	E -W									022		00
																PSNGR CAR		03	PSNG	INJC	15	M			000	000		00
02614	N	N	N			06/30/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											013	29
NO RPT						TU		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
						11A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	54	M	OR-Y		026	000		29
																							UNK					
															02	NONE 0	STOP											
																PRVTE	N -S									011	013	00
																PSNGR CAR		01	DRVR	INJB	26	M	OTH-Y		000	000		00
																							N-RES					
															03	NONE 0	STOP											
																UNKN	N -S									022		00
																PSNGR CAR		01	DRVR	NONE	56	M	OR-Y		000	000		00
																							OR<25					
04289	N	N	N			11/13/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT												07
NONE						SU		WB EX PAC HY 99E	E		TRF SIGNAL	N	WET	REAR		PRVTE	E -W									000		00
						11A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	E -W									011		00
																PSNGR CAR		01	DRVR	INJC	17	F	OR-Y		000	000		00
																							OR<25					
01880	N	N	N			05/22/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	PED	01	NONE 0	TURN-R											083	02,19
CITY						TU		WB EX PAC HY 99E	E		TRF SIGNAL	N	WET	PED		PRVTE	E -N									016		00
						11A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	47	M	OR-Y		029	000	083	02
																							OR<25					
																	-											
																	STRGHT	01	CONV	INJB	51	M		I XWLK	000	035		00,19
																	N S											
03460	N	N	N			09/17/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE						MO		WB EX PAC HY 99E	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W S	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
							5P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK OR<25		026	000		07
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W									011		00
04205	N	N	N				11/07/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	01	DRVR	NONE	38	F	OR-Y OR<25		000	000		00
NONE							WE 7A		WB EX PAC HY 99E	E 06	0	TRF SIGNAL	N N	WET DAWN	REAR PDO												000		00 07
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	NONE	52	M	OR-Y OR<25		000	011 000		00 00
02304	N	N	N				06/28/2013	11	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0 PRVTE	STRGHT E -W										000		27,07 00
NONE							FR 3P		WB EX PAC HY 99E	E 06	1	TRF SIGNAL	N N	UNK DAY	REAR PDO		PSNGR CAR		01	DRVR	NONE	43	M	OR-Y OR>25		016,026	000		27,07
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	NONE	00	M	UNK OR<25		000	012 000		00 00
03151	N	N	N				08/15/2014	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0 PRVTE	STRGHT E -W										000	013	29 00
NONE							FR 3P		WB EX PAC HY 99E	E 06	1	TRF SIGNAL	N N	DRY DAY	REAR INJ		PSNGR CAR		01	DRVR	INJC	46	F	OTH-Y N-RES		026	000		29
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	NONE	46	F	OR-Y OR<25		000	011 013 000		00 00
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	02	PSNG	INJC	24	F			000	011 013 000		00 00
																03	NONE 0 UNKN UNKNOWN	STOP E -W	01	DRVR	NONE	00	Unk	UNK UNK		000	022 000		00 00
00830	N	N	N				03/06/2015	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0 PRVTE	STRGHT E -W										000		29 00
NONE							FR 3P		WB EX PAC HY 99E	E 06	2	TRF SIGNAL	N N	DRY DAY	REAR INJ		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y OR<25		026	000		29
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	INJC	36	M	OR-Y OR<25		000	011 000		00 00
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	02	PSNG	INJC	32	F			000	011 000		00 00
02481	N	N	N				06/22/2015	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												29

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
NONE							MO 3P		WB EX PAC HY 99E	E 06	 0	TRF SIGNAL	N N	DRY DAY	REAR INJ		PRVTE PSNGR CAR	E -W	01	DRVR	NONE	41	M	OR-Y OR<25		026	000 000	00 29
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	INJC	68	M	OR-Y OR<25		000	011 000	00 00
02606 NONE	N	N	N				07/18/2012 WE 2P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER S 06	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	17	M	OR-Y OR<25		026	000 000	07 00 07
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJC	43	F	OR-Y OR<25		000	011 000	00 00
01678 NONE	N	N	N				05/07/2012 MO 8P	11	PACIFIC HY 99E WB EX PAC HY 99E	INTER SW 06	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DLIT	BIKE TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-R E -N	01	DRVR	NONE	41	M	OR-Y OR<25		000	000 000	18,19,04 00 00
																		- STRGHT S N	01	BIKE	INJB	20	F		I	XWLK 020,060	035	18,04
00891 NONE	N	N	N				03/15/2011 TU 1P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 03	3-LEG 1	N TRF SIGNAL	N N	RAIN WET DAY	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	NONE	28	M	OR-Y OR<25		020	000 000	04 00 04
																02	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	01	DRVR	NONE	21	F	OR-Y OR<25		000	000 000	00 00
																02	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	02	PSNG	NO<5	01	M			000	000 000	00 00
00905 STATE	N	N	N	N	N		03/14/2011 MO 4P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 04	3-LEG 1	N TRF SIGNAL	N N	CLD DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	INJC	54	F	SUSP OR<25		026	000 000	07 00 07
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJC	58	F	OR-Y OR<25		000	011 000	00 00
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	02	PSNG	INJC	33	M			000	011 000	00 00
01007 NONE	N	N	N				03/17/2012 SA 1P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 01	3-LEG 1	N TRF SIGNAL	N N	RAIN WET DAY	ANGL-OTH TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	01	DRVR	NONE	55	F	OR-Y OR<25		097	000 000	04 00 00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	R G S	S H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															01	NONE 0	TURN-L										
																PRVTE	E -S									000	00
																PSNGR CAR		02	PSNG	INJC	43	F			000	000	00
															02	NONE 0	STRGHT										
																PRVTE	N -S									000	00
																PSNGR CAR		01	DRVR	NONE	52	M	OR-Y OR<25		000	000	00
01096	N	N	N			03/23/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NONE						FR		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
						1P			02	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	45	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-R										
																PRVTE	E -N									015	00
																PSNGR CAR		01	DRVR	NONE	91	M	OR-Y OR<25		028	000	02
01120	N	N	N	N	N	03/24/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT										04
STATE						SA		WB EX PAC HY 99E	CN		L-GRN-SIG	N	DRY	TURN		PRVTE	S -N									000	00
						5A			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	59	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	INJC	44	F	OR-Y OR<25		020	000	04
03764	N	N	N			10/10/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										04
CITY						WE		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
						4A			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	52	M	OR-Y OR<25		097	000	00
															01	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		02	PSNG	INJC	35	M			000	000	00
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	INJC	49	M	OR-Y OR<25		097	000	00
04671	N	N	N			12/04/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-R										02
NONE						TU		WB EX PAC HY 99E	CN		TRF SIGNAL	N	WET	TURN		PRVTE	E -N									000	00
						5P			02	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	67	M	OR-Y OR<25		028	000	02
															02	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		01	DRVR	NONE	42	F	OR-Y OR<25		000	000	00
01191	N	N	N			03/27/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
STATE						TH		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -S									000	00
						3P			03	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	23	M	OTH-Y N-RES		020	000	04
															02	NONE 0	TURN-L										
																PRVTE	E -S									000	00
																PSNGR CAR		01	DRVR	NONE	66	F	OR-Y		000	000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DAY OF WEEK / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER	MOVE FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01560	N	N	N	N	N	04/23/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	ANGL-OTH	01	NONE 0	TURN-L						OR<25					04
NONE						WE		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	E -S									000		00
						11A			01	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	N -S									000		00
																PSNGR CAR		01	DRVR	NONE	52	F	OR-Y		020	000		04
																							OR<25					
															03	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		01	DRVR	NONE	30	F	OR-Y		000	000		00
																							OR<25					
04035	N	N	N			10/10/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										013	04
NO RPT						FR		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -S									000		00
						9P			03	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	19	M	OR-Y		020	000		04
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000	031	00
																PSNGR CAR		01	DRVR	INJC	16	F	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	TURN-L											
																PRVTE	E -S									022		00
																PSNGR CAR		01	DRVR	NONE	35	F	OR-Y		000	000		00
																							OR<25					
02482	N	N	N	N	N	06/22/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
STATE						MO		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000		00
						7A			02	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	45	F	OR-Y		020	000		04
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		01	DRVR	NONE	56	M	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		02	PSNG	INJC	42	F			000	000		00
04797	N	N	N			11/14/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											04
NO RPT						SA		WB EX PAC HY 99E	CN		TRF SIGNAL	N	WET	TURN		PRVTE	S -N									000		00
						2P			02	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	58	M	OTH-Y		000,097	000		00
																							N-RES					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		01	DRVR	NONE	82	M	OR-Y		000	000		00
																							OR>25					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		02	PSNG	INJB	82	F			000,097	000		00
00802	N	N	N	N	N	03/03/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
STATE						TU		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -S									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E	D R S W A U C O H R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / TYPE	INJ / SVRTY	A G E	S X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
			12P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y OR<25		020	000	04
												02	NONE 0 PRVTE	TURN-L E -S									000	00
													PSNGR CAR		01	DRVR	NONE	77	F	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	2	2	4	0	2	0	2	1	3	1	4	0	0
TURNING MOVEMENTS	0	2	0	2	0	3	0	2	0	0	2	2	0	0
YEAR 2015 TOTAL	**0**	**4**	**2**	**6**	**0**	**5**	**0**	**4**	**1**	**3**	**3**	**6**	**0**	**0**
YEAR: 2014														
REAR-END	0	1	0	1	0	2	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	0	2	0	0	2	2	0	0
YEAR 2014 TOTAL	**0**	**1**	**2**	**3**	**0**	**2**	**0**	**2**	**1**	**0**	**3**	**3**	**0**	**0**
YEAR: 2013														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	0	1	1	0	0
REAR-END	0	0	1	1	0	0	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**2**	**1**	**0**	**3**	**3**	**0**	**0**
YEAR: 2012														
REAR-END	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**
YEAR: 2011														
REAR-END	0	0	2	2	0	0	0	1	1	1	1	2	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	1	1	2	0	0
YEAR 2011 TOTAL	**0**	**1**	**3**	**4**	**0**	**1**	**0**	**2**	**2**	**2**	**2**	**4**	**0**	**0**
FINAL TOTAL	**0**	**7**	**10**	**17**	**0**	**9**	**0**	**10**	**6**	**6**	**11**	**17**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 17

SER# / INVEST	S P E D	A L C	D R S L	S W U H	C O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02247	N	N	N			06/22/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										07
NONE						FR		NB EXTO I-205 WB	N		TRF SIGNAL	N	WET	REAR		PRVTE	N -S									000	00
						3P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	55	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		01	DRVR	NONE	55	M	OR-Y OR<25		000	000	00
00404	N	N	N			02/03/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	OTH OBJ	01	NONE 0	TURN-R										044	08
NO RPT						SU		NB EXTO I-205 WB	N		TRF SIGNAL	N	DRY	FIX		PRVTE	E -N									000	044	00
						2A			05	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	56	F	OR-Y OR<25		001	000		08
01897	N	N	N			05/17/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NO RPT						SA		NB EXTO I-205 WB	N		L-GRN-SIG	N	WET	REAR		PRVTE	N -S									000	00
						10P			06	0		N	DARK	INJ		PSNGR CAR		01	DRVR	NONE	37	M	OR-Y OR<25		026	000		29
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		01	DRVR	INJC	34	F	OR-Y OR<25		000	000	00
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		02	PSNG	INJC	47	F			000	000	00
01559	N	N	N			04/28/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						TU		NB EXTO I-205 WB	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000	00
						10A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		026	000		29
															02	NONE 0	STOP										
																PRVTE	N -S									011	00
																PSNGR CAR		01	DRVR	INJC	65	F	OR-Y OR<25		000	000	00
04365	N	N	N			09/20/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						SU		NB EXTO I-205 WB	N		TRF SIGNAL	N	DRY	REAR		UNKN	N -S									000	00
						UNK			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		026	000		29
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		01	DRVR	NONE	34	M	OR-Y OR<25		000	000	00
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		02	PSNG	NO<5	01	M			000	000	00
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		03	PSNG	INJC	29	F			000	000	00
05481	N	N	N			12/18/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR		NB EXTO I-205 WB	N		TRF SIGNAL	N	UNK	REAR		UNKN	N -S									000	00
						6A			06	1		N	DAWN	PDO		PSNGR CAR		01	DRVR	NONE	00	F	UNK		026	000		29

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 17

SER# / INVEST	S P E D	A L C	R S L	W C H	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																							UNK				
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		01	DRVR	NONE	72	M	OR-Y		000	000	00
																							OR<25				
01852	N	N	N			05/27/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	TURN-R										07
NONE						FR		NB EXTO I-205 WB	SE		YIELD	N	DRY	REAR		PRVTE	S -E									000	00
						7A			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	48	F	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	S -E									011	00
																PSNGR CAR		01	DRVR	NONE	31	M	OR-Y		000	000	00
																							OR<25				
04141	N	N	N			11/04/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										07
NO RPT						FR		NB EXTO I-205 WB	S		TRF SIGNAL	N	WET	REAR		PRVTE	S -N									000	00
						9P			06	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	90	F	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	NONE	24	M	OR-Y		000	000	00
																							OR<25				
05083	Y	N	N	N	N	12/30/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										07,01
STATE						MO		NB EXTO I-205 WB	S		TRF SIGNAL	N	WET	REAR		PRVTE	S -N									000	00
						7P			06	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	51	F	OR-Y		043,026,047	000	07,01
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	NONE	50	M	OR-Y		000	000	00
																							OR<25				
00848	N	N	N			03/10/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE						TH		NB EXTO I-205 WB	CN		TRF SIGNAL	N	WET	TURN		PRVTE	S -N									000	00
						8P			04	1		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK		000	000	00
																							OR<25				
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	NONE	57	F	OR-Y		028,004	000	02
																							OR<25				
03084	N	N	N	N	N	08/23/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	TURN-L										04
STATE						TU		NB EXTO I-205 WB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -E									000	00
						8A			04	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	54	F	OR-Y		000	000	00
																							OR<25				
															02	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		01	DRVR	INJA	52	F	OR-Y		020	028	04
																							OR<25				
03065	N	N	N	N	N	08/19/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										27,04
STATE						MO		NB EXTO I-205 WB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
						9P			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	19	F	OR-Y		016,020	038	27,04
																							OR<25				
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 17

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES / EJECT	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	26	M	OR-Y OR<25		000	000	00
00203	N	N	N	N	N	01/16/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	TURN-L										04
CITY						TH		NB EXTO I-205 WB	CN		L-GRN-SIG	N	DRY	TURN		UNKN	N -E									000	00
						11P			04	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		003	000	04
															02	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		01	DRVR	NONE	45	M	OR-Y OR<25		000	000	00
04525	N	N	N	N	N	11/09/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	TURN-L										04
STATE						SU		NB EXTO I-205 WB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -E									000	00
						7A			04	2		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	28	F	OTH-Y N-RES		003	000	04
															02	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		01	DRVR	NONE	31	M	OR-Y OR<25		000	000	00
02021	N	N	N	N	N	05/28/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE						TH		NB EXTO I-205 WB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
						9P			04	2		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	29	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	NONE	19	F	OR-Y OR>25		028,004	000	02
04587	N	N	N			11/03/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										27,04
NO RPT						TU		NB EXTO I-205 WB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
						9P			04	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	25	F	OR-Y OR<25		016,020	000	27,04
															01	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		02	PSNG	INJC	05	F			000	000	00
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		000	000	00
05429	N	N	N			12/17/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	TURN-L										29
NONE						TH		NB EXTO I-205 WB	CN		TRF SIGNAL	N	WET	REAR		PRVTE	N -E									000	00
						1P			01	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	N -E									013	00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	1	0	1	0	1	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	2	0	2	0	3	0	2	0	1	1	2	0	0
YEAR 2015 TOTAL	**0**	**3**	**0**	**3**	**0**	**4**	**0**	**2**	**1**	**1**	**2**	**3**	**0**	**0**
YEAR: 2014														
REAR-END	0	1	3	4	0	1	0	4	0	3	1	4	0	0
YEAR 2014 TOTAL	**0**	**1**	**3**	**4**	**0**	**1**	**0**	**4**	**0**	**3**	**1**	**4**	**0**	**0**
YEAR: 2013														
REAR-END	0	2	1	3	0	2	0	1	1	0	3	3	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**2**	**2**	**4**	**0**	**2**	**0**	**2**	**1**	**0**	**4**	**4**	**0**	**0**
YEAR: 2012														
REAR-END	0	0	5	5	0	0	0	4	1	5	0	5	0	0
TURNING MOVEMENTS	0	2	0	2	0	2	0	1	1	1	1	2	0	0
YEAR 2012 TOTAL	**0**	**2**	**5**	**7**	**0**	**2**	**0**	**5**	**2**	**6**	**1**	**7**	**0**	**0**
YEAR: 2011														
REAR-END	0	3	1	4	0	4	0	2	2	3	1	4	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2011 TOTAL	**0**	**3**	**2**	**5**	**0**	**4**	**0**	**2**	**3**	**3**	**2**	**5**	**0**	**0**

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

FINAL TOTAL	**0**	**11**	**12**	**23**	**0**	**13**	**0**	**15**	**7**	**13**	**10**	**23**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	R U G	S C H	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
04876	N	N	N			11/18/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT										29
NONE						WE		EB EX PAC HY 99E	N		TRF SIGNAL	N	WET	REAR		PRVTE	N -S									000	00
						8A			06	1		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	19	M	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	N -S									011	00
																PSNGR CAR		01	DRVR	INJC	34	M	OR-Y OR<25		000	000	00
04362	N	N	N			11/17/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										07
NONE						TH		EB EX PAC HY 99E	NE		YIELD	N	WET	REAR		PRVTE	SE-NW									000	00
						8A			09	1		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	19	M	UNK OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJA	31	F	OR-Y OR<25		000	000	00
01689	N	N	N			05/08/2012	14	PACIFIC HY 99E	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE						TU		EB EX PAC HY 99E	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						12P			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	77	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	62	M	OR-Y OR<25		000	000	00
01854	N	N	N	N	N	05/19/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										27,07
STATE						SA		EB EX PAC HY 99E	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						7P			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		016,026	000	27,07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	24	F	OR-Y OR>25		000	000	00
01924	N	N	N			05/24/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE						TH		EB EX PAC HY 99E	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						9A			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		000	000	00
02321	N	N	N			06/28/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE						TH		EB EX PAC HY 99E	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						12P			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	24	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	71	M	OR-Y OR<25		000	000	00
03957	N	N	N			10/22/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT										07
NONE						MO		EB EX PAC HY 99E	NE		YIELD	N	WET	REAR		PRVTE	SE-NW									000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	U G S	R H L	S W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
							2P			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OTH-Y N-RES		026	000	07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW								011	00
01366 NONE	N	N	N				04/22/2013 MO 7P	11	EB EX PAC HY 99E PACIFIC HY 99E	INTER NE 09	3-LEG 1	N YIELD	N N N	CLR DRY DUSK	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	42	M	OR-Y OR<25		026	000	07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	NONE	20	M	OR-Y OR<25		000	011 000	00 00
82215 NONE	N	N	N				11/12/2013 TU 8A	11	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N YIELD	N N N	RAIN WET DAWN	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	M	UNK UNK		026	000	07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	INJC	65	F	OR-Y OR<25		000	011 000	00 00
00474 CITY	N	N	N	N	N		02/04/2014 TU 10A	14	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N TRF SIGNAL	N N N	CLD DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	35	M	OR-Y OR<25		026	038	27,07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	NONE	52	F	OR-Y OR<25		000	011 000	00 00
00923 NONE	N	N	N				03/04/2014 TU 8A	14	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N YIELD	N N N	CLR DRY DLIT	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	Unk	OR-Y OR<25		026	000	07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	NONE	52	F	OR-Y OR<25		000	011 000	00 00
02990 NONE	N	N	N				08/03/2014 SU UNK	11	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N TRF SIGNAL	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	60	F	OR-Y OR<25		026	000	29
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	NONE	66	M	OR-Y OR<25		000	011 000	00 00
05025 NONE	N	N	N				12/12/2014 FR 2P	11	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N YIELD	N N N	CLR DRY DAY	S-STRGHT REAR INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-R E -N	01	DRVR	NONE	43	F	OR-Y OR>25		042	000	07
																02	NONE 0	TURN-R									

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																	PRVTE	E -N									000		00
																	PSNGR CAR		01	DRVR	INJC	65	F	OR-Y OR<25		000	000		00
01260	Y	N	N				04/15/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											013	01
NONE							FR		EB EX PAC HY 99E	E		YIELD	N	WET	REAR		UNKN	E -W									000		00
							12P			06	1		N	DAY	INJ		UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		047,026	000		01
																02	NONE 0	STOP											
																	PRVTE	E -W									011	013	00
																	PSNGR CAR		01	DRVR	NONE	24	F	OR-Y OR<25		000	000		00
																03	NONE 0	STOP											
																	PRVTE	E -W									022		00
																	PSNGR CAR		01	DRVR	INJC	41	M	OR-Y OR<25		000	000		00
																03	NONE 0	STOP											
																	PRVTE	E -W									022		00
																	PSNGR CAR		02	PSNG	INJC	15	F			000	000		00
03326	N	N	N				09/08/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NO RPT							TH		EB EX PAC HY 99E	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00
							11A			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	75	M	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	E -W									011		00
																	PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		000	000		00
04032	N	N	N				10/29/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE							SA		EB EX PAC HY 99E	E		TRF SIGNAL	N	DRY	REAR		UNKN	E -W									000		00
							10A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y UNK		026	000		07
																02	NONE 0	STOP											
																	PRVTE	E -W									012		00
																	PSNGR CAR		01	DRVR	INJC	53	F	OR-Y OR<25		000	000		00
04751	N	N	N				12/08/2013	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE							SU		EB EX PAC HY 99E	E		TRF SIGNAL	N	UNK	REAR		PRVTE	E -W									000		00
							5P			06	2		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y UNK		026	000		07
																02	NONE 0	STOP											
																	PRVTE	E -W									012		00
																	PSNGR CAR		01	DRVR	INJC	39	F	OR-Y OR<25		000	000		00
04167	N	N	N				11/05/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-L												04
NONE							SA		EB EX PAC HY 99E	CN		TRF SIGNAL	N	WET	TURN		PRVTE	E -S									000		00
							7A			03	1		N	DAWN	PDO		PSNGR CAR		01	DRVR	NONE	61	F	OR-Y OR<25		097	000		00
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000		00
																	PSNGR CAR		01	DRVR	NONE	64	F	OR-Y OR<25		097	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	D R S	S W U G S	C O H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
03521	N	N	N	N	N		09/22/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
STATE							SA		EB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
							9A			02	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	34	M	OR-Y OR<25		020	000	04
																02	NONE 0	TURN-L										
																	PRVTE	E -S									000	00
																	PSNGR CAR		01	DRVR	INJC	64	F	OR-Y OR<25		000	000	00
04882	N	N	N	N	N		12/17/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										04
STATE							MO		EB EX PAC HY 99E	CN		L-GRN-SIG	N	WET	TURN		PRVTE	S -N									000	00
							9P			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	53	F	OR-Y OR<25		000	000	00
																02	NONE 0	TURN-L										
																	PRVTE	N -E									000	00
																	PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		003	000	04
00576	N	N	N				02/19/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										02
NONE							TU		EB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -E									000	00
							9P			04	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		028	000	02
																02	NONE 0	STRGHT										
																	PRVTE	S -N									000	00
																	PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		000	000	00
01337	N	N	N				04/14/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
NONE							TU		EB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
							3P			02	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	36	M	OR-Y OR<25		020	000	04
																01	NONE 0	STRGHT										
																	PRVTE	S -N									000	00
																	PSNGR CAR		02	PSNG	NO<5	04	M			000	000	00
																02	NONE 0	TURN-L										
																	PRVTE	E -S									000	00
																	PSNGR CAR		01	DRVR	INJC	37	F	OR-Y OR<25		000	000	00
05735	N	N	N				12/31/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
NO RPT							TH		EB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
							7P			02	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	51	F	OR-Y OR<25		020	000	04
																02	NONE 0	TURN-L										
																	PRVTE	E -S									000	00
																	PSNGR CAR		01	DRVR	INJC	25	M	OR-Y OR<25		000	000	00
																02	NONE 0	TURN-L										
																	PRVTE	E -S									000	00
																	PSNGR CAR		02	PSNG	INJC	27	F			000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	1	0	1	0	2	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2015 TOTAL	**0**	**2**	**0**	**2**	**0**	**3**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**
YEAR: 2014														
REAR-END	0	2	1	3	0	2	0	2	1	3	0	3	0	0
YEAR 2014 TOTAL	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**2**	**1**	**3**	**0**	**3**	**0**	**0**
YEAR: 2013														
REAR-END	0	2	2	4	0	2	0	4	0	4	0	4	0	0
TURNING MOVEMENTS	0	1	0	1	0	3	0	1	0	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**3**	**2**	**5**	**0**	**5**	**0**	**5**	**0**	**4**	**1**	**5**	**0**	**0**
YEAR: 2012														
REAR-END	0	0	2	2	0	0	0	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	1	3	4	0	1	0	3	1	2	2	4	0	0
YEAR 2012 TOTAL	**0**	**1**	**5**	**6**	**0**	**1**	**0**	**5**	**1**	**4**	**2**	**6**	**0**	**0**
YEAR: 2011														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	0	2	0	1	1	2	0	0
YEAR 2011 TOTAL	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**3**	**0**	**2**	**1**	**3**	**0**	**0**

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

FINAL TOTAL	**0**	**8**	**11**	**19**	**0**	**11**	**0**	**17**	**2**	**15**	**4**	**19**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 19

SER# / INVEST	S P E D	A L C	D R S L	S W C H	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
00828	N	N	N	N	N	01/09/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
CITY						MO		NB EXTO I-205 EB	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S								000	00
						1P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	40	M	SUSP OR<25		026	000	07
															01	NONE 0	STRGHT									
																PRVTE	N -S								000	00
																PSNGR CAR		02	PSNG	NONE	39	F			000	000	00
															01	NONE 0	STRGHT									
																PRVTE	N -S								000	00
																PSNGR CAR		03	PSNG	NO<5	01	F			000	000	00
															02	NONE 0	STOP									
																PRVTE	N -S								012	00
																PSNGR CAR		01	DRVR	NONE	32	F	OR-Y OR<25		000	000	00
01099	N	N	N			04/01/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
NONE						MO		NB EXTO I-205 EB	N		L-GRN-SIG	N	DRY	REAR		PRVTE	N -S								000	00
						1P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	66	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP									
																PRVTE	N -S								012	00
																PSNGR CAR		01	DRVR	INJC	47	F	OR-Y OR<25		000	000	00
00690	N	N	N			02/22/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									29
NO RPT						SU		NB EXTO I-205 EB	N		L-GRN-SIG	N	DRY	REAR		PRVTE	N -S								000	00
						11A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y UNK		026	000	29
															02	NONE 0	STOP									
																RENTL	N -S								012	00
																PSNGR CAR		01	DRVR	NONE	47	M	OR-Y OR<25		000	000	00
															02	NONE 0	STOP									
																RENTL	N -S								012	00
																PSNGR CAR		02	PSNG	INJC	38	F			000	000	00
															02	NONE 0	STOP									
																RENTL	N -S								012	00
																PSNGR CAR		03	PSNG	INJC	15	M			000	000	00
02254	N	N	N			06/25/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-OTHER	01	NONE 0	TURN-R									08
NONE						SA		NB EXTO I-205 EB	NE		TRF SIGNAL	N	DRY	TURN		PRVTE	S -NE								000	00
						6P			05	1		N	DAY	PDO		MTRCYCLE		01	DRVR	NONE	00	Unk	UNK UNK		006	000	08
															02	NONE 0	TURN-R									
																PRVTE	S -NE								000	00
																PSNGR CAR		01	DRVR	NONE	49	F	OTH-Y N-RES		000	000	00
00395	N	N	N			01/30/2014	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
NONE						TH		NB EXTO I-205 EB	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW								000	00
						3P			09	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	59	M	OR-Y		026	000	07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 19

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		01	DRVR	INJC	25	F	OR-Y		000	000	00
																								OR<25				
04196	N	N	N				10/22/2014	11	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										29
NONE							WE		NB EXTO I-205 EB	NE		YIELD	N	WET	REAR		PRVTE	SE-NW									000	00
							3P			09	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK		026	000	29
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		01	DRVR	INJC	59	F	OR-Y		000	000	00
																								OR<25				
03474	N	N	N				09/05/2014	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE							FR		NB EXTO I-205 EB	E		TRF SIGNAL	N	DRY	REAR		UNKN	E -W									000	00
							11A			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000	29
																								UNK				
																02	NONE 0	STOP										
																	PRVTE	E -W									011	00
																	PSNGR CAR		01	DRVR	NONE	40	F	OR-Y		000	000	00
																								UNK				
02378	N	N	N				07/06/2011	14	PACIFIC HY 99E	INTER		N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE							WE		NB EXTO I-205 EB	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
							2P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y		026	000	07
																								UNK				
																02	NONE 0	STOP										
																	PRVTE	S -N									011	00
																	PSNGR CAR		01	DRVR	NONE	43	F	OR-Y		000	000	00
																								OR<25				
01838	N	N	N				05/18/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										04
NO RPT							FR		NB EXTO I-205 EB	S		L-GRN-SIG	N	DRY	TURN		PRVTE	S -N									000	00
							4P			04	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	43	M	OR-Y		097	000	00
																								OR<25				
																02	NONE 0	TURN-L										
																	PRVTE	N -E									000	00
																	PSNGR CAR		01	DRVR	NONE	81	M	OTH-Y		097	000	00
																								N-RES				
03490	N	N	N	N	N		09/18/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE							WE		NB EXTO I-205 EB	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
							4P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	25	F	NONE		026	000	07
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	S -N									011	00
																	PSNGR CAR		01	DRVR	NONE	24	F	OR-Y		000	000	00
																								OR<25				
04363	N	N	N	N	N		11/11/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										07
STATE							MO		NB EXTO I-205 EB	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
							1P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	93	M	OR-Y		043,026	000	07
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	S -N									011	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 19

SER# / INVEST	S P E D	A L C	R S L	S W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	INJC	57	F	OR-Y OR>25		000	000	00
04886 NONE	N	N	N			12/17/2013 TU 3P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER S 06	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	35	M	OR-Y OR<25		026	000	07
															02	NONE UNKN UNKNOWN	STOP S -N	01	DRVR	NONE	00	Unk	UNK UNK		000	000	00
03249 STATE	N	N	N			09/03/2011 SA 8P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 04	3-LEG 1	N L-GRN-SIG	N N	FOG DRY DLIT	O-1 L-TURN TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	NONE	62	M	OTH-Y N-RES		000	000	00
															02	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	70	F	OR-Y OR>25		020	000	04
00563 CITY	N	N	N	N	N	02/12/2012 SU 10P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 02	3-LEG 1	N TRF SIGNAL	N N	RAIN WET DLIT	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	24	F	OR-Y OR<25		021	000	04
															02	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	01	DRVR	NONE	56	M	OR-Y OR<25		000	000	00
02698 NONE	N	N	N	N	N	07/24/2012 TU 4P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-R S -E	01	DRVR	NONE	50	F	SUSP OR<25		006,052	000	08,32
															02	NONE 0 PRVTE PSNGR CAR	TURN-R S -E	01	DRVR	NONE	47	F	OR-Y OR<25		000	000	00
03080 NONE	N	N	N			08/19/2012 SU 3P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 04	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DAY	O-1 L-TURN TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	00	F	OR-Y UNK		020	000	04
															02	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	NONE	29	M	OR-Y OR<25		000	000	00
04535 STATE	N	N	N	N	N	11/22/2012 TH 8P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 04	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	INJC	18	F	OR-Y OR<25		020	000	04
															01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	02	PSNG	NO<5	01	M			000	000	00
															02	NONE 0	TURN-L										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 19

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	N -E									00
																PSNGR CAR		01	DRVR	NONE	42	F	OR-Y OR<25		000	000	00
01632	N	N	N	N	N	05/11/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										04
CITY						SA		NB EXTO I-205 EB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -E									000	00
						10P			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	63	M	OR-Y OR<25		000	000	00
															01	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		02	PSNG	INJC	58	F			000	000	00
															02	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		01	DRVR	INJC	17	F	OR-Y OR<25		020	000	04
01891	N	N	N	N	N	05/18/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										04
STATE						MO		NB EXTO I-205 EB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
						8A			04	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	41	F	OR-Y OR<25		020	000	04
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	INJC	67	F	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	1	1	2	0	1	0	2	0	1	1	2	0	0
YEAR 2015 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**2**	**0**	**1**	**1**	**2**	**0**	**0**
YEAR: 2014														
REAR-END	0	6	0	6	0	7	0	6	0	6	0	6	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	2	0	2	0	0
YEAR 2014 TOTAL	**0**	**7**	**1**	**8**	**0**	**8**	**0**	**7**	**1**	**8**	**0**	**8**	**0**	**0**
YEAR: 2013														
REAR-END	0	2	0	2	0	2	0	1	0	1	1	2	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	0	1	1	2	0	2	0	0
YEAR 2013 TOTAL	**0**	**2**	**2**	**4**	**0**	**2**	**0**	**2**	**1**	**3**	**1**	**4**	**0**	**0**
YEAR: 2012														
REAR-END	0	1	0	1	0	5	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	2	0	2	0	0
YEAR 2012 TOTAL	**0**	**2**	**1**	**3**	**0**	**6**	**0**	**2**	**1**	**3**	**0**	**3**	**0**	**0**
YEAR: 2011														
REAR-END	0	2	1	3	0	2	0	3	0	2	1	3	0	0
YEAR 2011 TOTAL	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**3**	**0**	**2**	**1**	**3**	**0**	**0**
FINAL TOTAL	**0**	**14**	**6**	**20**	**0**	**19**	**0**	**16**	**3**	**17**	**3**	**20**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02478	N	N	N			07/10/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
NO RPT						TU		15TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE									000		00
						7A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	54	M	OR-Y OR<25		026	000		07
															01	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		02	PSNG	INJB	48	M			000	000		00
															01	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		03	PSNG	INJC	45	M			000	000		00
															01	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		04	PSNG	INJC	24	M			000	000		00
															02	NONE 0	STOP											
																PRVTE	SW-NE									011	013	00
																PSNGR CAR		01	DRVR	NONE	18	F	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	SW-NE									022	013	00
																PSNGR CAR		01	DRVR	INJC	34	F	OR-Y OR<25		000	000		00
															04	NONE 0	STOP											
																PRVTE	SW-NE									022		00
																PSNGR CAR		01	DRVR	NONE	32	M	OR-Y OR<25		000	000		00
02162	N	N	N			06/18/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						SA		15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW									000		00
						10P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	INJC	28	M	OR-Y OR<25		000	000		00
02450	N	N	N			07/11/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						MO		15TH ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						6P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	20	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	NONE	69	M	OR-Y OR<25		000	000		00
04973	N	N	N	N	N	12/09/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	BIKE	01	NONE 0	TURN-R										084	02
NONE						TU		15TH ST	SE		STOP SIGN	N	WET	TURN		PRVTE	SE-NE									015		00
						12P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		027	000	084	02
																- STRGHT		01	BIKE	INJA	54	F		I	XWLK	000	034		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO NE SW	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00492	N	N	N	N	N		02/10/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											27,07
STATE							TH	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW											00
							9A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	66	M	OR-Y OR<25		016,026	000		27,07
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	INJC	59	F	OR-Y OR<25		000	000		00
02221	N	N	N	N	N		06/22/2013	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
CITY							SA	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW									000		00
							10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	59	F	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	INJC	58	M	OR-Y OR<25		000	000		00
04877	N	N	N				12/17/2013	19	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											07
NONE							TU	0	15TH ST	SE		STOP SIGN	N	UNK	REAR		PRVTE	SE-NW									000		00
							5P			06	0		N	DUSK	INJ		UNKNOWN		01	DRVR	NONE	33	F	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	INJC	48	F	OTH-Y OR<25		000	000		00
01124	N	N	N				03/21/2014	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
NONE							FR	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW									000		00
							1P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	32	F	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011	013	00
																	PSNGR CAR		01	DRVR	INJC	32	F	OR-Y OR<25		000	000		00
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011	013	00
																	PSNGR CAR		02	PSNG	NO<5	04	M			000	000		00
																03	NONE 0	STOP											
																	UNKN	SE-NW									022		00
																	UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
01616	N	N	N				04/28/2014	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE							MO	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW									000		00
							7A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	53	M	OR-Y OR<25		026	000		29
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	INJC	50	M	OR-Y OR<25		000	000		00
01736	N	N	N	N	N		05/06/2014	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											29
CITY							TU	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		UNKN	SE-NW									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	R U G S	S W C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
						4P			06	0		N	DAY	INJ		MTRCYCLE		01	DRVR	INJC	00	M	UNK UNK		026	000	29
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	NONE	58	F	OR-Y OR<25		000	000	00
01975 NONE	N	N	N			05/23/2014 FR 6P	19 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 UNKN PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	M	UNK UNK		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	INJC	55	F	OR-Y OR<25		000	000	00
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		02	PSNG	INJC	20	F			000	000	00
03302 NONE	N	N	N			08/25/2014 MO 1P	19 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	53	M	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	INJC	45	F	OR-Y OR<25		000	000	00
03718 NO RPT	N	N	N			09/22/2014 MO 6A	19 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	57	M	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	INJC	38	F	OR-Y OR<25		000	000	00
02082 NONE	N	N	N			06/01/2015 MO 4P	17 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N N	CLD DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	56	M	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	INJC	55	F	OR-Y OR<25		000	000	00
00180 NONE	N	N	N			01/15/2015 TH 6P	17 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N N	CLR DRY DLIT	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	60	M	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	NONE	51	F	OR-Y OR>25		000	000	00
00381	N	N	N			01/28/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-R										02

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D / A L C	R S W U C O H R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
NONE			SA		15TH ST	CN		STOP SIGN	N	DRY	TURN		PRVTE	SE-NE									000	00
			2P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y UNK		028	000	02
												02	NONE 0	STRGHT										
													PRVTE	SW-NE									000	00
													PSNGR CAR		01	DRVR	NONE	27	F	OR-Y OR<25		000	000	00
03991	N N N		10/24/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-R										02
NO RPT			WE		15TH ST	CN		STOP SIGN	N	WET	TURN		PRVTE	SE-NE									015	00
			5P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	39	F	OR-Y OR<25		028	000	02
												02	NONE 0	STRGHT										
													PRVTE	SW-NE									000	00
													PSNGR CAR		01	DRVR	INJC	26	F	OR-Y OR<25		000	000	00
02305	N N N		06/11/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	ANGL-OTH	01	NONE 0	STRGHT										02
NONE			TU		15TH ST	CN		STOP SIGN	N	WET	TURN		PRVTE	SW-NE									000	00
			2P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	47	F	OR-Y OR<25		000	000	00
												02	NONE 0	TURN-R										
													PRVTE	SE-NE									015	00
													PSNGR CAR		01	DRVR	NONE	00	F	UNK OR<25		028	000	02
04064	N N N		10/23/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-OTHER	01	NONE 0	TURN-R										07
NONE			WE		15TH ST	CN		STOP SIGN	N	DRY	TURN		PRVTE	SE-NE									000	00
			11A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	72	M	OR-Y OR<25		042	000	07
												02	NONE 0	TURN-R										
													PRVTE	SE-NE									000	00
													PSNGR CAR		01	DRVR	NONE	62	F	OR-Y OR<25		000	000	00
01496	N N N		04/18/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-R										02
NO RPT			FR		15TH ST	CN		STOP SIGN	N	DRY	TURN		PRVTE	SE-NE									015	00
			4P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	M	OR-Y OR<25		028	000	02
												02	NONE 0	STRGHT										
													PRVTE	SW-NE									000	00
													PSNGR CAR		01	DRVR	NONE	29	F	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	1	2	0	2	0	2	0	0
YEAR 2015 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**1**	**3**	**0**	**3**	**0**	**3**	**0**	**0**
YEAR: 2014														
REAR-END	0	2	0	2	0	2	0	1	1	2	0	2	0	0
TURNING MOVEMENTS	0	3	2	5	0	3	0	4	1	5	0	5	0	0
YEAR 2014 TOTAL	**0**	**5**	**2**	**7**	**0**	**5**	**0**	**5**	**2**	**7**	**0**	**7**	**0**	**0**
YEAR: 2013														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	5	4	9	0	12	0	9	0	5	4	9	0	0
YEAR 2013 TOTAL	**0**	**5**	**5**	**10**	**0**	**12**	**0**	**10**	**0**	**6**	**4**	**10**	**0**	**0**
YEAR: 2012														
REAR-END	0	7	0	7	0	9	0	4	3	4	3	7	0	0
TURNING MOVEMENTS	0	3	1	4	0	3	0	2	2	1	3	4	0	0
YEAR 2012 TOTAL	**0**	**10**	**1**	**11**	**0**	**12**	**0**	**6**	**5**	**5**	**6**	**11**	**0**	**0**
YEAR: 2011														
REAR-END	0	8	4	12	0	12	0	7	3	8	3	12	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	5	1	6	0	10	0	4	2	3	3	6	0	0
YEAR 2011 TOTAL	**0**	**13**	**5**	**18**	**0**	**22**	**0**	**11**	**5**	**11**	**6**	**18**	**0**	**0**
FINAL TOTAL	**0**	**34**	**15**	**49**	**0**	**52**	**1**	**35**	**12**	**32**	**16**	**49**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
03520	N	N	N			09/24/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
STATE						SA		14TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
						12A			06	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	20	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP									011	013	
																PRVTE	NE-SW											00
																PSNGR CAR		01	DRVR	NONE	46	M	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	NE-SW									022		00
																PSNGR CAR		01	DRVR	NONE	19	M	OR-Y OR<25		000	000		00
04057	N	N	N			10/31/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT												07
NONE						MO		14TH ST	NE		TRF SIGNAL	N	WET	REAR		PRVTE	NE-SW									000		00
						6P			06	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	INJC	70	M	OR-Y OR<25		000	000		00
04688	N	N	N	N	N	12/05/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
STATE						MO		14TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
						11A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	24	F	OR-Y OR<25		026	000		07
															01	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		02	PSNG	INJC	23	F			000	000		00
															01	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		03	PSNG	NO<5	01	M			000	000		00
															02	NONE 0	STOP											
																PRVTE	NE-SW									011	013	00
																PSNGR CAR		01	DRVR	NONE	26	M	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	NE-SW									022		00
																PSNGR CAR		01	DRVR	NONE	35	M	OR-Y OR<25		000	000		00
01222	N	N	N	N	N	04/02/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
STATE						MO		14TH ST	NE		L-GRN-SIG	N	DRY	REAR		PRVTE	NE-SW									000		00
						10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	20	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		01	DRVR	INJC	38	M	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		02	PSNG	INJC	32	F			000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
04230	N	N	N	N	N	11/10/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											07
STATE						SA		14TH ST	NE		L-GRN-SIG	N	DRY	REAR		PRVTE	NE-SW									000		00
						5P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	81	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		01	DRVR	INJC	38	M	OR-Y OR<25		000	000		00
04249	Y	Y	N	N	N	11/11/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											01,07
CITY						SU		14TH ST	NE		L-GRN-SIG	N	WET	REAR		PRVTE	NE-SW									000		00
						5P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	46	M	OR-Y OR<25		043,047,026	000		01,07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		02	PSNG	INJC	32	M			000	000		00
01353	N	N	N	N	N	04/08/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	BIKE			-											110	18,14
CITY						TU		14TH ST	NE		TRF SIGNAL	N	DRY	TURN			STRGHT SE NW	01	BIKE	INJB	50	M		I XWLK	020	035		18,14
						1P			06	0		N	DAY	INJ	01	NONE 0	TURN-L											
																PRVTE	NE-SE									000		00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y OR>25		000	000		00
04183	N	N	N			10/21/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											26
NONE						TU		14TH ST	NE		L-GRN-SIG	N	WET	REAR		UNKN	NE-SW									000		00
						2P			06	0		N	DAY	INJ		UNKNOWN		01	DRVR	NONE	00	F	UNK UNK		026	000		29
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		01	DRVR	NONE	21	M	OTH-Y N-RES		000	000		00
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		02	PSNG	INJC	21	F			000	000		00
03503	N	N	N			08/28/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR		14TH ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						2P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	NONE	37	F	OR-Y OR<25		000	000		00
03968	N	N	N			10/23/2012	16	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						TU	0	14TH ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
						2P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	35	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	INJC	61	M	OR-Y OR<25		000	000		00
02271	N	N	N			06/13/2014	16	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR	0	14TH ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	46	M	OR-Y OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	INJC	23	M	OR-Y OR<25		000	000		00
00262	Y	N	N	N	N	01/21/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										013	01,07
STATE						FR		14TH ST	SW		TRF SIGNAL	N	WET	REAR		PRVTE	SW-NE								000		00
						5A			06	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	23	F	OR-Y OR<25		047,026	000		01,07
															02	NONE 0	STOP											
																PRVTE	SW-NE									011	013	00
																PSNGR CAR		01	DRVR	NONE	42	F	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	SW-NE									022		00
																PSNGR CAR		01	DRVR	NONE	51	M	OR-Y OR<25		000	000		00
00344	N	N	N			01/28/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											27,07
CITY						FR		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE								000		00
						12P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	53	M	OR-Y OR<25		016,026	000		27,07
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		01	DRVR	INJC	20	F	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		02	PSNG	NO<5	03	F			000	000		00
01845	Y	N	N	N	N	05/27/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										013	32,01,07
STATE						FR		14TH ST	SW		UNKNOWN	N	WET	REAR		PRVTE	SW-NE								000		00
						6P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	M	SUSP OR>25		052,047,043	000		32,01,07
															02	NONE 0	STOP											
																PRVTE	SW-NE									011	013	00
																PSNGR CAR		01	DRVR	NONE	39	M	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	SW-NE									022		00
																PSNGR CAR		01	DRVR	NONE	54	M	OR-Y OR<25		000	000		00
01784	N	N	N			05/12/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D / A L C	R S W U C O H R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
NONE			TH		14TH ST	SW		TRF SIGNAL	N	UNK	REAR		PRVTE	SW-NE									000		00
			6P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	38	F	OR-Y		026	000		07
																					OR<25				
												02	NONE 0	STOP											
													PRVTE	SW-NE									011		00
													PSNGR CAR		01	DRVR	NONE	29	M	OR-Y		000	000		00
																					OR<25				
01971	N N N N N		06/03/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											27
STATE			FR		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE									000		00
			2P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	51	M	OR-Y		016,026	000		27
																					OR>25				
												02	NONE 0	STOP											
													PRVTE	SW-NE									011		00
													PSNGR CAR		01	DRVR	INJC	31	M	OR-Y		000	000		00
																					OR<25				
02437	N N N		07/01/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE			FR		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE									000		00
			6P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	38	F	OR-Y		026	000		07
																					OR<25				
												01	NONE 0	STRGHT											
													PRVTE	SW-NE									000		00
													PSNGR CAR		02	PSNG	INJC	12	M			000	000		00
												02	NONE 0	STOP											
													PRVTE	SW-NE									011		00
													PSNGR CAR		01	DRVR	NONE	26	F	OR-Y		000	000		00
																					OR<25				
												02	NONE 0	STOP											
													PRVTE	SW-NE									011		00
													PSNGR CAR		02	PSNG	INJC	25	M			000	000		00
												02	NONE 0	STOP											
													PRVTE	SW-NE									011		00
													PSNGR CAR		03	PSNG	NO<5	01	M			000	000		00
03363	Y N N N N		09/12/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	32,01,07
STATE			MO		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE									000		00
			4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	49	F	SUSP		052,047,026	000		32,01,07
																					OR<25				
												02	NONE 0	STOP											
													PRVTE	SW-NE									011	013	00
													PSNGR CAR		01	DRVR	INJC	40	F	OR-Y		000	000		00
																					OR<25				
												03	NONE 0	STOP											
													PRVTE	SW-NE									022		00
													PSNGR CAR		01	DRVR	INJB	25	M	OR-Y		000	000		00
																					N-RES				
81684	N N N		02/16/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE			TH		14TH ST	SW		TRF SIGNAL	N	WET	REAR		PRVTE	SW-NE									000		00
			6P			06	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	34	F	OR-Y		026	000		07
																					OR<25				

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	D R S L	S W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															02	NONE 0	STOP									
																PRVTE	SW-NE								011	00
																PSNGR CAR		01	DRVR	INJC	51	F	OR-Y OR>25		000	000 00
02893	N	N	N	N	N	08/06/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
STATE						MO		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE								000	00
						5P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	48	F	OR-Y OR<25		026	000 07
															02	NONE 0	STOP									
																PRVTE	SW-NE								011	00
																PSNGR CAR		01	DRVR	INJC	37	F	OR-Y OR<25		000	000 00
04802	N	N	N			12/12/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT									07
NONE						WE		14TH ST	SW		TRF SIGNAL	N	WET	REAR		PRVTE	SW-NE								000	00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	31	M	OR-Y OR<25		026	000 07
															02	NONE 0	STOP									
																PRVTE	SW-NE								011	00
																PSNGR CAR		01	DRVR	INJC	55	F	OR-Y OR>25		000	000 00
04856	N	N	N			12/15/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 1	STRGHT									07
NONE						SU		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE								000	00
						2P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	26	F	OR-Y OR<25		026	000 07
															02	NONE 0	STOP									
																PRVTE	SW-NE								011	00
																PSNGR CAR		01	DRVR	NONE	00	F	UNK OR>25		000	000 00
00073	N	N	N			01/05/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT									02
CITY						WE		14TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE								000	00
						11A			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	32	F	OR-Y OR<25		000	000 00
															02	NONE 0	TURN-L									
																PRVTE	NE-SE								000	00
																PSNGR CAR		01	DRVR	INJC	85	F	OR-Y OR<25		028,004	000 02
															02	NONE 0	TURN-L									
																PRVTE	NE-SE								000	00
																PSNGR CAR		02	PSNG	INJC	17	M			000	000 00
00909	N	N	N	N	N	03/14/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT									02
STATE						MO		14TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE								000	00
						8A			04	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	INJC	21	F	OR-Y OR<25		000	000 00
															02	NONE 0	TURN-L									
																PRVTE	NE-SE								000	00
																PSNGR CAR		01	DRVR	INJB	27	F	OR-Y OR<25		028,004	000 02
02805	N	N	N			08/04/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-STRGHT	01	NONE 0	STRGHT									07
NONE						TH		14TH ST	CN		TRF SIGNAL	N	DRY	REAR		UNKN	NE-SW								000	00
						3P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	F	UNK		042	000 07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																02	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW						UNK OR-Y OR>25		000	000	00 00
03304 NO RPT	N	N	N				09/07/2011 WE 5P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DAY	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	38	F	OR-Y OR<25		004,028	000 000	02 00 02
																02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	INJB	25	F	OR-Y OR<25		000	000	00 00
04004 CITY	N	N	N				09/20/2011 TU UNK	14	PACIFIC HY 99E 14TH ST 02	INTER CN 02	3-LEG 0	N TRF SIGNAL N	N N N	UNK UNK UNK	S-1TURN REAR PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	20	F	OTH-Y N-RES		026	000 000	07 00 07
																02	NONE 0 PRVTE PSNGR CAR	STOP NE-SE	01	DRVR	NONE	89	F	OTH-Y OR<25		000	013 000	00 00
04527 CITY	N	N	N	N	N	N	11/26/2011 SA 6P	14	PACIFIC HY 99E 14TH ST 04	INTER CN 04	3-LEG 0	N TRF SIGNAL N	N N N	CLD DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	INJC	59	M	OR-Y OR<25		004,028	000 000	02 00 02
																01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	02	PSNG	INJC	29	F			000	000 000	00 00
																02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	INJC	49	M	OR-Y OR<25		000	000 000	00 00
04723 NO RPT	N	N	N				12/07/2011 WE 5P	14	PACIFIC HY 99E 14TH ST 04	INTER CN 04	3-LEG 0	N TRF SIGNAL N	N N N	CLR DRY DLIT	O-1 L-TURN TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	48	F	OR-Y OR<25		000	000 000	02,07 00 00
																02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	33	M	OR-Y OR<25		028,004	001 013 000	00 02
																03	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	48	M	OR-Y OR<25		000	000 000	00 00
04879 CITY	N	N	N				12/19/2011 MO 10A	14	PACIFIC HY 99E 14TH ST 04	INTER CN 04	3-LEG 0	N TRF SIGNAL N	N N N	CLR DRY DAY	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	INJB	22	M	OR-Y OR<25		097	000 000	04 00 00
																02	NONE 0 PRVTE	STRGHT SW-NE									000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	29	F	OR-Y OR<25		097	000	00
01218	N	N	N	N	N	03/31/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										04
STATE						SA		14TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE									000	00
						9P			04	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	45	M	OR-Y OR<25		020	000	04
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	INJC	70	M	OR-Y OR<25		000	000	00
02254	N	N	N			06/23/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										02
CITY						SA		14TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE									000	00
						6A			04	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	40	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	INJC	43	F	OTH-Y OR<25		028,004	000	02
02653	N	N	N			07/21/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE						SA		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
						1P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	50	F	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	NONE	00	F	UNK UNK		028	000	02
03404	N	N	N	N	N	09/13/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
STATE						TH		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
						7P			04	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	INJC	37	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	NONE	53	F	OR-Y OR<25		028,004	000	02
00388	N	N	N	N	N	02/01/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										02
STATE						FR		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NE-SE									000	00
						9P			03	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y OR<25		028,004	000	02
															02	NONE 0	STRGHT										
																PRVTE	SW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	23	M	OR-Y OR<25		000	000	00
															02	NONE 0	STRGHT										
																PRVTE	SW-NE									000	00
																PSNGR CAR		02	PSNG	NO<5	01	M			000	000	00
00556	N	N	N			02/18/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT										02
CITY						MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
						2P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	46	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-R										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	SE-NE									016	00
																PSNGR CAR		01	DRVR	NONE	32	M	OR-Y OR<25		028	000	02
															02	NONE 0	TURN-R										
																PRVTE	SE-NE									016	00
																PSNGR CAR		02	PSNG	INJC	36	F			000	000	00
00564	N	N	N	N	N	02/18/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT											02
CITY						MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
						10A			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	91	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	INJC	69	M	OR-Y OR<25		028,004	000	02
00701	N	N	N			02/28/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NONE						TH		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
						12P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	58	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		028,004	000	02
01290	N	N	N	N	N	04/16/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT											04
NONE						TU		14TH ST	CN		L-GRN-SIG	N	DRY	TURN		PRVTE	SW-NE									000	00
						12P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	37	F	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		01	DRVR	INJC	63	F	OR-Y OR<25		003,004	000	04
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		02	PSNG	INJB	20	F			000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NE-SE									000	00
																PSNGR CAR		03	PSNG	NO<5	01	F			000	000	00
02592	N	N	N			07/19/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L											02
NONE						FR		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NE-SE									000	00
						6P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	23	F	OR-Y OR<25		028	000	02
															02	NONE 0	STRGHT										
																PRVTE	SW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	00	M	OR-Y OR<25		000	000	00
03806	N	N	N			10/07/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											04,02
CITY						MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
						9P			04	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		000	000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R U S	S C L	W O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	TYPE	SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE									000		00
																		01	DRVR	NONE	48	M	OR-Y OR<25		003,028,004	000		04,02
04575 CITY	N	Y	N			11/25/2013 MO 7P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	UNK DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURGHT SW-NE									000 000		02 00 00
																		01	DRVR	NONE	34	M	OR-Y OR<25		000	000		00
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE									000		00
																		01	DRVR	INJC	26	M	OR-Y OR<25		028,004	000		02
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE									000		00
																		02	PSNG	INJC	42	F			000	000		00
04860 CITY	N	N	N			12/16/2013 MO 6P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	UNK DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE									000	013	02 00
																		01	DRVR	INJC	48	F	SUSP OR<25		028,004	000		02
															02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE									000	013	00
																		01	DRVR	INJC	33	M	OR-Y OR<25		000	000		00
															03	NONE 0 PRVTE PSNGR CAR	STOP NE-SW									022		00
																		01	DRVR	INJC	36	F	OR-Y OR<25		000	000		00
															03	NONE 0 PRVTE PSNGR CAR	STOP NE-SW									022		00
																		02	PSNG	INJC	36	M			000	000		00
															03	NONE 0 PRVTE PSNGR CAR	STOP NE-SW									022		00
																		03	PSNG	NO<5	02	M			000	000		00
															03	NONE 0 PRVTE PSNGR CAR	STOP NE-SW									022		00
																		04	PSNG	INJC	01	M			000	000		00
00805 NONE	N	N	N			02/24/2014 MO 11A	14	PACIFIC HY 99E 14TH ST	INTER CN 02	3-LEG 0	N TRF SIGNAL	N N	RAIN WET DAY	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-L SE-SW									000		04 00
																		01	DRVR	NONE	83	F	OR-Y OR<25		020	000		04
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE									000		00
																		01	DRVR	NONE	46	M	OR-Y OR<25		000	000		00
01313 CITY	N	N	N			04/05/2014 SA 4P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLD DRY DAY	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE									000		04 00
																		01	DRVR	NONE	35	F	N-VAL		040	000		04

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																								OR<25			
																02	NONE 0	TURN-L									
																	PRVTE	NE-SE								000	00
																	PSNGR CAR		01	DRVR	INJC	32	F	OR-Y		040	000	04
																								OR<25			
02244	N	N	N				06/11/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	BIKE	01	NONE 0	TURN-R									02
NONE							WE		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-SE								000	00
							6P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	59	M	OR-Y		027	000	02
																								OR<25			
																		-									
																		STRGHT	01	BIKE	INJB	48	M		I	INRD	000	000	00
																		SW NE									
03729	N	N	N				09/22/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT									02
NONE							MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE								000	00
							9A			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	42	F	OR-Y		000	000	00
																								OR<25			
																02	NONE 0	TURN-L									
																	PRVTE	NE-SE								000	00
																	PSNGR CAR		01	DRVR	NONE	00	M	UNK		028,004	000	02
																								UNK			
00042	N	N	N				01/05/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT									02
NO RPT							MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE								000	00
							11A			04	0		N	DAY	INJ		TRUCK		01	DRVR	NONE	21	M	OR-Y		000	000	00
																								OR>25			
																02	NONE 0	TURN-L									
																	PRVTE	NE-SE								000	00
																	PSNGR CAR		01	DRVR	INJB	65	F	OR-Y		028,004	000	02
																								OR<25			
02305	N	N	N				06/13/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L									02
NO RPT							SA		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NE-SE								000	00
							9A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	17	F	OR-Y		028	000	02
																								OR<25			
																02	NONE 0	STRGHT									
																	PRVTE	SW-NE								000	00
																	PSNGR CAR		01	DRVR	NONE	32	M	OR-Y		000	000	00
																								OR<25			

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
ANGLE	0	2	4	6	0	2	1	3	2	6	0	6	0	0
TURNING MOVEMENTS	0	2	1	3	0	2	0	3	0	3	0	3	0	0
YEAR 2015 TOTAL	**0**	**4**	**5**	**9**	**0**	**4**	**1**	**6**	**2**	**9**	**0**	**9**	**0**	**0**
YEAR: 2014														
ANGLE	0	2	4	6	0	3	0	6	0	4	2	6	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**2**	**5**	**7**	**0**	**3**	**0**	**6**	**1**	**5**	**2**	**7**	**0**	**0**
YEAR: 2013														
ANGLE	0	1	4	5	0	1	0	5	0	5	0	5	0	0
YEAR 2013 TOTAL	**0**	**1**	**4**	**5**	**0**	**1**	**0**	**5**	**0**	**5**	**0**	**5**	**0**	**0**
YEAR: 2012														
ANGLE	0	4	0	4	0	4	0	3	1	4	0	4	0	0
YEAR 2012 TOTAL	**0**	**4**	**0**	**4**	**0**	**4**	**0**	**3**	**1**	**4**	**0**	**4**	**0**	**0**
YEAR: 2011														
ANGLE	0	2	0	2	0	4	0	2	0	2	0	2	0	0
PEDESTRIAN	0	1	0	1	0	1	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	0	2	0	2	0	0
YEAR 2011 TOTAL	**0**	**4**	**1**	**5**	**0**	**6**	**0**	**3**	**1**	**4**	**1**	**5**	**0**	**0**

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

FINAL TOTAL	**0**	**15**	**15**	**30**	**0**	**18**	**1**	**23**	**5**	**27**	**3**	**30**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D / A L C	R S W U C O H R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
03788	N N N		10/10/2011	16	MAIN ST	INTER	CROSS	N	N	CLD	PED	01	NONE 0	STRGHT										02
CITY			MO	0	14TH ST	SW		FLASHBCN-A	N	WET	PED		PRVTE	SW-NE									000	00
			7P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	71	M	OR-Y OR<25		029	000	02
														- STRGHT SE NW	01	PED	INJC	53	M		I XWLK	000	035	00
02759	N N N N N		08/01/2011	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
CITY			MO	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		RENTL	NE-SW									000	00
			8A			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	61	M	OR-Y OR<25		021	026	03
												02	NONE 0	STRGHT										
													PRVTE	SE-NW									015	00
													MTRCYCLE		01	DRVR	INJB	25	F	OR-Y OR<25		000	000	00
03123	N N N N N		08/25/2011	17	MAIN ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
CITY			TH	0	14TH ST	CN		UNKNOWN	N	DRY	TURN		PRVTE	NE-SW									000	00
			10A			01	0		N	DAY	INJ		MTRCYCLE		01	DRVR	INJB	63	M	OR-Y OR<25		000	000	00
												02	NONE 0	TURN-L										
													PRVTE	SW-NW									000	00
													PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		028,004	000	02
03461	N N N		09/20/2011	16	MAIN ST	INTER	CROSS	N	N	UNK	S-OTHER	01	NONE 0	TURN-R										08
NONE			TU	0	14TH ST	CN		FLASHBCN-R	N	UNK	TURN		PRVTE	SW-SE									000	00
			6P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OTH-Y N-RES		006	000	08
												02	NONE 0	TURN-R										
													PRVTE	SW-SE									000	00
													PSNGR CAR		01	DRVR	NONE	47	M	OR-Y OR<25		000	000	00
04663	N N N		12/04/2011	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
NONE			SU	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NW-SE									000	00
			3P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	54	F	OR-Y OR>25		021	000	03
												01	NONE 0	STRGHT										
													PRVTE	NW-SE									000	00
													PSNGR CAR		02	PSNG	INJC	16	F			000	000	00
												01	NONE 0	STRGHT										
													PRVTE	NW-SE									000	00
													PSNGR CAR		03	PSNG	INJC	01	M			000	000	00
												02	NONE 0	STRGHT										
													PRVTE	NE-SW									000	00
													PSNGR CAR		01	DRVR	NONE	26	M	OR-Y OR<25		000	000	00
00830	N N N		03/05/2012	16	MAIN ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT			MO	0	14TH ST	CN		STOP SIGN	N	WET	ANGL		PRVTE	SW-NE									015	00
			9A			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	49	F	OR-Y		028	000	02

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	R U S	S C L	W O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SE-NW									000		00
																PSNGR CAR		01	DRVR	NONE	88	F	OR-Y		000	000		00
																							OR<25					
02622	N	N	N			07/19/2012	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						TH	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	SE-NW									000		00
						4P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	30	F	OR-Y		000	000		00
																							OR<25					
															01	NONE 0	STRGHT											
																PRVTE	SE-NW									000		00
																PSNGR CAR		02	PSNG	NO<5	04	F			000	000		00
															02	NONE 0	STRGHT											
																PRVTE	SW-NE									015		00
																PSNGR CAR		01	DRVR	INJC	67	F	OR-Y		028	000		02
																							OR<25					
02833	N	N	N	N	N	08/02/2012	16	MAIN ST	INTER	CROSS	N	N	CLR	BIKE													110	05,03
CITY						TH	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL			-											
						6P			01	0		N	DAY	INJ			STRGHT NE SW	01	BIKE	INJB	29	M		I	XWLK	039,021	000		05,03
															01	NONE 0	STRGHT											
																PRVTE	SE-NW									000	110	00
																PSNGR CAR		01	DRVR	NONE	58	M	OR-Y		000	000		00
																							OR<25					
03088	N	N	N			08/20/2012	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											03
CITY						MO	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NE-SW									000		00
						5P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	17	M	OR-Y		021	000		03
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SE-NW									000		00
																PSNGR CAR		01	DRVR	INJC	63	F	OR-Y		000	000		00
																							OR<25					
00573	N	N	N			02/19/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						TU	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NE-SW									000		00
						5P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	60	F	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	NW-SE									015		00
																PSNGR CAR		01	DRVR	NONE	41	M	OR-Y		028	000		02
																							OR<25					
00675	N	N	N			02/26/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											03
NONE						TU	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NW-SE									000		00
						8A			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	20	M	OR-Y		021	000		03
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									015		00
																PSNGR CAR		01	DRVR	NONE	56	F	OR-Y		000	000		00
																							OR<25					
01511	N	N	N	N	N	05/02/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
CITY						TH	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NE-SW									015		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D / A L C	R S W U C O H R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
			10A			03	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	58	F	OR-Y OR<25		028	000	02
												02	NONE 0	STRGHT										
													PRVTE	NW-SE									000	00
													PSNGR CAR		01	DRVR	INJC	40	M	OR-Y OR<25		000	000	00
02357	N N N N N		07/02/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
CITY			TU	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NE-SW									000	00
			8A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	24	F	OR-Y OR<25		021	000	03
												02	NONE 0	STRGHT										
													PRVTE	NW-SE									000	00
													PSNGR CAR		01	DRVR	NONE	67	F	OR-Y OR<25		000	000	00
03983	N N N		10/18/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
NONE			FR	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	SE-NW									000	00
			2P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	F	UNK OR<25		021	000	03
												02	NONE 0	STRGHT										
													PRVTE	NE-SW									015	00
													PSNGR CAR		01	DRVR	NONE	71	F	OR-Y OR<25		000	000	00
00647	N N N		02/13/2014	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NONE			TH	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	SW-NE									015	00
			1P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	41	F	OR-Y OR<25		028	000	02
												02	NONE 0	STRGHT										
													PRVTE	NW-SE									000	00
													PSNGR CAR		01	DRVR	NONE	00	F	UNK OR<25		000	000	00
00942	N N N		03/06/2014	16	MAIN ST	INTER	CROSS	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE			TH	0	14TH ST	CN		FLASHBCN-R	N	WET	TURN		PRVTE	SE-NW									000	00
			11A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	45	M	OR-Y OR<25		000	000	00
												02	NONE 0	TURN-L										
													PRVTE	NW-NE									000	00
													PSNGR CAR		01	DRVR	NONE	65	M	OR-Y OR<25		028,004	000	02
02048	N N N N N		05/29/2014	16	MAIN ST	INTER	CROSS	N	N	CLR	BIKE			-										110	03
CITY			TH	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL			STRGHT NE SW	01	BIKE	INJC	51	M		I INRD	021	034	03
			6A			03	0		N	DAWN	INJ													
												01	NONE 0	STRGHT										
													PRVTE	NE-SW									000	00
													PSNGR CAR		01	DRVR	NONE	65	F	OR-Y OR<25		000	000	00
02751	N N N		07/17/2014	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT			TH	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NW-SE									000	00
			4P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	30	M	OR-Y OR<25		000	000	00
												02	NONE 0	STRGHT										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	NE-SW									015	00
																PSNGR CAR		01	DRVR	NONE	40	M	OTH-Y N-RES		028	000	02
03506	N	N	N			09/08/2014		16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
NONE						MO	0		14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	SE-NW									000	00
						5P				02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	24	M	OR-Y OR<25		000	000	00
																02	NONE 0	STRGHT										
																	UNKN	SW-NE									000	00
																	PSNGR CAR		01	DRVR	NONE	00	F	UNK UNK		021	000	03
04665	N	N	N			11/17/2014		16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NONE						MO	0		14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NE-SW									015	00
						10A				01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	66	M	OR-Y OR<25		028	000	02
																02	NONE 0	STRGHT										
																	PRVTE	SE-NW									000	00
																	PSNGR CAR		01	DRVR	NONE	16	F	OR-Y OR<25		000	000	00
04069	N	N	N			10/13/2014		16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT						MO	0		14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NW-SE									000	00
						6P				04	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	INJB	20	M	OTH-Y OR<25		028	000	02
																01	NONE 0	STRGHT										
																	PRVTE	NW-SE									000	00
																	PSNGR CAR		02	PSNG	INJB	40	F			000	000	00
																02	NONE 0	STRGHT										
																	PRVTE	SW-NE									015	00
																	PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		000	000	00
00432	N	N	N			02/03/2015		16	MAIN ST	INTER	CROSS	N	N	UNK	ANGL-OTH	01	NONE 0	STRGHT										02
NONE						TU	0		14TH ST	CN		FLASHBCN-R	N	WET	ANGL		PRVTE	NW-SE									000	00
						11A				03	0		N	DAY	INJ		TRUCK		01	DRVR	NONE	38	M	OTH-Y N-RES		000	000	00
																02	NONE 0	STRGHT										
																	PRVTE	NE-SW									015	00
																	PSNGR CAR		01	DRVR	INJC	79	F	OR-Y OR<25		028	000	02
01732	N	N	N			05/08/2015		17	MAIN ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE						FR	0		14TH ST	CN		FLASHBCN-R	N	DRY	TURN		PRVTE	NW-SE									015	00
						6P				03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	40	M	OR-Y OR<25		000	000	00
																02	NONE 0	TURN-L										
																	PRVTE	SE-SW									015	00
																	PSNGR CAR		01	DRVR	NONE	65	M	OR-Y OR<25		028,004	000	02
03374	N	N	N			08/18/2015		17	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L										03
NONE						TU	0		14TH ST	CN		FLASHBCN-R	N	DRY	TURN		PRVTE	SW-NW									000	00
						5P				01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	55	M	OTH-Y N-RES		021	000	03

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CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															02	NONE 0	STRGHT									
																PRVTE	SE-NW								000	00
																PSNGR CAR		01	DRVR	NONE	23	M	OR-Y OR<25		000	000	00
05284	N	N	N			12/10/2015	17	MAIN ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT						TH	0	14TH ST	CN		FLASHBCN-R	N	WET	ANGL		PRVTE	NE-SW								015	00
						12P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	70	M	OR-Y OR<25		028	000	02
															02	NONE 0	STRGHT									
																PRVTE	NW-SE								000	00
																PSNGR CAR		01	DRVR	INJC	26	F	OR-Y OR<25		000	000	00
															02	NONE 0	STRGHT									
																PRVTE	NW-SE								000	00
																PSNGR CAR		02	PSNG	NO<5	01	F			000	000	00
01269	N	N	N			04/09/2015	17	MAIN ST	INTER	CROSS	N	N	FOG	ANGL-OTH	01	NONE 0	STRGHT										03
NONE						TH	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	SW-NE								000	00
						6A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	75	M	OR-Y OR<25		021	000	03
															02	NONE 0	STRGHT									
																PRVTE	NW-SE								000	00
																PSNGR CAR		01	DRVR	NONE	75	M	OR-Y OR<25		000	000	00
01276	N	N	N			04/09/2015	17	MAIN ST	INTER	CROSS	N	N	UNK	ANGL-OTH	01	NONE 0	STRGHT										03
NONE						TH	0	14TH ST	CN		FLASHBCN-R	N	UNK	ANGL		PRVTE	NW-SE								000	00
						1P			03	0		N	DAY	PDO		MTRCYCLE		01	DRVR	NONE	00	Unk	OR-Y OR<25		021	000	03
															02	NONE 0	STRGHT									
																PRVTE	NE-SW								000	00
																PSNGR CAR		01	DRVR	NONE	25	F	OR-Y OR<25		000	000	00
01437	N	N	N			04/22/2015	17	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NONE						WE	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NE-SW								000	00
						5P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	46	M	OR-Y OR<25		000	000	00
															02	NONE 0	STRGHT									
																PRVTE	NW-SE								015	00
																PSNGR CAR		01	DRVR	NONE	17	F	OR-Y OR<25		028	000	02
01862	N	N	N			05/16/2015	17	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT						SA	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NW-SE								000	00
						8A			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	68	M	OR-Y OR<25		000	000	00
															02	NONE 0	STRGHT									
																PRVTE	NE-SW								015	00
																PSNGR CAR		01	DRVR	NONE	36	F	OR-Y OR<25		028	000	02
04205	N	N	N			10/12/2015	17	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-R										02
NONE						MO	0	14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-SE								016	00
						1P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	27	M	OTH-Y		028	000	02

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A	U	R S L	W C H	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
																02	NONE 0	STRGHT						OR<25				
																	PRVTE	NW-SE									000	00
																	PSNGR CAR		01	DRVR	NONE	48	F	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 7TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2015 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2014														
ANGLE	0	1	2	3	0	1	0	2	1	3	0	3	0	0
REAR-END	0	1	0	1	0	1	0	1	0	0	1	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2014 TOTAL	**0**	**2**	**3**	**5**	**0**	**2**	**0**	**3**	**2**	**3**	**2**	**5**	**0**	**0**
YEAR: 2013														
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**
YEAR: 2012														
ANGLE	0	0	1	1	0	0	0	0	0	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2011														
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR 2011 TOTAL	**0**	**1**	**0**	**1**	**0**	**2**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**4**	**5**	**9**	**0**	**5**	**0**	**6**	**2**	**6**	**3**	**9**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 7TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 9

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01983	N	N	N			05/23/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
CITY						FR	0	7TH ST	SE		TRF SIGNAL	N	DRY	REAR		UNKN	SE-NW									000		00
						9P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		026	000		29
															02	NONE 0	STOP											
																PRVTE	SE-NW									011	013	00
																PSNGR CAR		01	DRVR	NONE	19	F	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	SE-NW									022		00
																PSNGR CAR		01	DRVR	INJC	38	F	OR-Y OR<25		000	000		00
01016	N	N	N			03/24/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						TH	0	7TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NW-SE									000		00
						3P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	33	M	OR-Y OR<25		000	000		00
															02	NONE 0	TURN-R											
																PRVTE	SW-SE									016		00
																PSNGR CAR		01	DRVR	INJC	51	F	OR-Y OR<25		028	000		02
															02	NONE 0	TURN-R											
																PRVTE	SW-SE									016		00
																PSNGR CAR		02	PSNG	INJC	16	F			000	000		00
01660	N	N	N			05/06/2012	16	WASHINGTON ST	INTER	CROSS	N	N	UNK	ANGL-OTH	01	NONE 0	STRGHT											04
NONE						SU	0	7TH ST	CN		TRF SIGNAL	N	UNK	ANGL		PRVTE	NE-SW									000		00
						11A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	69	F	OR-Y OR<25		097	000		00
															02	NONE 0	STRGHT											
																UNKN	NW-SE									000		00
																PSNGR CAR		01	DRVR	NONE	18	F	OR-Y UNK		097	000		00
03888	N	N	N			10/03/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NO RPT						TH	0	7TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NE-SW									000		00
						6A			01	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	INJC	42	M	OR-Y OR<25		000	000		00
															02	NONE 0	TURN-L											
																PRVTE	SW-NW									000		00
																PSNGR CAR		01	DRVR	NONE	65	F	OR-Y OR<25		028,004	000		02
00676	N	N	N			01/29/2014	16	WASHINGTON ST	INTER	CROSS	N	N	SNOW	ANGL-OTH	01	NONE 0	STRGHT											04
NONE						WE	0	7TH ST	CN		TRF SIGNAL	N	SNO	ANGL		PRVTE	NW-SE									000		00
						11A			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	50	M	OR-Y OR<25		000	000		00
															02	NONE 0	STRGHT											
																UNKN	SW-NE									000		00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		020	000		04
00681	N	N	N	N	N	02/15/2014	16	WASHINGTON ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											04
CITY						SA	0	7TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	NW-SE									000		00
						11P			04	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	27	F	OR-Y		020	000		04

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 7TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 9

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W S R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																								OR<25			
																02	NONE 0 / PRVTE / PSNGR CAR	TURN-L / NE-SE	01	DRVR	NONE	50	M	OR-Y		000	000	04 / 00 / 00
																								OR<25			
03089 / NONE	N	N	N				08/09/2014 / SA / 12P	16 / 0	WASHINGTON ST / 7TH ST	INTER / CN / 02	CROSS / 0	N / TRF SIGNAL	N / N	CLR / DRY / DAY	ANGL-OTH / ANGL / PDO	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT / SE-NW	01	DRVR	NONE	52	F	OR-Y		000	000	04 / 00 / 00
																								OR<25			
																02	NONE 0 / PRVTE / PSNGR CAR	STRGHT / SW-NE	01	DRVR	NONE	39	F	OTH-Y / N-RES		020	000	00 / 04
05148 / NONE	N	N	N				12/19/2014 / FR / 3P	16 / 0	WASHINGTON ST / 7TH ST	INTER / CN / 02	CROSS / 0	N / TRF SIGNAL	N / N	CLR / DRY / DAY	ANGL-OTH / ANGL / INJ	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT / SW-NE	01	DRVR	INJC	35	M	OR-Y		020	000	04 / 00 / 04
																								OR<25			
																02	NONE 0 / PRVTE / PSNGR CAR	STRGHT / SE-NW	01	DRVR	NONE	81	F	OR-Y		000	000	00 / 00
																								OR<25			
02086 / NO RPT	N	N	N				06/01/2015 / MO / 8A	16 / 0	WASHINGTON ST / 7TH ST	INTER / CN / 03	CROSS / 0	N / TRF SIGNAL	N / N	CLR / DRY / DAY	ANGL-OTH / TURN / PDO	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT / NE-SW	01	DRVR	NONE	76	F	OR-Y		020	000	04 / 00 / 04
																								OR<25			
																02	NONE 0 / PRVTE / PSNGR CAR	TURN-L / NW-NE	01	DRVR	NONE	25	F	OR-Y		000	000	00 / 00
																								OR<25			

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	2	0	2	0	2	0	2	0	2	0	2	0	0
YEAR 2015 TOTAL	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**
YEAR: 2014														
FIXED / OTHER OBJECT	0	0	1	1	0	0	1	1	0	0	1	1	0	1
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**1**	**2**	**0**	**1**	**1**	**2**	**0**	**1**
YEAR: 2013														
TURNING MOVEMENTS	0	1	1	2	0	5	0	1	1	0	2	2	0	0
YEAR 2013 TOTAL	**0**	**1**	**1**	**2**	**0**	**5**	**0**	**1**	**1**	**0**	**2**	**2**	**0**	**0**
YEAR: 2012														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	0	1	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**1**	**1**	**2**	**0**	**2**	**0**	**0**
YEAR: 2011														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2011 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**5**	**4**	**9**	**0**	**9**	**1**	**7**	**2**	**6**	**3**	**9**	**0**	**1**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 9

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02018	N	N	N			05/28/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLD	S-STRGHT	01	NONE 0	STRGHT											07
CITY						WE	0	14TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
						8A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	40	F	OR-Y		043,026	000		07
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									006		00
																PSNGR CAR		01	DRVR	INJC	47	M	OR-Y		000	000		00
																							OR<25					
00650	N	N	N	N	N	02/13/2014	16	WASHINGTON ST	INTER	CROSS	N	Y	CLD	FIX OBJ	01	NONE 1	TURN-R										055	08
CITY						TH	0	14TH ST	W		TRF SIGNAL	N	DRY	FIX		PRVTE	NW-SW									000	055	00
						6P			06	0		N	DARK	PDO		SEMI TOW		01	DRVR	NONE	22	M	OR-Y		002	000		08
																							OR<25					
02972	N	N	N			07/23/2015	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						TH	0	14TH ST	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	39	F	OR-Y		026	000		29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	INJC	57	F	OR-Y		000	000		00
																							OR<25					
04634	N	N	N			11/06/2015	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR	0	14TH ST	NW		TRF SIGNAL	N	DRY	REAR		UNKN	NW-SE									000		00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK		026	000		29
																							UNK					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	INJC	58	F	OR-Y		000	000		00
																							OR<25					
03563	N	N	N			09/22/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NONE						TH	0	14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NE-SW									000		00
						5P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	53	F	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	SW-NW									000		00
																PSNGR CAR		01	DRVR	NONE	26	F	OR-Y		004,028	000		02
																							OR<25					
00866	N	N	N			03/06/2012	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
NONE						TU	0	14TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	SE-NW									000		00
						9A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	84	M	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		01	DRVR	NONE	44	F	OR-Y		020	000		04
																							OR<25					
00960	N	N	N	N	N	03/14/2012	17	WASHINGTON ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											02
CITY						WE	0	14TH ST	CN		STOP SIGN	N	WET	TURN		PRVTE	NW-SE									015		00
						4P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	39	F	OR-Y		028	000		02
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 9

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	38	M	OR-Y OR<25		000	000	00
00349	N	N	N	N	N	01/29/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT										02,14
CITY						TU	0	14TH ST	CN		L-GRN-SIG	N	WET	TURN		PRVTE	NE-SW									000	00
						6P			01	0		N	DARK	INJ		OTH BUS		01	DRVR	NONE	52	M	OR-Y OR<25		000	000	00
															01	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																OTH BUS		02	PSNG	INJC	59	F			000	000	00
															01	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																OTH BUS		03	PSNG	INJC	44	F			000	000	00
															01	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																OTH BUS		04	PSNG	INJC	19	F			000	000	00
															01	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																OTH BUS		05	PSNG	INJC	33	M			000	000	00
															02	NONE 0	TURN-L										
																PRVTE	SW-NW									000	00
																PSNGR CAR		01	DRVR	INJB	24	F	OR-Y OR<25		028,004	000	02,14
04816	N	N	N	N	N	12/13/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										02
CITY						FR	0	14TH ST	CN		TRF SIGNAL	N	DRY	TURN		UNKN	SE-SW									000	00
						5P			03	0		N	DLIT	PDO		MTRCYCLE		01	DRVR	NONE	00	Unk	UNK UNK		028	000	02
															02	NONE 0	STRGHT										
																PRVTE	NW-SE									000	00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	1	1	2	0	0
YEAR 2015 TOTAL	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**0**
YEAR: 2014														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	2	3	0	1	0	2	1	2	1	3	0	0
YEAR 2014 TOTAL	**0**	**1**	**3**	**4**	**0**	**1**	**0**	**3**	**1**	**3**	**1**	**4**	**0**	**0**
YEAR: 2013														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**
YEAR: 2012														
ANGLE	0	1	1	2	0	2	0	1	1	1	1	2	0	0
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	2	3	0	1	0	3	0	3	0	3	0	0
YEAR 2012 TOTAL	**0**	**3**	**3**	**6**	**0**	**4**	**0**	**5**	**1**	**5**	**1**	**6**	**0**	**0**
YEAR: 2011														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	2	0	2	0	2	0	2	0	2	0	2	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	1	1	2	0	2	0	2	0	1	1	2	0	0
YEAR 2011 TOTAL	**0**	**3**	**2**	**5**	**0**	**4**	**0**	**5**	**0**	**4**	**1**	**5**	**0**	**0**
FINAL TOTAL	**0**	**11**	**9**	**20**	**0**	**13**	**0**	**17**	**3**	**16**	**4**	**20**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	R U S	S W C L	O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01896	N	N	N			05/23/2012	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						WE	0	15TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
						5P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	35	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	INJC	48	M	OR-Y OR<25		000	000		00
00020	N	N	N			01/03/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NO RPT						MO	0	15TH ST	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		026	000		07
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	INJC	53	M	OR-Y OR<25		000	000		00
02978	N	N	N			08/12/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
NONE						FR	0	15TH ST	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		026	000		07
															02	NONE 0	STOP											
																PRVTE	NW-SE									011	013	00
																PSNGR CAR		01	DRVR	INJC	34	F	OR-Y OR<25		000	000		00
															03	UNKN 0	STOP											
																UNKN	NW-SE									022		00
																UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
00548	Y	N	N			02/07/2014	16	WASHINGTON ST	INTER	CROSS	N	N	SNOW	ANGL-STP	01	NONE 0	TURN-R										124	01,08
NONE						FR	0	15TH ST	NW		TRF SIGNAL	N	SNO	TURN		PRVTE	NE-NW									000	124	00
						3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		047,001	000		01,08
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		000	000		00
01851	N	N	N	N	N	05/27/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT											02
CITY						FR	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW									000		00
						10P			02	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	30	F	OTH-Y N-RES		000	000		00
															02	NONE 0	TURN-L											
																PRVTE	NW-NE									000		00
																PSNGR CAR		01	DRVR	NONE	16	M	OR-Y OR<25		004,028	000		02
02174	Y	N	N	N	N	06/19/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-STP	01	NONE 0	TURN-R											32,01
CITY						SU	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NE									001		00
						12P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		052,043	017		32,01
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		01	DRVR	INJC	46	F	OR-Y		000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		02	PSNG	INJC	18	F			000	000		00
02178	N	N	N			06/19/2011		16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
NO RPT						SU	0		15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	SE-NW								000		00
						3P				02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	70	F	OR-Y		097	000		00
																							OR>25					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		01	DRVR	NONE	48	M	OR-Y		097	000		00
																							OR<25					
01121	N	N	N			03/24/2012		17	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						SA	0		15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE								000		00
						2P				02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	64	F	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	TURN-R											
																PRVTE	SE-NE									016		00
																PSNGR CAR		01	DRVR	NONE	49	M	OR-Y		028	000		02
																							OR<25					
01703	N	N	N	N	N	05/12/2012		16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
CITY						SA	0		15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	SE-NW								000		00
						9A				02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	52	M	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		01	DRVR	NONE	62	M	OR-Y		020	000		04
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		02	PSNG	INJC	60	F			000	000		00
01797	N	N	N			05/16/2012		17	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										013	02
NONE						WE	0		15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NW-NE								000		00
						4P				02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	46	F	OR-Y		028	000		02
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SE-NW									000	013	00
																PSNGR CAR		01	DRVR	NONE	30	F	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	TURN-R											
																PRVTE	NE-NW									022		00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																							UNK					
02541	N	N	N			07/13/2012		16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NO RPT						FR	0		15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW								000		00
						2P				02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	18	M	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	NW-NE									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	D R S L	S W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	16	F	OR-Y OR<25		028,004	000		02
04903	N	N	N			12/16/2012	16	WASHINGTON ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											04
NO RPT						SU	0	15TH ST	CN		TRF SIGNAL	N	WET	ANGL		PRVTE	SE-NW									000		00
						9P			01	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	32	M	OR-Y OR<25		020	000		04
															01	NONE 0	STRGHT											
																PRVTE	SE-NW									000		00
																PSNGR CAR		02	PSNG	NO<5	02	F			000	000		00
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		000	000		00
03443	N	N	N	N	N	09/16/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLD	BIKE	01	NONE 0	TURN-L										084	02
CITY						MO	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NW-NE									000		00
						6P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	39	M	OR-Y OR<25		027	000	084	02
																-												
																STRGHT		01	BIKE	INJC	45	M		I	INRD	000	035		00
																SE NW												
03476	N	N	N	N	N	09/18/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
CITY						WE	0	15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	NE-SW									000		00
						12P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	23	F	OR-Y OR<25		020	000		04
															02	NONE 0	STRGHT											
																PRVTE	NW-SE									000		00
																PSNGR CAR		01	DRVR	NONE	66	F	OR-Y OR<25		000	000		00
01340	N	N	N	N	N	04/07/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NONE						MO	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW									000		00
						9P			02	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	39	M	OR-Y OR<25		000	000		00
															02	NONE 0	TURN-L											
																PRVTE	NW-NE									000		00
																PSNGR CAR		01	DRVR	INJC	22	F	OR-Y OR>25		028,004	000		02
02043	N	N	N			05/28/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
NONE						WE	0	15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	NE-SW									000		00
						2P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y OR<25		020	000		04
															02	NONE 0	STRGHT											
																PRVTE	SE-NW									000		00
																PSNGR CAR		01	DRVR	NONE	62	M	OR-Y OR<25		000	000		00
02753	N	N	N			07/17/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NO RPT						TH	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW									000		00
						4P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	59	F	OR-Y OR<25		000	000		00
															02	NONE 1	TURN-L											

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	NW-NE									00
																PSNGR CAR		01	DRVR	NONE	40	M	OR-Y OR<25		028,004	000	02
00711	N	N	N			02/23/2015	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NO RPT						MO	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW									000	00
						8P			02	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	39	F	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	16	M	OR-Y OR<25		028,004	000	02
04626	N	N	N			11/06/2015	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
NONE						FR	0	15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	NE-SW									000	00
						9A			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	38	M	OTH-Y N-RES		000	000	00
															02	NONE 0	STRGHT										
																PRVTE	SE-NW									000	00
																PSNGR CAR		01	DRVR	NONE	20	F	OR-Y OR<25		020	000	04
03528	N	N	N			08/29/2015	16	WASHINGTON ST	INTER	CROSS	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE						SA	0	15TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SE-NW									000	00
						9A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	54	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	37	M	OR-Y OR<25		028,004	000	02

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at ABERNATHY RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
FINAL TOTAL														

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 17TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
FINAL TOTAL														

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at PRAIRIE SCHOONER WY, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
YEAR 2015 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**
YEAR: 2014														
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**
YEAR: 2013														
TURNING MOVEMENTS	0	1	0	1	0	1	0	0	1	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**
FINAL TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**1**	**2**	**1**	**2**	**3**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at PRAIRIE SCHOONER WY, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 3

SER# / INVEST	SPEED	ALCHL	DRUGS	WORK ZONE	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES / EX	PED LOC	ERROR	ACT EVENT	CAUSE
04785	N	N	N		12/12/2013	16	PRAIRIE SCHOONER WY	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE					TH	0	WASHINGTON ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE								000	00
					5P			02	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	INJB	20	F	OR-Y		000	000	00
																							OR<25				
														02	NONE 0	TURN-L										
															PRVTE	NE-SE									000	00
															PSNGR CAR		01	DRVR	NONE	61	M	OR-Y		028,004	000	02
																							OR<25				
03741	N	N	N		09/23/2014	16	PRAIRIE SCHOONER WY	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										08,02
NONE					TU	0	WASHINGTON ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE								000	00
					6P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK		000	000	00
																							UNK				
														02	NONE 0	TURN-L										
															PRVTE	NE-SE									000	00
															PSNGR CAR		01	DRVR	NONE	36	M	OR-Y		028,004	000	02
																							OR<25				
05332	N	N	N		12/12/2015	16	PRAIRIE SCHOONER WY	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE					SA	0	WASHINGTON ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE								000	00
					10P			04	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	25	M	OTH-Y		000	000	00
																							OR<25				
														02	NONE 0	TURN-L										
															PRVTE	NE-SE									000	00
															PSNGR CAR		01	DRVR	NONE	63	M	OR-Y		028,004	000	02
																							N-RES				

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at CLACKAMAS RIVER DR, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2015 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**
YEAR: 2014														
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2014 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**
FINAL TOTAL	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**2**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CLACKAMAS RIVER DR, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 2

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
05157	N	N	N			12/04/2015	16	CLACKAMAS RIVER DR	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										004	29
NONE						FR	0	WASHINGTON ST	NE		YIELD	Y	WET	REAR		PRVTE	NE-SW									000		00
						7A			06	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	34	M	OR-Y OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	NE-SW									011	004	00
																PSNGR CAR		01	DRVR	NONE	32	F	OR-Y OR<25		000	000		00
00131	N	N	N			01/10/2014	16	CLACKAMAS RIVER DR	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-R											02
NONE						FR	0	WASHINGTON ST	CN		YIELD	Y	WET	TURN		PRVTE	SE-NE									000		00
						6A			04	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	70	M	OR-Y OR<25		028	000		02
															02	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		01	DRVR	NONE	24	M	OR-Y OR<25		000	000		00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2012														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	2	4	6	0	3	0	4	1	5	1	6	0	0
SIDESWIPE - OVERTAKING	0	1	0	1	0	1	0	0	1	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**3**	**5**	**8**	**0**	**4**	**0**	**5**	**2**	**7**	**1**	**8**	**0**	**0**
YEAR: 2011														
ANGLE	0	0	1	1	0	0	0	0	1	1	0	1	0	0
REAR-END	0	3	3	6	0	6	0	4	1	4	2	6	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2011 TOTAL	**0**	**3**	**5**	**8**	**0**	**6**	**0**	**5**	**2**	**6**	**2**	**8**	**0**	**0**
FINAL TOTAL	**0**	**6**	**10**	**16**	**0**	**10**	**0**	**10**	**4**	**13**	**3**	**16**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 16

SER# / INVEST	SPEC	ALC	DRUG	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
04848	N	N	N			12/16/2011	14	CASCADE HY SOUTH	INTER	CROSS	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											07
NONE						FR		WASHINGTON ST	UN		TRF SIGNAL	N	UNK	REAR		PRVTE	UN-UN									000		00
						5P			06	1		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	UN-UN									011		00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		000	000		00
81700	N	N	N			02/16/2012	14	CASCADE HY SOUTH	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											013	07
NONE						TH		WASHINGTON ST	N		TRF SIGNAL	N	WET	REAR		UNKN	N -S									000		00
						10A			06	1		N	DAY	PDO		UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		026	000		07
															02	NONE 0	STOP											
																PRVTE	N -S									011	013	00
																PSNGR CAR		01	DRVR	NONE	74	M	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																UNKN	N -S									022		00
																UNKNOWN		01	DRVR	NONE	00	F	UNK UNK		000	000		00
01339	N	N	N			04/20/2011	14	CASCADE HY SOUTH	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE						WE		WASHINGTON ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						11A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	INJC	24	F	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		02	PSNG	INJC	25	F			000	000		00
01822	N	N	N			05/13/2011	14	CASCADE HY SOUTH	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE						FR		WASHINGTON ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OTH-Y N-RES		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	NONE	26	F	OR-Y OR>25		000	000		00
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		02	PSNG	NO<5	01	M			000	000		00
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		03	PSNG	NO<5	04	F			000	000		00
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		04	PSNG	NO<5	02	F			000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 16

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
															02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	05	PSNG	NO<5	03	F			000	011 000		00 00
01563 NONE	N	N	N			05/06/2011 FR 6P	14	CASCADE HY SOUTH WASHINGTON ST	INTER SW 06	CROSS 1	N TRF SIGNAL	N N	RAIN WET DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	43	M	OR-Y OR<25		026	000 000		07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP SW-NE	01	DRVR	NONE	63	M	OR-Y OR<25		000	011 000		00 00
00651 NO RPT	N	N	N			02/19/2012 SU 4P	14	CASCADE HY SOUTH WASHINGTON ST	INTER SW 06	CROSS 1	N TRF SIGNAL	N N	CLR UNK DUSK	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	49	F	OR-Y OR<25		026	000 000		07 00 07
															02	NONE 0 UNKN PSNGR CAR	STOP SW-NE	01	DRVR	NONE	00	F	UNK UNK		000	011 000		00 00
03589 NONE	N	N	N			09/29/2011 TH 12P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	19	M	OR-Y OR>25		026	000 000		07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	44	F	OR-Y OR<25		000	011 000		00 00
04398 CITY	N	Y	N	Y		11/19/2011 SA 10P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	CLD DRY DLIT	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	45	F	SUSP OR<25		026	000 000	013	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	30	M	OR-Y OR<25		000	011 000	013	00 00
															03	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	64	F	OR-Y OR<25		000	022 000		00 00
															03	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	02	PSNG	INJC	33	M			000	022 000		00 00
00612 NONE	N	N	N	Y		02/17/2012 FR 12P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	RAIN WET DAY	S-STRGHT SS-O INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	INJC	59	F	OR-Y OR<25		045	000 000		13 00 13
															02	NONE 0 PRVTE	STRGHT NW-SE									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 16

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC	INJ	AGE	SEX	LICNS / RES / EXT	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	00	M	UNK OR<25		000	000	00
01212 NONE	N	N	N			03/31/2012 SA 2P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	00	M	UNK OR>25		026	000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	NONE	73	F	OR-Y OR<25		000	011 000	00 00
01295 NONE	N	N	N			04/07/2012 SA 4P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 UNKN PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	00	M	OR-Y UNK		026	000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	NONE	50	M	OR-Y OR<25		000	011 000	00 00
02387 NONE	N	N	N			07/03/2012 TU 11A	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	CLD DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	75	F	OR-Y OR<25		026	000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	23	F	OR-Y OR<25		000	012 000	00 00
03599 NO RPT	N	N	N			09/28/2012 FR 1P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	57	M	OR-Y OR<25		026	000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	21	M	OR-Y OR<25		000	011 000	00 00
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	02	PSNG	INJC	60	F			000	011 000	00 00
01864 NONE	N	N	N			05/28/2011 SA 6P	14	CASCADE HY SOUTH WASHINGTON ST	INTER CN 04	CROSS 0	N TRF SIGNAL	N N	RAIN WET DAY	ANGL-OTH ANGL PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	35	M	OR-Y OR>25		020	000 000	04 00 04
															02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	34	F	OTH-Y N-RES		000	000 000	00 00
03019 CITY	N	N	N	N	Y	08/19/2011 FR 12P	14	CASCADE HY SOUTH WASHINGTON ST	INTER CN 01	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	S-OTHER TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-R NW-SW	01	DRVR	NONE	61	M	OTH-Y N-RES		034	031 000	06 00 06
															02	NONE 0	TURN-R										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 16

SER# / INVEST	S P E D / A L C	R U G	S C H	W O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															PRVTE	NW-SW									000	00
															PSNGR CAR		01	DRVR	NONE	44	M	OR-Y		001	000	00
																						OR>25				
03865	N	N	N		10/16/2012	14	CASCADE HY SOUTH	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NONE					TU		WASHINGTON ST	CN		TRF SIGNAL	N	DRY	ANGL		UNKN	W -E									000	00
					4P			03	1		N	DAY	PDO		UNKNOWN		01	DRVR	NONE	00	Unk	UNK		028	000	02
																						UNK				
														02	NONE 0	STRGHT										
															PRVTE	N -S									000	00
															PSNGR CAR		01	DRVR	NONE	73	F	OR-Y		000	000	00
																						OR<25				

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	0	1	1	0	1
REAR-END	0	4	0	4	0	7	0	4	0	4	0	4	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	1	1	0	1	0	1	0	0
YEAR 2015 TOTAL	**0**	**4**	**2**	**6**	**0**	**7**	**1**	**6**	**0**	**5**	**1**	**6**	**0**	**1**
YEAR: 2014														
ANGLE	0	0	1	1	0	0	0	0	0	1	0	1	0	0
MISCELLANEOUS	0	1	0	1	0	1	0	1	0	0	0	1	0	0
REAR-END	0	2	0	2	0	3	0	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**4**	**1**	**5**	**0**	**6**	**0**	**4**	**0**	**4**	**0**	**5**	**0**	**0**
YEAR: 2013														
MISCELLANEOUS	0	1	0	1	0	2	0	1	0	0	1	1	0	0
REAR-END	0	1	1	2	0	1	0	1	1	2	0	2	0	0
SIDESWIPE - OVERTAKING	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**3**	**1**	**4**	**0**	**4**	**0**	**3**	**1**	**3**	**1**	**4**	**0**	**0**
YEAR: 2012														
BACKING	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	2	0	2	0	2	0	2	0	2	0	2	0	0
YEAR 2012 TOTAL	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**3**	**0**	**3**	**0**	**3**	**0**	**0**
FINAL TOTAL	**0**	**13**	**5**	**18**	**0**	**19**	**1**	**16**	**1**	**15**	**2**	**18**	**0**	**1**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 18

SER# / INVEST	SPEC	ALC	DRUG	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
00824	Y	N	N	N	N	03/10/2013	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLD	OVERTURN	01	NONE 0	TURN-R						OR-Y		047,051		33,01
CITY						SU		CASCADE HY SOUTH	NE		TRF SIGNAL	N	DRY	OTH		PRVTE	SE-NE									000	00
						3A			05	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	21	F	OR<25			000	33,01
															01	NONE 0	TURN-R										
																PRVTE	SE-NE									000	00
																PSNGR CAR		02	PSNG	INJC	24	F			000	000	00
02192	N	N	N			06/18/2012	16	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	O-1STOP	01	NONE 0	BACK										10
NO RPT						MO	0	CASCADE HY SOUTH	NE		L-GRN-SIG	N	DRY	BACK		PRVTE	SW-NE									000	00
						9A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	58	M	OR-Y		011	000	10
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	NE-SW									011	00
																PSNGR CAR		01	DRVR	NONE	60	F	OR-Y		000	000	00
																							OR<25				
00300	N	N	N			01/25/2013	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE						FR		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000	00
						3P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	23	M	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																MOTRHOME		01	DRVR	INJC	55	F	OR-Y		000	000	00
																							OR<25				
02119	N	N	N			06/02/2014	14	CLACKAMAS RIVER DR	INTER		N	N	CLR	OVERTURN	01	NONE 0	STRGHT										10
NONE						MO		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	OTH		PRVTE	S -N									007	00
						6A			06	0		N	UNK	INJ		PSNGR CAR		01	DRVR	INJB	48	M	OR-Y		083	000	10
																							OR<25				
00563	N	N	N			02/13/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						FR		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000	00
						8A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	18	F	OTH-Y		026	000	29
																							N-RES				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	33	F	OR-Y		000	000	00
																							OR<25				
00636	N	N	N			02/18/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						WE		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	REAR		UNKN	SE-NW									000	00
						8A			06	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK		026	000	29
																							UNK				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	16	M	OR-Y		000	000	00
																							OR<25				
05141	N	N	N			12/04/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						FR		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000	00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	28	F	OR-Y		026	000	29
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 18

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC / INJ / SVRTY	A G E	S E X	LICNS / PED / LOC	ERROR	ACT	EVENT	CAUSE
																PSNGR CAR		01	DRVR INJC	41	F	OR-Y OR<25		000		00
															02	NONE 0	STOP									
																PRVTE	SE-NW							011		00
																PSNGR CAR		02	PSNG INJC	33	F		000	000		00
01484	N	N	N			04/22/2012	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
NONE						SU		CASCADE HY SOUTH	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N							000		00
						4P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR NONE	00	M	OR-Y OR<25	026	000		07
															02	NONE 0	STOP									
																PRVTE	S -N							011		00
																PSNGR CAR		01	DRVR NONE	63	F	OR-Y OR<25	000	000		00
															02	NONE 0	STOP									
																PRVTE	S -N							011		00
																PSNGR CAR		02	PSNG INJC	72	F		000	000		00
01672	N	N	N	N	N	05/15/2013	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT									013	07
CITY						WE		CASCADE HY SOUTH	NW		TRF SIGNAL	N	WET	REAR		PRVTE	NW-SE							000		00
						3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR NONE	18	F	OR-Y OR<25	026	000		07
															02	NONE 0	STOP									
																PRVTE	NW-SE							011	013	00
																PSNGR CAR		01	DRVR NONE	24	F	OR-Y OR<25	000	000		00
															03	NONE 0	STOP									
																PRVTE	NW-SE							022		00
																PSNGR CAR		01	DRVR NONE	30	M	OR-Y OR<25	000	000		00
02081	N	N	N	N	N	06/12/2013	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT									13
COUNTY						WE		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	SS-O		PRVTE	NW-SE							000		00
						10A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR NONE	50	M	OR-Y OR<25	045	000		13
															02	NONE 0	STOP									
																PRVTE	NW-SE							011		00
																PSNGR CAR		01	DRVR INJC	42	F	OR-Y OR<25	000	000		00
02995	N	N	N			08/05/2014	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									013	29
NONE						TU		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	REAR		UNKN	NW-SE							000		00
						7P			06	0		N	DAY	INJ		UNKNOWN		01	DRVR NONE	00	F	OTH-Y UNK	026	000		29
															02	NONE 0	STOP									
																PRVTE	NW-SE							011	013	00
																PSNGR CAR		01	DRVR INJC	31	F	OR-Y OR<25	000	000		00
															02	NONE 0	STOP									
																PRVTE	NW-SE							011	013	00
																PSNGR CAR		02	PSNG INJC	42	M		000	000		00
															03	NONE 0	STOP									

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 18

SER# / INVEST	S P E D	A L C	R U S	S C L	W O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																PRVTE	NW-SE									022		00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y		000	000		00
																							UNK					
03780	N	N	N			09/25/2014	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						TH		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						2P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	71	M	OR-Y		026	000		29
																							OR>25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	INJC	19	F	OR-Y		000	000		00
																							OR<25					
00541	N	N	N			02/11/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
NO RPT						WE		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	52	M	OR-Y		026	000		29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011	013	00
																PSNGR CAR		01	DRVR	INJB	20	M	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	STOP											
																PRVTE	NW-SE									022	013	00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y		000	000		00
																							OR<25					
															04	NONE 1	STOP											
																PRVTE	NW-SE									022		00
																PSNGR CAR		01	DRVR	INJC	29	M	OTH-Y		000	000		00
																							OR<25					
															04	NONE 1	STOP											
																PRVTE	NW-SE									022		00
																PSNGR CAR		02	PSNG	INJC	56	M			000	000		00
03836	N	N	N			09/19/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	Y	CLR	FIX OBJ	01	NONE 0	TURN-L										043	02,05,08
COUNTY						SA		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	FIX		PRVTE	NW-NE									000	043	00
						2A			05	2		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	48	M	UNK		073,039,002	000		02,05,08
																							N-RES					
04280	N	N	N			11/13/2012	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											26,07
NONE						TU		CASCADE HY SOUTH	CN		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
						7A			04	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	19	M	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	INJC	21	M	OR-Y		000	000		26
																							OR<25					
02997	N	N	N			08/05/2014	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L											04
NONE						TU		CASCADE HY SOUTH	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NW-NE									000		00
						11A			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	68	F	OTH-Y		003	000		04
																							N-RES					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		01	DRVR	INJB	29	F	OR-Y		000	000		00
																							OR<25					

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Total crash records: 18

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															02	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	02	PSNG	INJB	05	M			000	000 000	00 00
03266 NO RPT	N	N	N			08/22/2014 FR 7A	14	CLACKAMAS RIVER DR CASCADE HY SOUTH	INTER CN 01	CROSS 0	N TRF SIGNAL	N N N	UNK UNK DAY	ANGL-OTH ANGL PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT UN-UN	01	DRVR	NONE	44	F	OR-Y OR<25		000	000 000	16,04 00 00
															02	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	23	M	UNK OR>25		020	000 025	00 16,04
02654 NONE	N	N	N			07/01/2015 WE 10A	14	CLACKAMAS RIVER DR CASCADE HY SOUTH	INTER CN 01	CROSS 0	N TRF SIGNAL	N N N	CLR DRY DAY	S-1TURN TURN PDO	01	NONE 0 PRVTE TRUCK	TURN-R N -W	01	DRVR	NONE	00	M	OR-Y OR<25		006	000 000	08 00 08
															02	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	NONE	71	F	OR-Y OR<25		000	000 000	00 00

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Left-Turn Lane Warrant Analysis

Project: 17014 - Abernethy Place
Intersection: 14th Street at Main Street
Date: 4/11/2017
Scenario: Existing Conditions - AM Peak Hour (NEB)

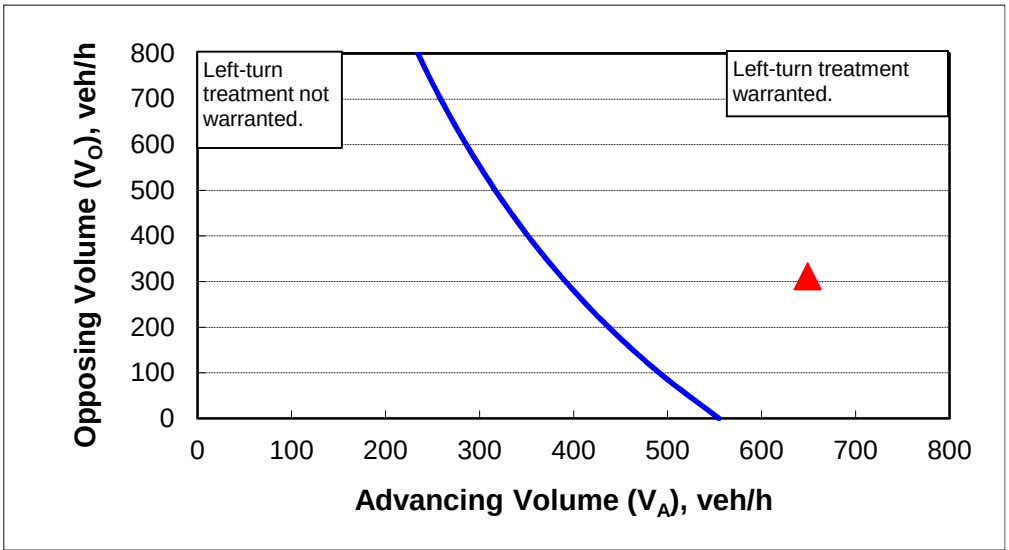
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	20
Percent of left-turns in advancing volume (V_A), %:	18%
Advancing volume (V_A), veh/h:	649
Opposing volume (V_O), veh/h:	311

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	387
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 17014 - Abernethy Place
Intersection: 14th Street at Main Street
Date: 4/11/2017
Scenario: Existing Conditions - PM Peak Hour (NEB)

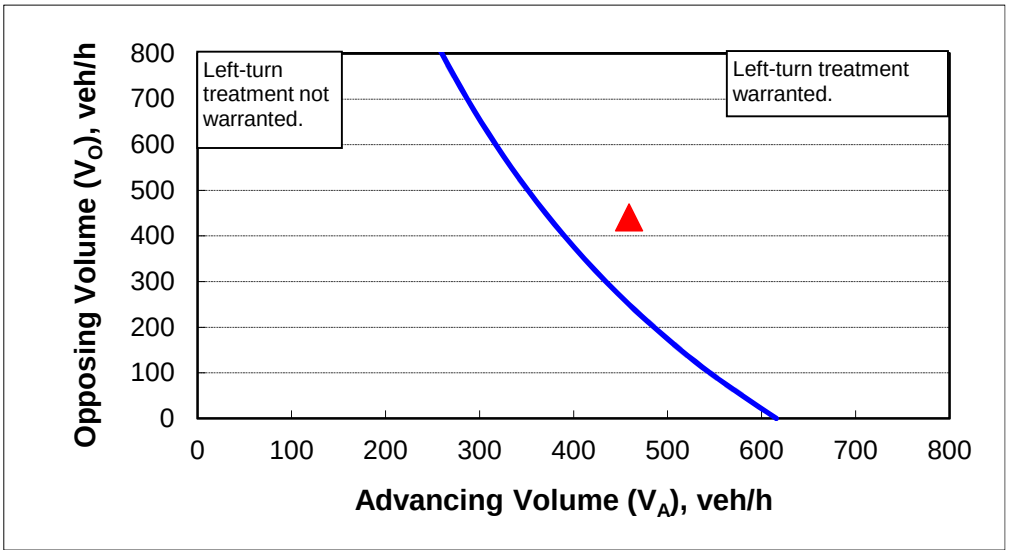
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	20
Percent of left-turns in advancing volume (V_A), %:	14%
Advancing volume (V_A), veh/h:	459
Opposing volume (V_O), veh/h:	440

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	374
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 17014 - Abernethy Place
Intersection: Site Access at Washington Street
Date: 4/11/2017
Scenario: 2022 Background plus Site Conditions - AM Peak Hour

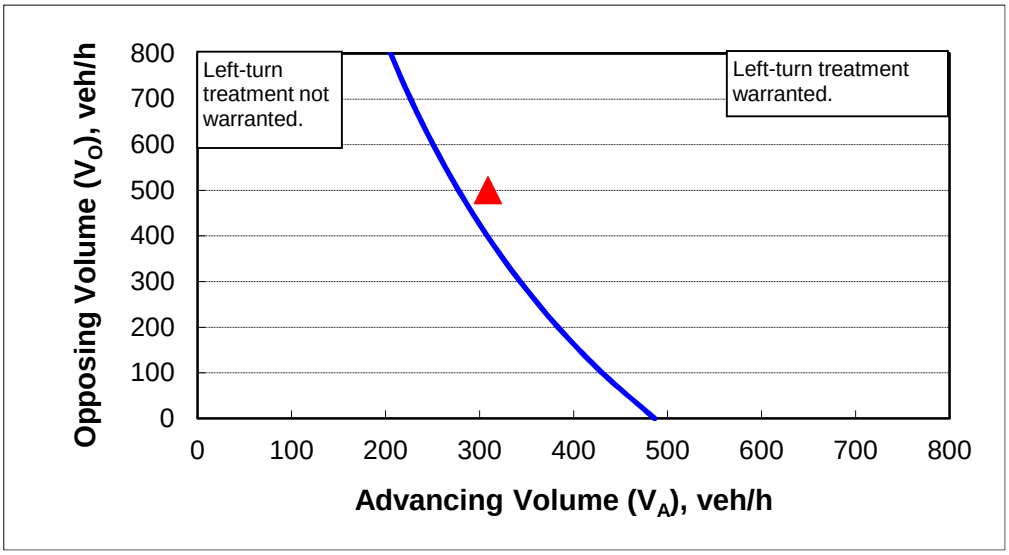
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	35
Percent of left-turns in advancing volume (V_A), %:	17%
Advancing volume (V_A), veh/h:	309
Opposing volume (V_O), veh/h:	500

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	278
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 17014 - Abernethy Place
Intersection: Site Access at Washington Street
Date: 4/11/2017
Scenario: 2022 Background plus Site Conditions - PM Peak Hour

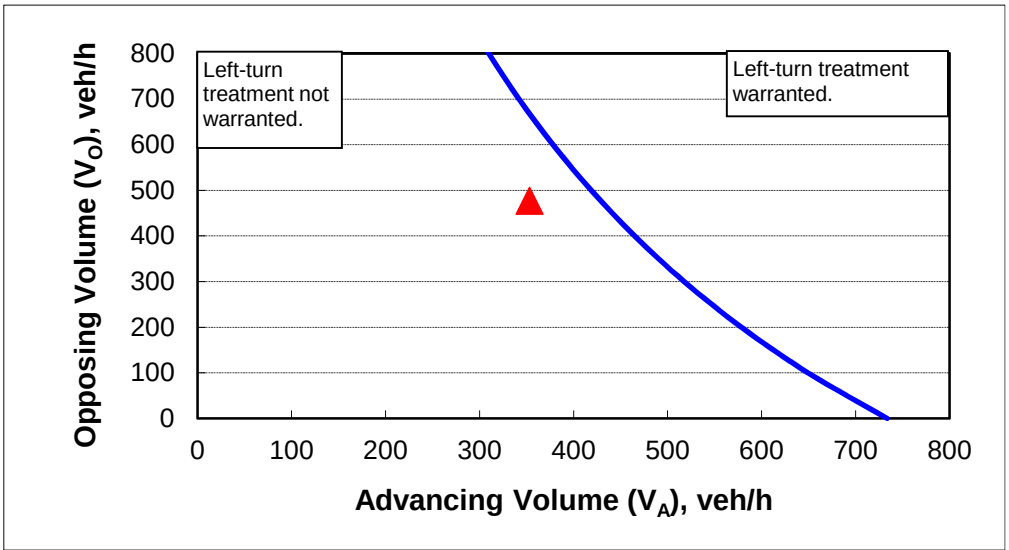
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	35
Percent of left-turns in advancing volume (V_A), %:	7%
Advancing volume (V_A), veh/h:	353
Opposing volume (V_O), veh/h:	477

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	429
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Traffic Signal Warrant Analysis

Project: 17014 - Abernethy Place
Date: 4/11/2017
Scenario: Year 2022 Background plus Site Conditions

Major Street:	OR-99E	Minor Street:	15th Street
Number of Lanes:	2	Number of Lanes:	1
PM Peak Hour Volumes:	3998	PM Peak Hour Volumes:	0

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	39,980	10,600	
Minor Street*	0	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	39,980	15,900	
Minor Street*	0	1,350	**No**
Combination Warrant			
Major Street	39,980	12,720	
Minor Street*	0	2,120	**No**

* Minor street right-turning traffic volumes reduced by 85% of the right-turn capacity.

Traffic Signal Warrant Analysis

Project: 17014 - Abernethy Place
Date: 4/11/2017
Scenario: Year 2022 Background plus Site Conditions

Major Street:	Main Street	Minor Street:	14th Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	1015	PM Peak Hour Volumes:	165

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	10,150	8,850	
Minor Street*	1,650	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	10,150	13,300	
Minor Street*	1,650	1,350	**No**
Combination Warrant			
Major Street	10,150	10,640	
Minor Street*	1,650	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Traffic Signal Warrant Analysis

Project: 17014 - Abernethy Place
Date: 4/11/2017
Scenario: Year 2022 Background plus Site Conditions

Major Street:	Washington Street	Minor Street:	Site Access
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	830	PM Peak Hour Volumes:	32

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	8,300	8,850	
Minor Street*	320	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	8,300	13,300	
Minor Street*	320	1,350	**No**
Combination Warrant			
Major Street	8,300	10,640	
Minor Street*	320	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Traffic Signal Warrant Analysis

Project: 17014 - Abernethy Place
Date: 4/11/2017
Scenario: Year 2022 Background plus Site Conditions

Major Street:	Washington Street	Minor Street:	Amtrak Station Access
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	809	PM Peak Hour Volumes:	74

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	8,090	8,850	
Minor Street*	740	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	8,090	13,300	
Minor Street*	740	1,350	**No**
Combination Warrant			
Major Street	8,090	10,640	
Minor Street*	740	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

ABERNETHY PLACE MIXED-USE DEVELOPMENT
TRAFFIC IMPACT STUDY

OREGON CITY, OREGON

DATE:
April 26, 2017

PREPARED FOR:
Historic Properties, LLC

PREPARED BY:
Daniel Stumpf, EI
Michael Ard, PE

LANCASTER
ENGINEERING

321 SW 4th Ave., Suite 400 | Portland, OR 97204 | 503.248.0313 | lancasterengineering.com

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EXECUTIVE SUMMARY

1. The proposed Abernethy Place Mixed-Use Development will include the construction a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop located at 1737 Washington Street in Oregon City, Oregon.

2. The trip generation calculations show that the proposed development is projected to generate a net new total of 159 site trips during the morning peak hour and 151 site trips during the evening peak hour.

3. Based on the operational analysis, all study area intersections are projected to operate acceptably per Oregon City code standards through 2022 either with or without the addition of site trips from the proposed development.

4. Based on the crash analysis, the intersection of 14th Street at Main Street was identified as having a high crash rate. It is recommended that the intersection be converted to all-way stop control to address this safety concern. It is recommended that concurrent with conversion to all-way stop control the eastbound and westbound approaches on 14th Street be converted to have a shared left/through lane and a shared through/right lane. Additionally, it is recommended that the westbound approach to Highway 99E be converted to have a shared left/right turn lane and a dedicated right-turn lane. With these improvements in place, it is anticipated that the safety of the intersection will be improved while maintaining acceptable operation of the affected intersections.

5. It should be noted that the city's Transportation System Plan includes an alternative improvement that could address safety concerns at the intersection of 14th Street and Main Street, consisting of conversion of 14th Street to one-way eastbound from OR-99E to John Adams Street and conversion of 15th Street to one-way westbound from Washington Street to OR-99E. This alternative treatment would likely necessitate installation of a new traffic signal for the intersection of Highway 99E at 15th Street.

6. Intersection sight distance is adequate at the site access intersections. No sight distance mitigation is recommended.

7. Based on the left-turn lane warrant analysis, installation of a northbound left-turn lane on Washington Street at the site access is recommended for safe operation of the new site access.

8. Since the westbound 14th Street approach to Main Street currently meets left-turn lane warrants, it is recommended that a northwest-bound left-turn lane be provided even if the intersection is not converted to all-way stop control.

9. Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met for any of the unsignalized stop-controlled study intersections under any of the analysis scenarios.

10. The proposed site access intersection at Washington Street can be constructed to meet the minimum access spacing standards required by the Oregon City Municipal Code.

11. Based on the proportionality analysis, it was determined that a requirement to construct a left-turn lane serving the site access would be proportionate to the impacts of the proposed development. However, a requirement for construction of safety improvements at the intersection of 14th Street and Main Street would not proportionate to the impacts of the development. If the city desires to require mitigation from the proposed development, it may therefore be appropriate to request a proportionate share payment based on the impacts of the proposed development rather than requesting construction of the recommended improvements.

PROJECT DESCRIPTION & LOCATION

INTRODUCTION

The proposed Abernethy Place Mixed-Use Development will include the construction a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop located at 1737 Washington Street in Oregon City, Oregon. The proposed development will take access to the nearby transportation system via three points of access: the intersections of Abernethy Road at Washington Street, a proposed site access driveway onto Washington Street, and a shared access driveway onto Washington Street at the existing Amtrak station entrance.

This report addresses the impacts of the proposed development on the nearby street system. Based on correspondence with City of Oregon City staff, the report conducts safety and capacity/level-of-service analyses at the following intersections:

1. Interstate 205 (I-205) southbound ramps at McLoughlin Boulevard (OR-99E);
2. I-205 northbound ramps at OR-99E;
3. 15th Street at OR-99E;
4. 14th Street at OR-99E;
5. 14th Street at Main Street;
6. 7th Street at Washington Street;
7. 14th Street at Washington Street;
8. 15th Street at Washington Street;
9. Abernethy Road at Washington Street;
10. Proposed site access at Washington Street;
11. Amtrak station access at Washington Street;
12. Prairie Schooner Way at Washington Street;
13. Clackamas River Drive at Washington Street; and
14. Trails End Highway (OR-213) at Clackamas River Drive.

The purpose of this study is to determine whether the transportation system in the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, safety analyses, and level-of-service calculations is included in the appendix to this report.

LOCATION DESCRIPTION

The project site is located northwest of Washington Street, north of 17th Street, and southeast of the Amtrak railroad tracks in Oregon City, Oregon. The subject site is located within a mixed-use area with the Oregon City Amtrak Rail Station to the northeast, the End of the Oregon Trail Interpretive Center to the southeast, a power substation and other industrial land-uses to the west, and a mix of smaller residential/commercial/industrial land-uses to the south.

The subject site includes seven tax lots; lots 601, 900, 1000, 1100, 1200, 1300, 1301; which encompass an approximate total of 4.1 acres. All seven lots are zoned as *Mixed Use Downtown*

(MUD) and are currently developed and utilized by several industrial and commercial service land-uses.

VICINITY STREETS

OR-99E is classified by the Oregon Department of Transportation (ODOT) as a Regional Highway south and a District Highway north of I-205 and by the City of Oregon City as a Major Arterial. The roadway has a varying cross-section of four to eight travel lanes and has a posted speed of 40 mph north and 30 mph south of 14th Street. On-street parking is permitted along both sides of the roadway at marked locations south of 14th Street. Curbs, sidewalks, and bicycle lanes are intermittently provided along both sides of the roadway.

Main Street is classified by the City of Oregon City as a Collector. The roadway has a two-lane cross-section with on-street parking permitted along both sides of the roadway south of 15th Street where either adequate roadway width is provided or spaces are marked. Bicycle lanes are provided along both sides of the roadway north while sharrows are marked within vehicle travel lanes south of 15th Street. Curbs and sidewalks are provided along both sides of the roadway south of 15th Street while only partially provided to the north.

Washington Street is classified by the City of Oregon City as a Minor Arterial north and a Local Street south of 5th Street. The roadway has a varying cross-section between two to six travel lanes and has a posted speed which varies between 25 mph and 35 mph within the study area. On-street parking is permitted along both sides of the roadway south of 11th Street while bicycle lanes are provided along both sides to the north. Curbs and sidewalks are provided along both sides of the roadway south and intermittently provided north of Abernethy Road.

OR-213 is classified by ODOT as a District Highway and by the City of Oregon City as an Expressway. The roadway has a varying cross-section between four to seven travel lanes and has a posted speed of 45 mph north and 55 mph south of Prairie Schooner Way. Bicycle lanes or shoulders are provided along both sides of the roadway. Curbs and sidewalks are intermittently provided along both sides of the roadway.

Clackamas River Drive is classified by the City of Oregon City as a Minor Arterial. The roadway has a two-lane cross-section north of the roundabout at Washington Street, and a four-lane cross-section to the south with two southbound travel lanes, a two-way left-turn lane, and a northbound travel lane. It has a posted speed of 40 mph north and 30 mph south of S Melinda Street. Bicycle lanes are provided along both sides of the roadway while curbs and sidewalks are intermittently provided.

Prairie Schooner Way is classified by the City of Oregon City as a Minor Arterial. The roadway has a five-lane cross-section, with two eastbound and three westbound travel lanes. Curbs and bicycle lanes are provided along both sides of the roadway.

Abernethy Road is classified by the City of Oregon City as a Minor Arterial. The roadway has a three-lane cross-section, with one travel lane and a center two-way left-turn lane, and has a posted speed of 35 mph. Bicycle lanes are provided along both sides of the roadway while curbs and sidewalks are intermittently provided along both sides.

15th Street is classified by the City of Oregon City as a Collector. The roadway has a two-lane cross-section and has a posted speed of 25 mph. On-street parking is permitted along both sides of the roadway east of Washington Street where adequate roadway width is available. Curbs and sidewalks are intermittently provided along both sides of the roadway.

14th Street is classified by the City of Oregon City as a Collector west and Local Street east of Washington Street. The roadway has a four-lane cross-section between OR-99E and Main Street, with two travel lanes in each direction, and a two-lane cross-section east of Main Street. On-street parking is permitted along both sides of the roadway east of Washington Street. Curbs and sidewalks are provided along both sides of the roadway.

7th Street is classified by the City of Oregon City as a Major Arterial. The roadway has a three-lane cross-section, with one travel lane in each direction and a center turn lane. On-street parking is permitted along the north side of the roadway between John Adams Street and John Quincy Adams Street. Curbs and sidewalks are provided along both sides of the roadway.

STUDY INTERSECTIONS

The I-205 southbound ramps intersection at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northbound approach has three through lanes and one channelized right-turn lane that operates under yield control. The southbound approach has three through lanes and one left-turn lane served by protected phasing. The westbound approach has two left-turn lanes and one right-turn lane served by permitted/overlapping phasing. One crosswalk is marked across the eastern intersection leg.

The I-205 northbound ramps intersection at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northbound approach has three through lanes and one right-turn lane served by permitted/overlapping phasing. The southbound approach has three through lanes and one left-turn lane served by protected phasing. The westbound approach has one left-turn lane and one channelized right-turn lane that operates under yield control. One crosswalk is marked across the eastern intersection leg.

The intersection of 15th Street at OR-99E is a three-legged intersection that is stop-controlled for the westbound approach of 15th Street. The northeast-bound approach has one through lane and one shared through/right-turn lane. The southwest-bound approach has three through lanes. The northwest-bound approach has one right-turn lane. One crosswalk is marked across the southeastern intersection leg.

The intersection of 14th Street at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one through lane and one shared through/right-turn lane. The southwest-bound approach has two through lanes and a left-turn lane served by flashing-yellow-arrow phasing. The northwest-bound approach of 14th Street has one left-turn lane and one right-turn lane served by permitted/overlapping phasing. Crosswalks are marked across all intersection legs.

The intersection of 14th Street at Main Street is a four-legged intersection that is two-way stop-controlled for the northeast-bound and southwest-bound approaches of Main Street. The northeast-bound approach has one shared left-turn/through lane and one right-turn lane. The southwest-bound and northwest-bound approaches each have one shared lane for all turning movements. The southeast-bound approach has one left-turn lane and one shared through/right-turn lane. Crosswalks are marked across all intersection legs.

The intersection of 7th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane and one shared through/right-turn lane. The northeast-bound and southwest-bound approaches operate under split phasing. The southeast-bound and northwest-bound approaches of 7th Street each have one through lane and one right-turn lane served by permitted/overlapping phasing. Left-turns from 7th Street onto Washington Street are prohibited. Crosswalks are marked across all intersection legs.

The intersection of 14th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane served by flashing-yellow-arrow phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound approach has one shared lane for all turning movements. The southeast-bound approach has one shared left-turn/through lane and one right-turn lane. Crosswalks are marked across all intersection legs.

The intersection of 15th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane served by flashing-yellow-arrow phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound and southeast-bound approaches each have one shared lane for all turning movements. Crosswalks are marked across all intersection legs.

The intersection of Abernethy Road at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one left-turn lane served by permitted phasing, one through lane, one right-turn lane, and a bicycle lane situated between the through and right-turn lanes. The south-westbound approach has one left-turn turn lane served by permitted phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound approach has one left-turn lane served by permitted phasing and one shared through/right-turn lane. The southeast-bound approach has one shared lane for all turning movements. Crosswalks are marked across all intersection legs.

The Amtrak station/End of the Oregon Trail Interpretive Center access intersection on Washington Street is a four-legged intersection that is two-way stop-controlled for the two driveway approaches. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound and southeast-bound approaches each have one shared lane for all turning movements. A crosswalk is marked across the southwestern intersection leg while sidewalks are in place across the northwestern and southeastern legs.

The intersection of Prairie Schooner Way at Washington Street is a three-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one through lane, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The southwest-bound approach has two through lanes, one left-turn lane served by flashing-yellow-arrow phasing, and a bicycle lane to the right of the outermost standard travel lane. The westbound approach of Prairie Schooner Way has two left-turn lanes, one right-turn lane served by permitted/overlapping phasing, and a bicycle lane to the right of the outermost standard travel lane. Crosswalks are marked across the northeastern and southeastern intersection legs.

The intersection of Clackamas River Drive at Washington Street is a three-legged round-about intersection. The northeast-bound approach of Washington Street has one shared through/U-turn lane and one free-flowing channelized right-turn lane. The southwest-bound approach has one shared left-turn/through/U-turn lane. The northwest-bound approach has one shared left-turn/right-turn/U-turn lane. Crosswalks are marked across all intersection legs.

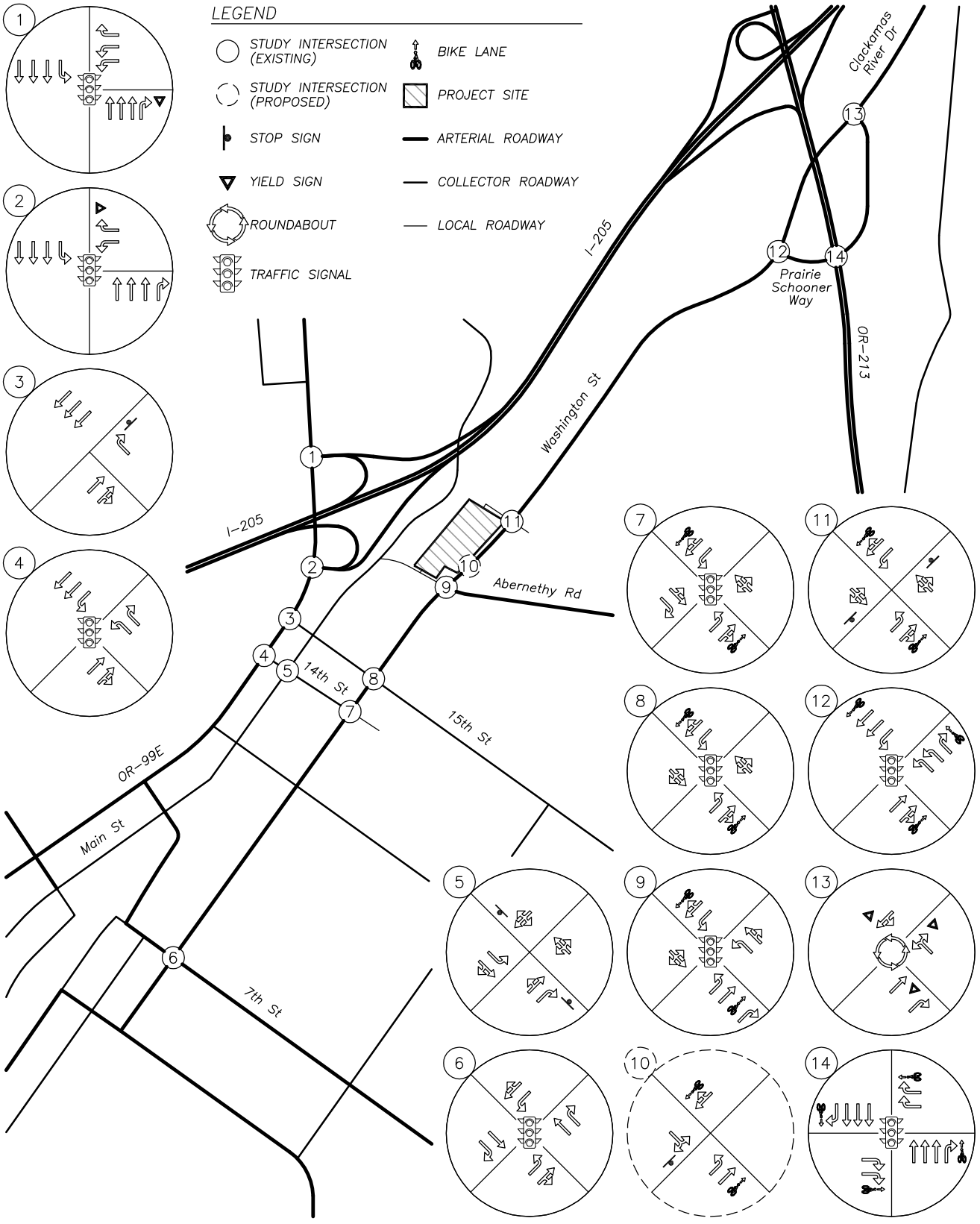
The intersection of OR-213 at Clackamas River Drive is a four-legged intersection that is controlled by a traffic signal. The northbound and southbound approaches of OR-213 each have three through lanes, one channelized right-turn lane that operates without stop/yield/signal controls, and a bicycle lane to the right of the outermost standard travel lane. The eastbound and westbound approaches of Prairie Schooner Way and Clackamas River Drive, respectively, each have two right-turn lanes and a bicycle lane to the right of the outermost standard travel lane. Crosswalks are marked across the eastern and western intersection legs.

A vicinity map displaying the project site, vicinity streets, and the study intersections with their associated lane configurations is shown in Figure 1 on page 10.

TRAFFIC COUNTS

Traffic counts were conducted at the study intersections on Thursday January 26th, 2017 from 7:00 AM to 9:00 AM and on Wednesday, January 25th, 2017 from 4:00 PM to 6:00 PM. Data was used from each intersection's respective morning and evening peak hours.

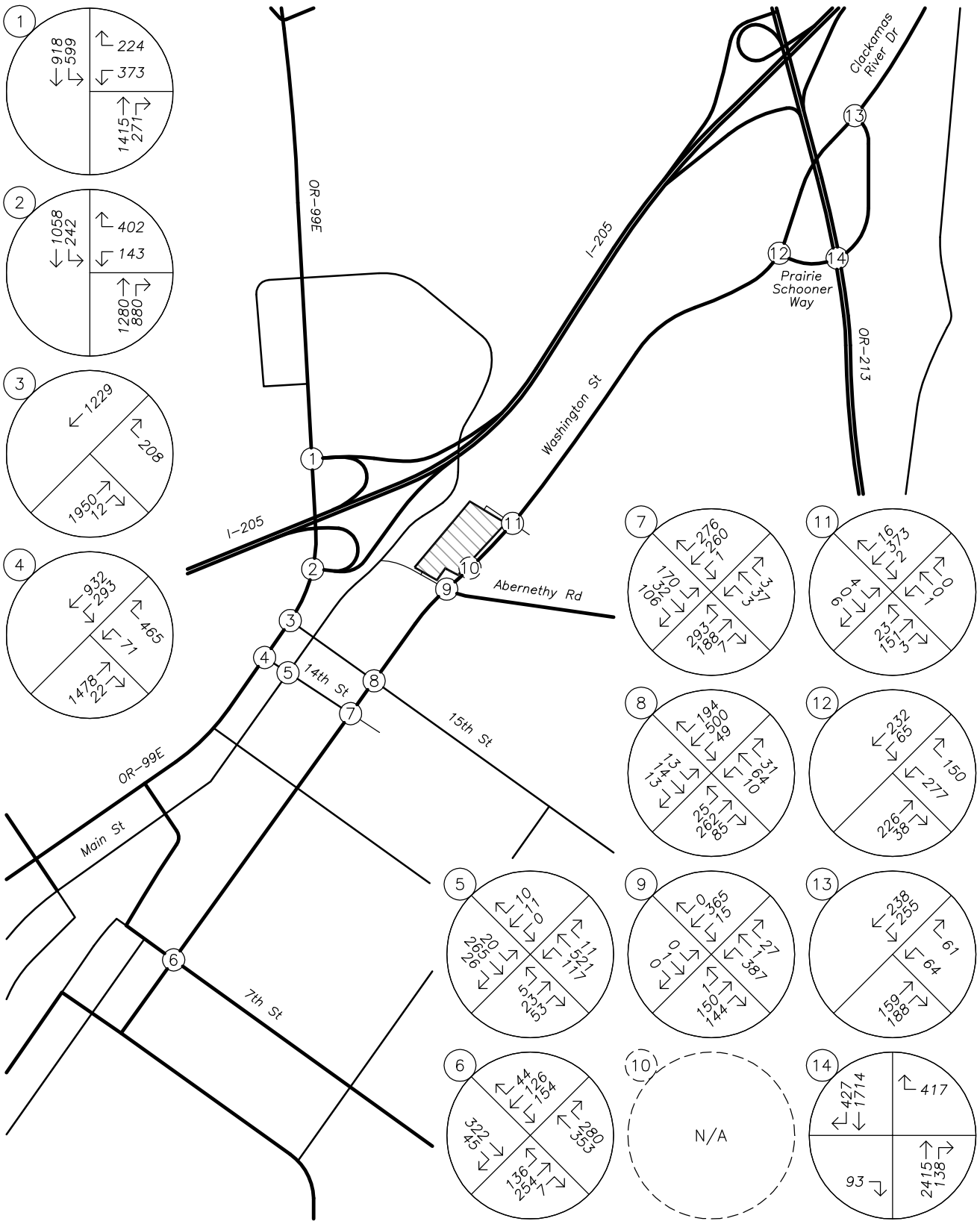
Figures 2 and 3 on pages 11 and 12 show the existing morning and evening peak hour traffic volumes at the study intersections, respectively.



VICINITY MAP

no scale

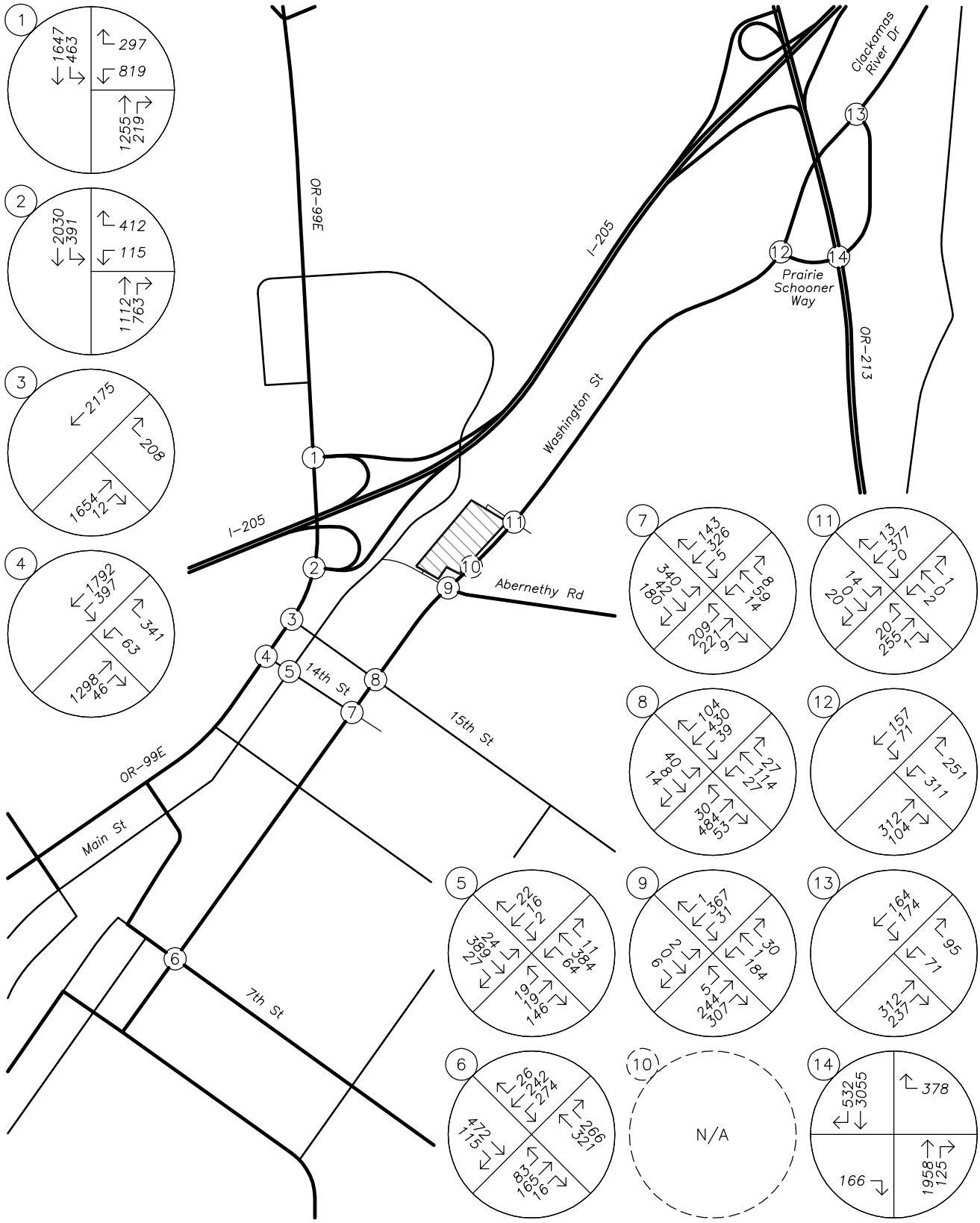
FIGURE 1



TRAFFIC VOLUMES
Existing Conditions
AM Peak Hour

no scale

FIGURE 2



TRAFFIC VOLUMES
Existing Conditions
PM Peak Hour

no scale

FIGURE 3

PAGE 12

SITE TRIPS

TRIP GENERATION

The proposed Abernethy Place Mixed-Use Development will include the construction of a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop. To estimate the number of trips that will be generated by the proposed development, trip rates from the *TRIP GENERATION MANUAL* were used. Data from land-use code 220, *Apartments*, land-use code 310, *Hotel*, land-use code 820, *Shopping Center*, and land-use code 936, *Coffee/Donut Shop without Drive-Through Window*, were used to estimate the proposed development's trip generation based on the number of rooms for the hotel, dwelling units for the apartment, and square-footage of gross floor area for the retail space and coffee shop.

Internal Trip Generation

Given the variety of land-uses that are proposed for development within the project site (including hotel, residential, retail, and restaurant land-uses), some trips generated by this development will likely be shared/internally captured by the proposed uses within the site and will not impact the nearby transportation system. Using the National Cooperative Highway Research Programs (NCHRP) Report 684, *Enhancing Internal Trip Capture Estimation for Mixed-Use Development*, internal capture rates for the proposed development were calculated for each land-use during the morning and evening peak hours.

According to Report 684, the proposed development is expected to internally capture approximately 9 percent of site trips during the morning peak hour and 28 percent of site trips during the evening peak hour. Due to the limited variety of on-site retail and restaurant uses, the calculated internal capture rate during the evening peak hour was manually reduced to 20 percent for the evening peak hour in order to maintain a conservative analysis.

Pass-by Trip Generation

Some of the proposed land-uses are expected to attract pass-by/diverted trips to the site. Pass-by trips are trips that leave an adjacent roadway to patronize a land-use and then continue in their original direction of travel. Similar to pass-by trips, diverted trips are trips that divert from a nearby roadway not adjacent to the site to patronize a land-use before continuing to their original destination. Pass-by trips do not add additional trips to the transportation system; however, they do add additional turning movements at site access intersections. Diverted trips may add additional turning movements at other nearby intersections. Pass-by trip rates were determined using data provided in the *TRIP GENERATION HANDBOOK*, 3rd Edition[1]. For the purposes of this analysis, pass-by and diverted trips were accounted for as the following:

- The proposed retail space has a pass-by trip rate of 34 percent of external trips generated based on data provided for land-use code 820 of the *TRIP GENERATION HANDBOOK*, 3rd Edition.

[1] Institute of Transportation Engineers (ITE), *TRIP GENERATION HANDBOOK*, 3rd Edition, 2014.

- The proposed coffee shop will utilize a pass-by/diverted trip rate of 82 percent for the morning peak hour and 73 percent for the evening peak hour. The calculated pass-by/diverted trip rates for the coffee shop are based on a trip generation study conducted at Starbucks facilities throughout Washington State in 2002.

Since the total number of pass-by trips which could be generated by the proposed uses exceeds the reasonable number of site trips that would be expected to divert from Washington Street, additional trips were treated as diverted-linked trips and drawn from through traffic traveling along Abernethy Road and the northbound travel lanes along Highway 99E. It is assumed that no more than five percent of the through traffic along Washington Street will enter the site as pass-by trips. An additional five percent of the through traffic along Abernethy road was assumed to divert to the site, and the remaining diverted trips were drawn from the northbound through traffic along OR-99E.

Trip Generation Analysis Results

The trip generation calculations show that the proposed development is projected to generate a net new total of 159 site trips during the morning peak hour and 151 site trips during the evening peak hour. The trip generation estimates of the proposed development are summarized in Table 2 below.

It should be noted that the development is proposed to occur in two phases. Phase 1 will consist of the 99-room hotel, while phase 2 will consist of all other proposed uses. Development of Phase 1 (prior to Phase 2) will result in a net increase of 52 trips during the morning peak hour and 59 trips during the evening peak hour, since the internal capture rates will not apply when only one use is located on the site. Development of Phase 2 will result in a net addition of 107 additional trips during the morning peak hour and 92 trips during the evening peak hour, resulting in the total projected site trips previously described.

Detailed trip generation and internal capture calculations as well as the Starbucks trip generation study are included in the technical appendix to this report.

Table 2 - Proposed Development Trip Generation Summary									
	ITE Code	Size	Morning Peak Hour In	Morning Peak Hour Out	Morning Peak Hour Total	Evening Peak Hour In	Evening Peak Hour Out	Evening Peak Hour Total	Weekday Total
Phase 1									
Hotel	310	99 units	31	21	52	30	29	59	808
Phase 1 + Phase 2									
Apartments	210	131 units	13	54	67	53	28	81	872
Internal Capture		*9% (20%)*	*1*	*5*	*6*	*11*	*6*	*17*	*174*
Net New Trips			12	49	61	42	22	64	698
Hotel	310	99 units	31	21	52	30	29	59	808
Internal Capture		*9% (20%)*	*3*	*2*	*5*	*6*	*6*	*12*	*162*
Net New Trips			28	19	47	24	23	47	646
Retail Space	820	9,500 sq.ft.	6	3	9	17	18	35	406
Internal Capture		*9% (20%)*	*1*	*0*	*1*	*3*	*4*	*7*	*81*
Pass-by Trips		*34% (34%)*	*1*	*1*	*2*	*5*	*5*	*10*	*110*
Net New Trips			4	2	6	9	9	18	215
Coffee Shop	936	2,500 sq.ft.	138	133	271	51	51	102	165
Internal Capture		*9% (20%)*	*12*	*12*	*24*	*10*	*10*	*20*	*33*
Pass-by Trips		*82% (73%)*	*101*	*101*	*202*	*30*	*30*	*60*	*96*
Net New Trips			25	20	45	11	11	22	36
Total Trip Generation			**188**	**211**	**399**	**151**	**126**	**277**	**2,251**
Total Internal Capture			***17***	***19***	***36***	***30***	***26***	***56***	***450***
Total Pass-by Trips			***102***	***102***	***204***	***35***	***35***	***70***	***206***
Total Net New Trips			**69**	**90**	**159**	**86**	**65**	**151**	**1,595**

* AM Peak Hour (PM Peak Hour and Weekday)

TRIP DISTRIBUTION

The directional distribution of primary site trips to/from the project site was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at study intersections.

The following trip distribution was estimated and used for analysis:

- Approximately 30 percent of primary trips will travel to/from the north along OR-213;
- Approximately 15 percent of primary trips will travel to/from the east along Abernethy Road;
- Approximately 12 percent of primary trips will travel to/from the north along OR-99E;
- Approximately 10 percent of primary trips will travel to/from the southeast along 7th Street;
- Approximately 9 percent of primary trips will travel to/from the southwest along Washington Street;
- Approximately 6 percent of primary trips will travel to/from the northeast along Interstate 205 (I-205);
- Approximately 5 percent of primary trips will travel to/from the northeast along Clackamas River Drive;
- Approximately 5 percent of primary trips will travel to/from the southeast along 15th Street;
- Approximately 4 percent of primary trips will travel to/from the southwest along Main Street;
- Approximately 2 percent of primary trips will travel to/from the southwest along OR-99E; and
- Approximately 2 percent of primary trips will travel to/from the southwest along I-205.

The proposed development is planned to have three points of access to the subject site from Washington Street: the west leg of the intersection of Abernethy Road at Washington Street, a proposed site access on Washington Street approximately 200 feet northeast of Abernethy Road, and at the existing Amtrak Station access driveway. Based on the site layout, primary trips to and from the site are anticipated to utilize site access points as follows:

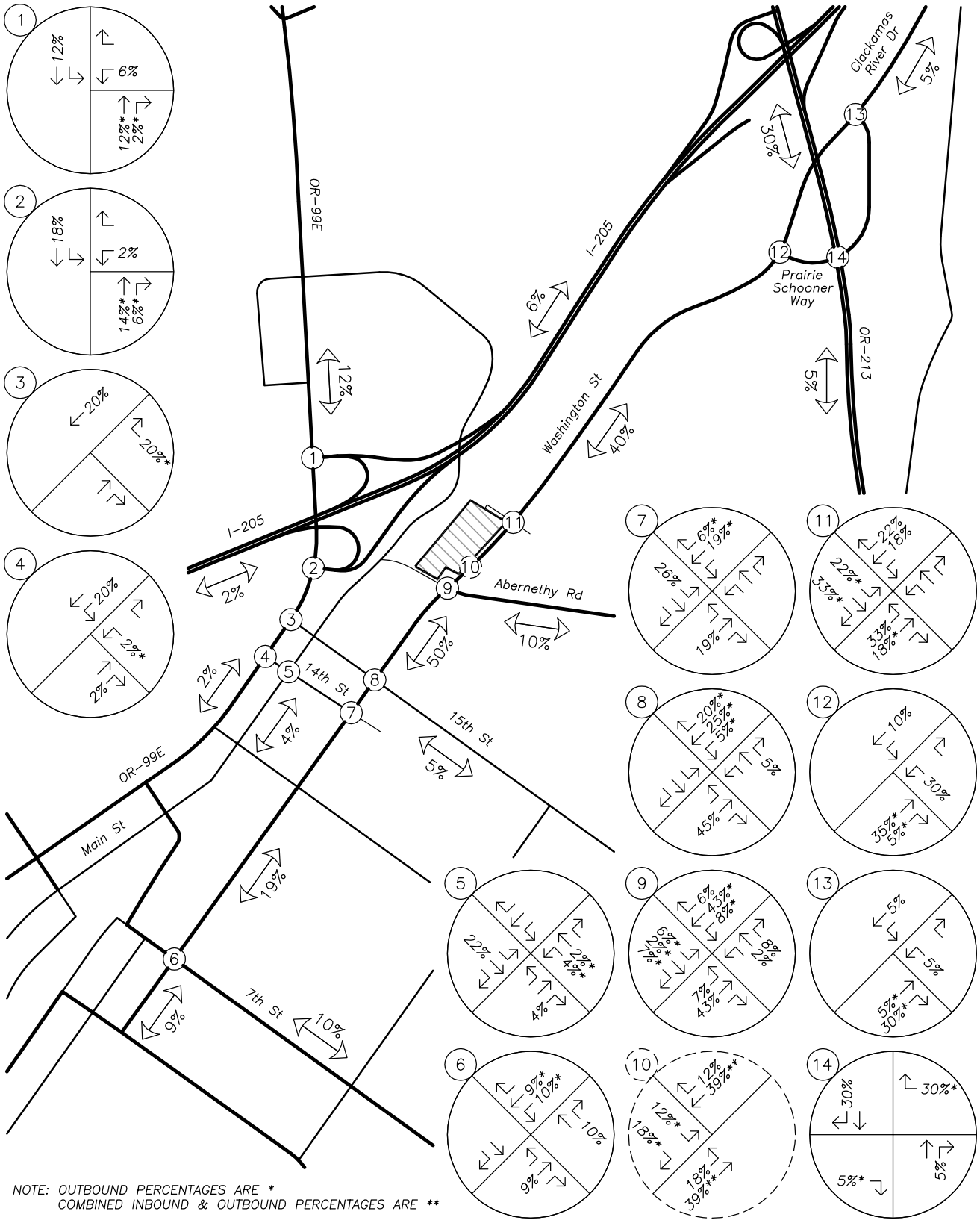
- Approximately 15 percent of primary trips will utilize the access at the intersection of Abernethy Road at Washington Street;
- Approximately 30 percent of primary trips will utilize the proposed access along Washington Street; and
- Approximately 55 percent of primary trips will utilize the Amtrak access along Washington Street.

The trip distribution percentages utilized for the primary site trips generated by the proposed development are shown in Figure 4 on page 18.

The proposed mixed-use building, which will include a coffee shop and retail space, is located within the northeastern section of the project site. Since only these two land-uses are expected to generate pass-by trips, it is anticipated that pass-by trips to and from the site will utilize site access points as follows:

- Approximately 50 percent of pass-by trips will utilize the proposed access along Washington Street; and
- Approximately 50 percent of pass-by trips will utilize the Amtrak access along Washington Street.

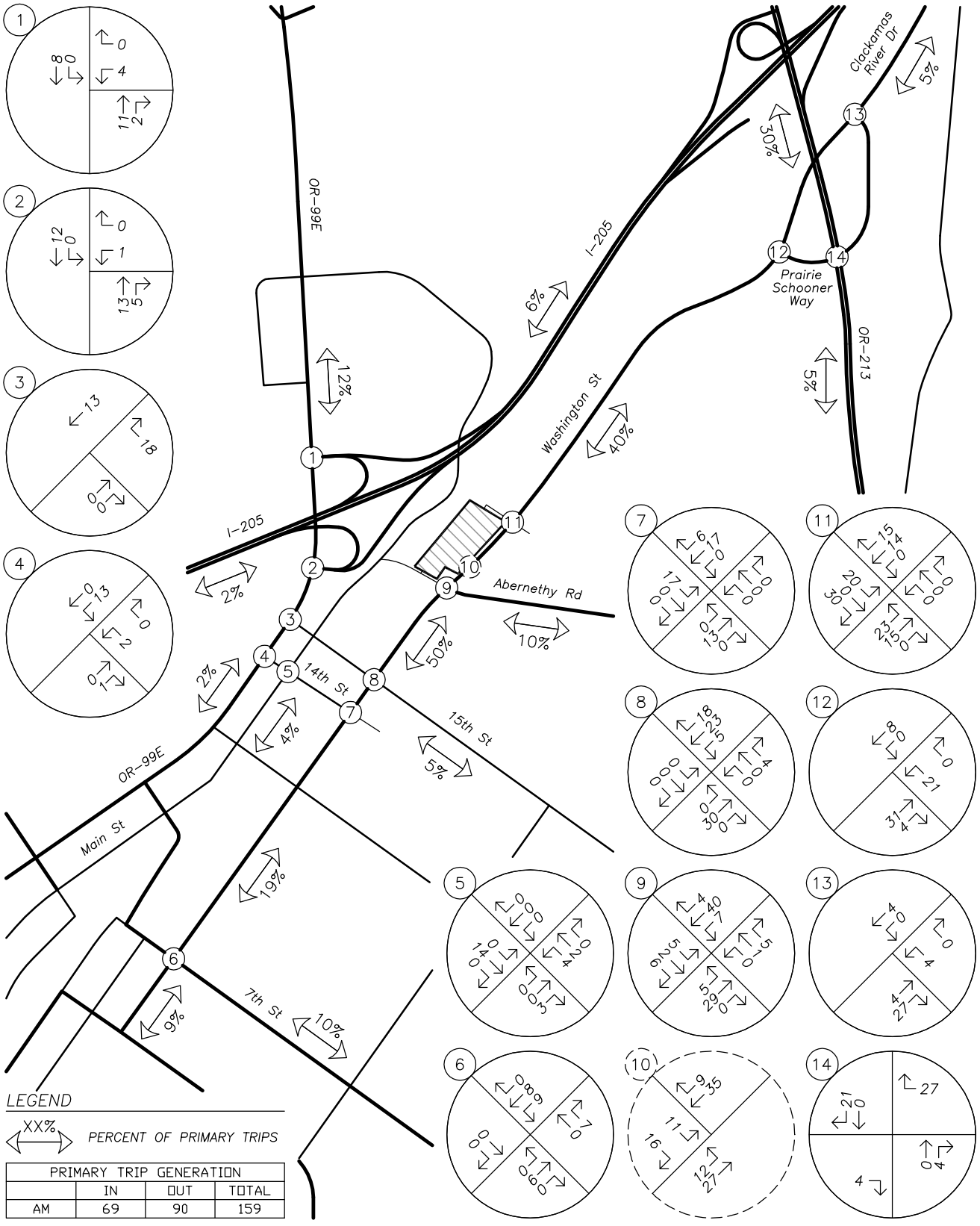
The trip assignment for primary site trips generated by the proposed development are shown in Figure 5 on page 19 for the morning peak hour and in Figure 6 on page 20 for the evening peak hour. The trip assignment for pass-by site trips generated by the proposed coffee shop and retail space are shown in Figure 7 on page 21 for the morning peak hour and in Figure 8 on page 22 for the evening peak hour. The total site trip assignment of trips generated by the proposed development are shown in Figure 9 on page 23 for the morning peak hour and in Figure 10 on page 24 for the evening peak hour.



SITE TRIP DISTRIBUTION
Inbound & Outbound Percentages – Primary Trips
AM & PM Peak Hours

no scale

FIGURE 4

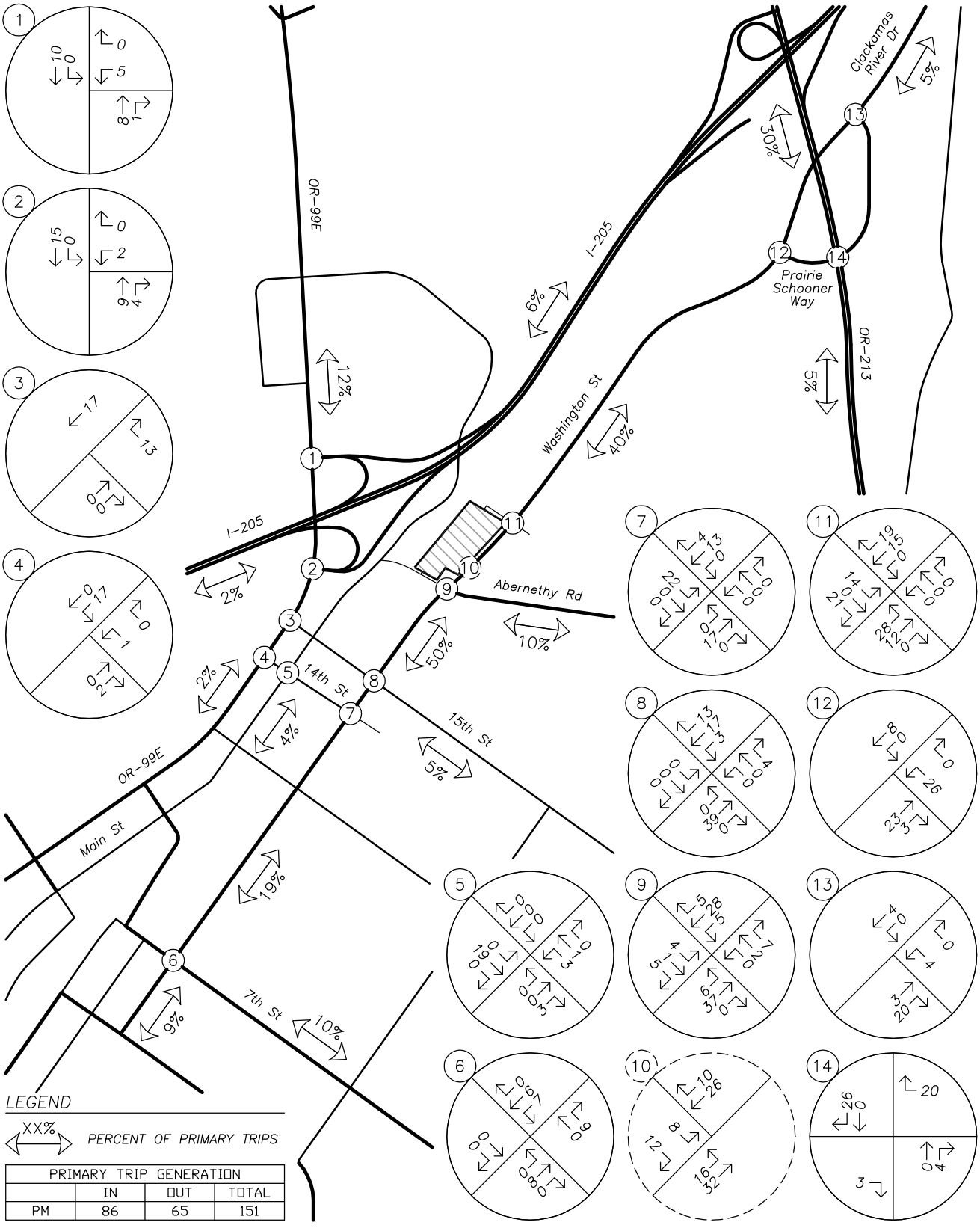


PRIMARY TRIP GENERATION			
	IN	OUT	TOTAL
AM	69	90	159

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Primary Site Trips
AM Peak Hour

no scale

FIGURE 5

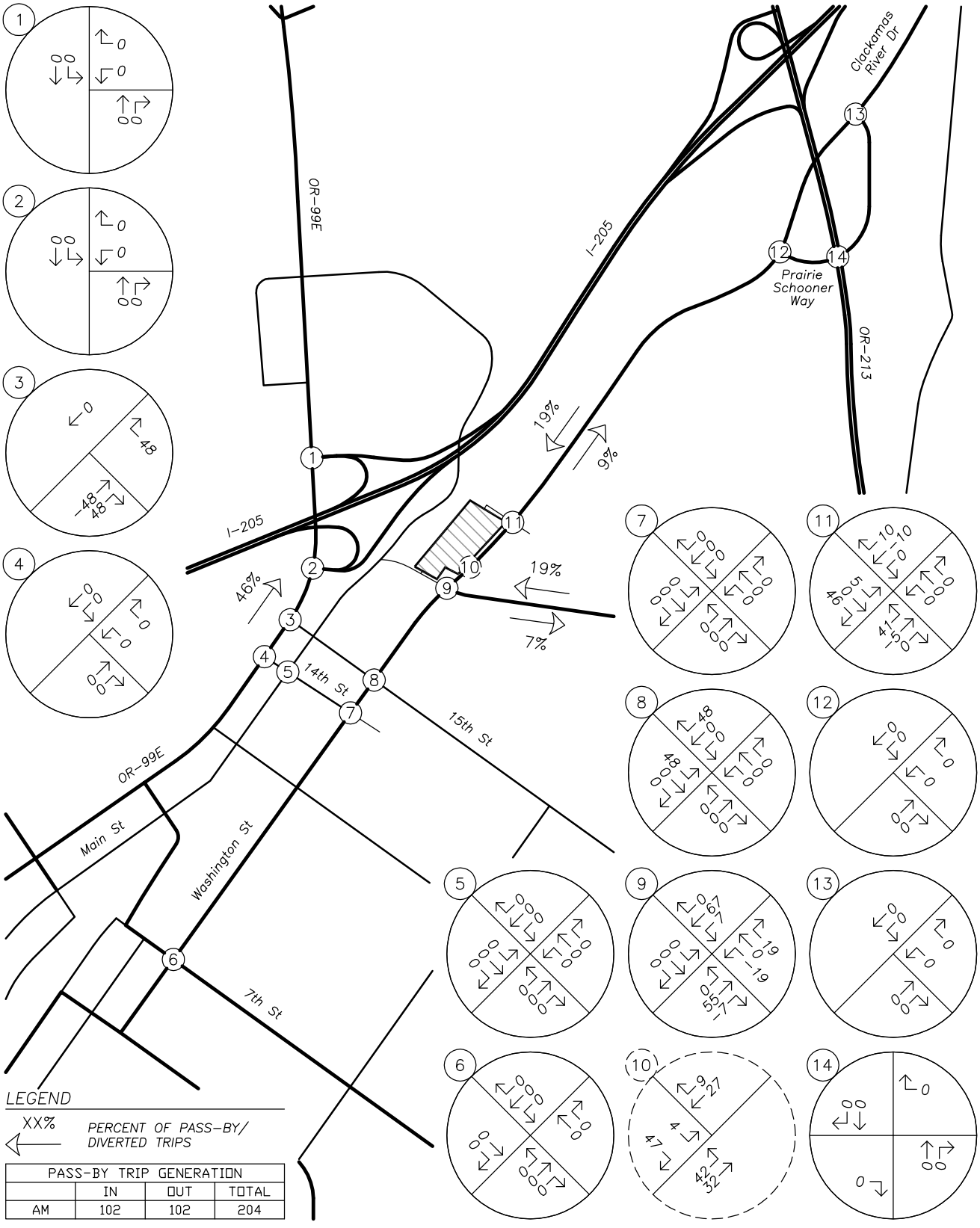


PRIMARY TRIP GENERATION			
	IN	OUT	TOTAL
PM	86	65	151

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Primary Site Trips
PM Peak Hour

no scale

FIGURE 6

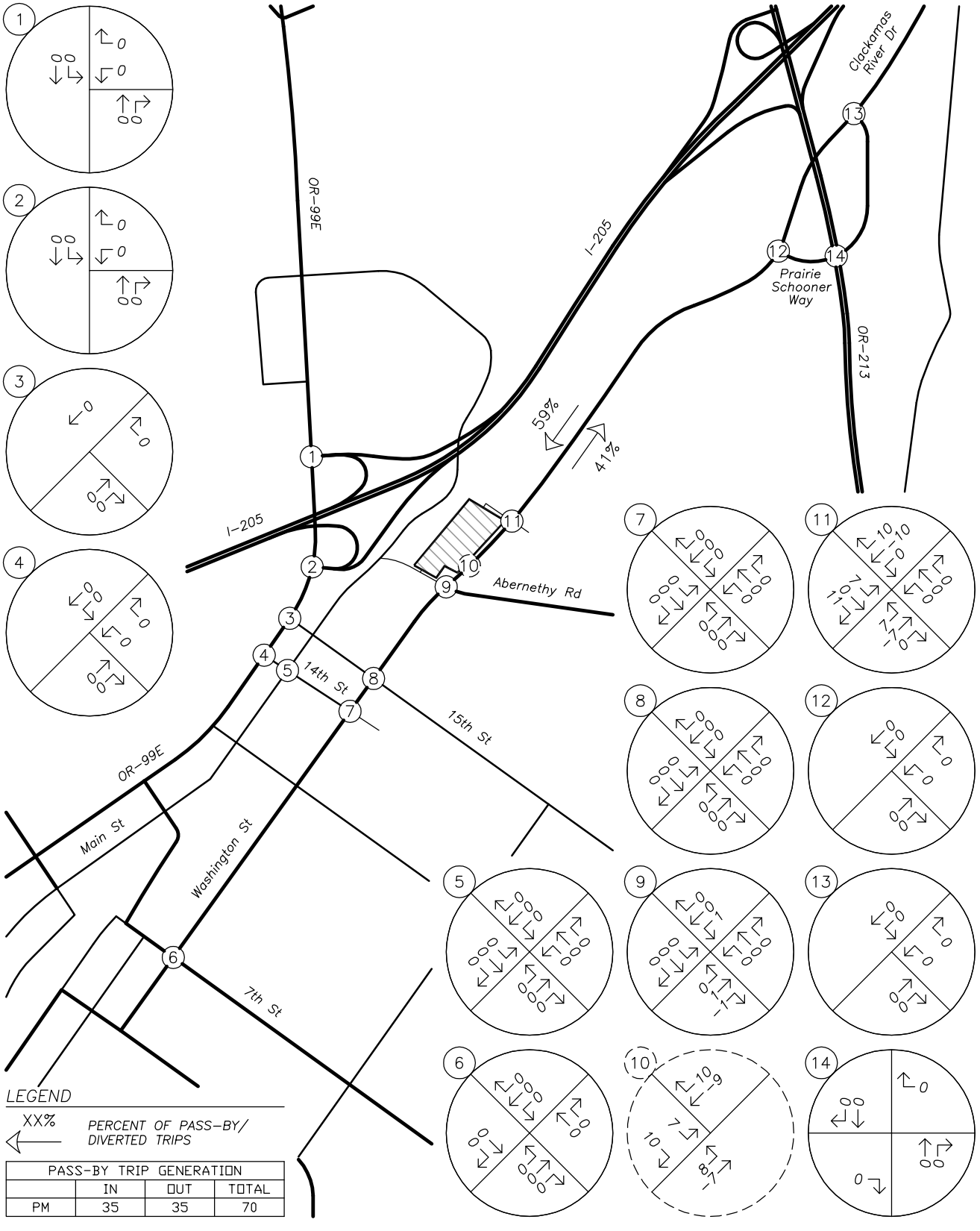


PASS-BY TRIP GENERATION			
	IN	OUT	TOTAL
AM	102	102	204

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Pass-by Site Trips
AM Peak Hour

no scale

FIGURE 7

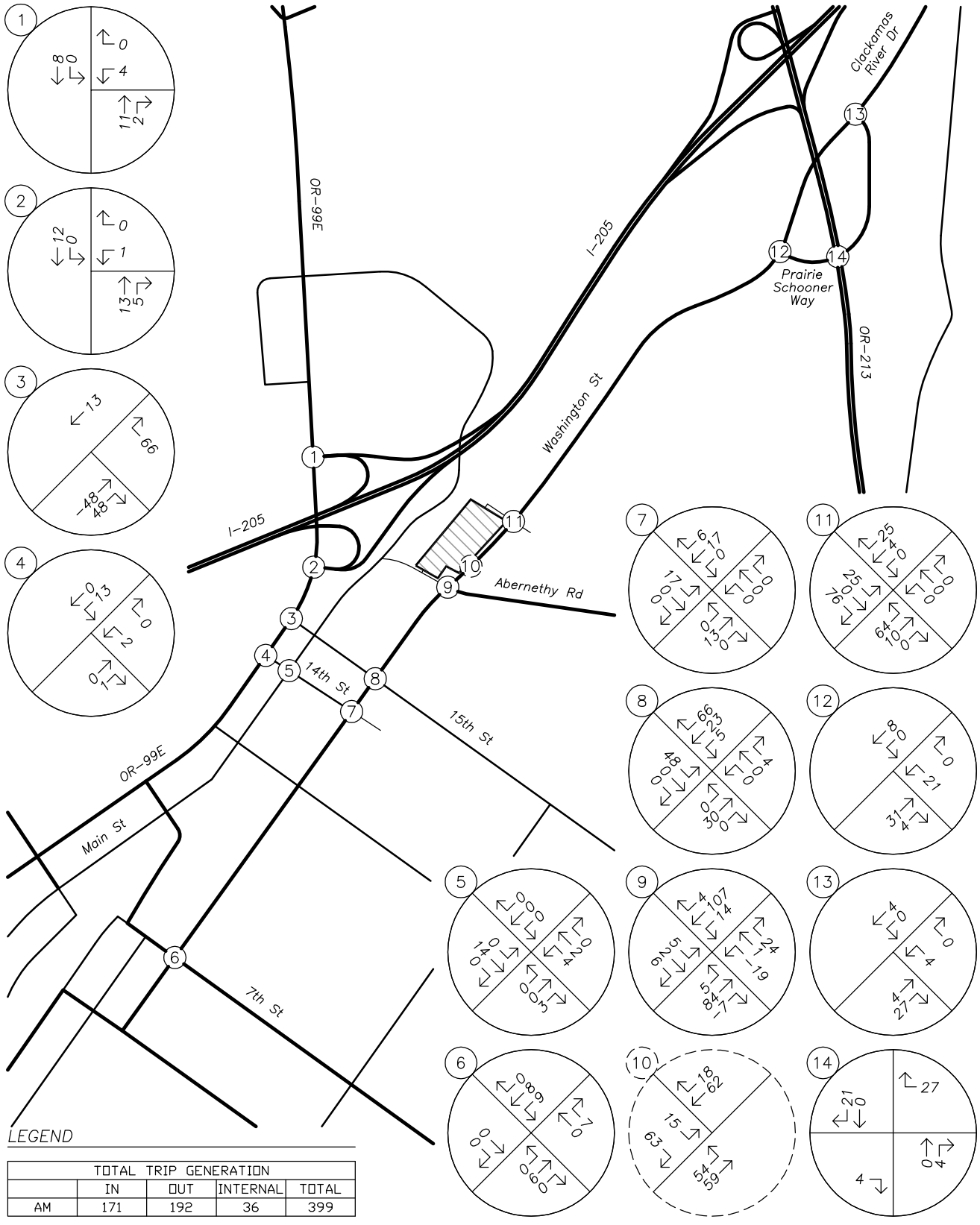


PASS-BY TRIP GENERATION			
	IN	OUT	TOTAL
PM	35	35	70

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Pass-by Site Trips
PM Peak Hour

no scale

FIGURE 8

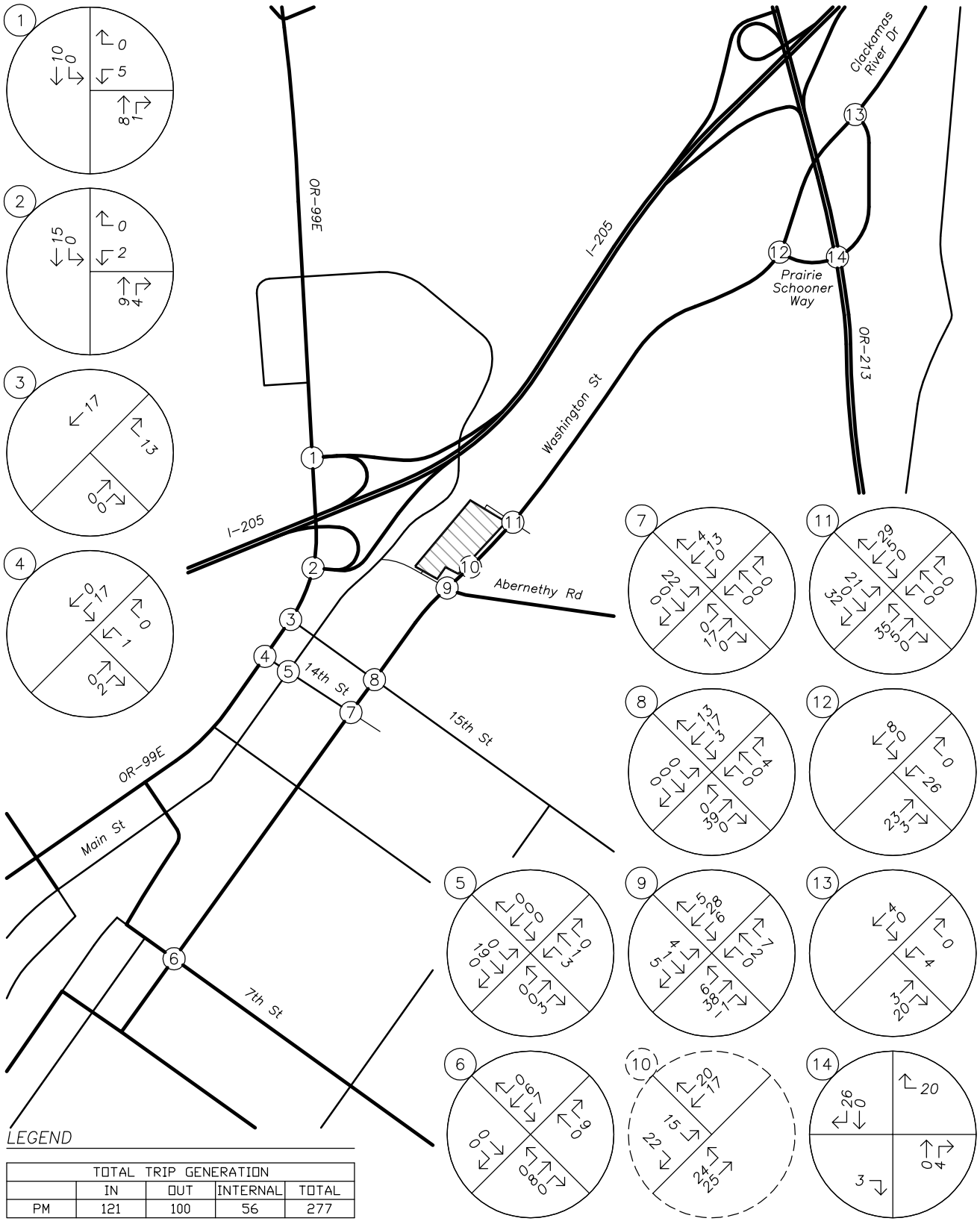


TOTAL TRIP GENERATION				
	IN	OUT	INTERNAL	TOTAL
AM	171	192	36	399

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Total Site Trips
AM Peak Hour

no scale

FIGURE 9



TOTAL TRIP GENERATION				
	IN	OUT	INTERNAL	TOTAL
PM	121	100	56	277

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Total Site Trips
PM Peak Hour

no scale

FIGURE 10

OPERATIONAL ANALYSIS

BACKGROUND VOLUMES

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required.

In order to calculate the future traffic volumes for non-ODOT facilities, a compounded growth rate of two percent per year for an assumed build-out condition of five years was applied to the measured existing traffic volumes to approximate year 2022 background conditions.

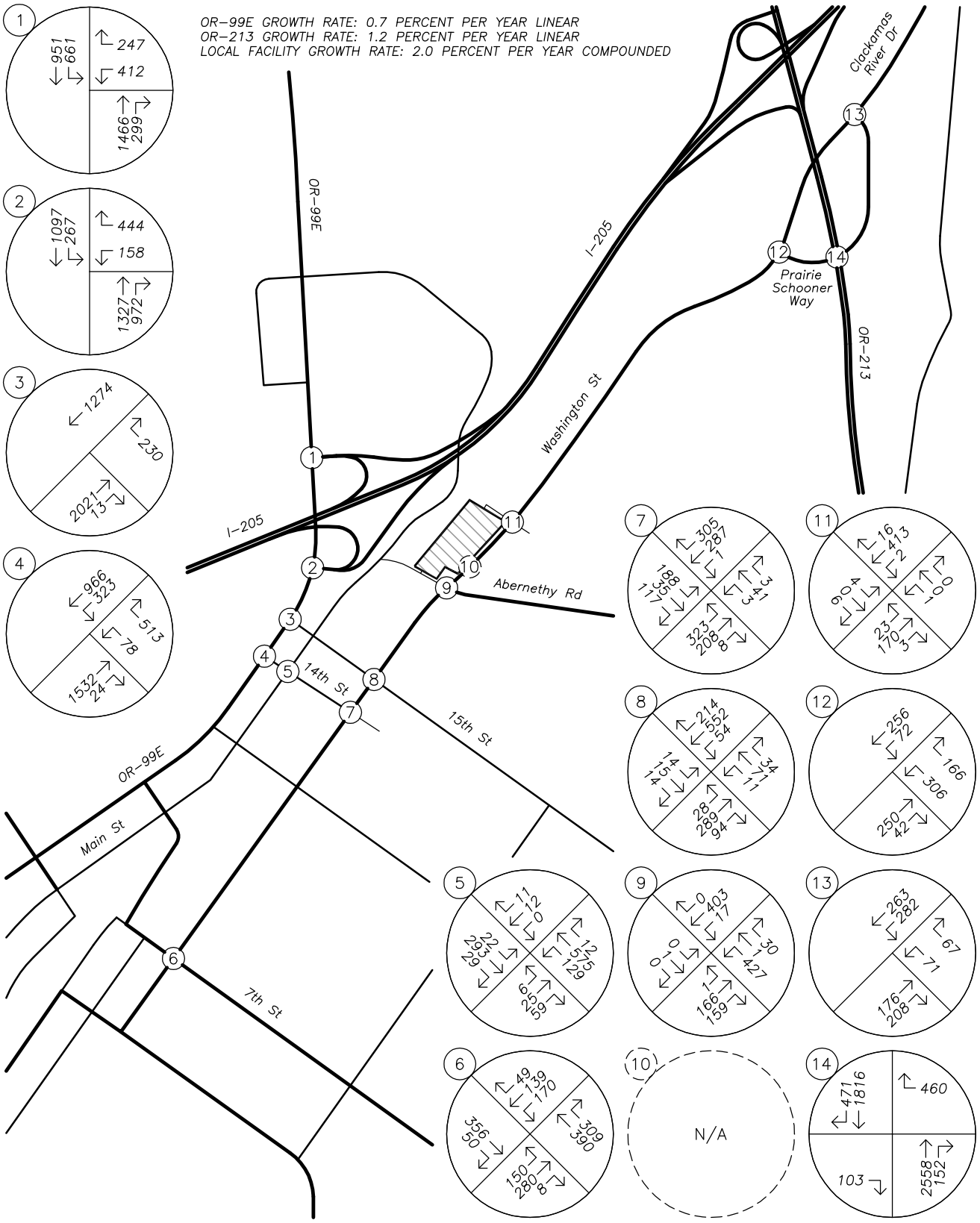
To estimate the future traffic volumes for ODOT facilities, a linear growth rates of 0.7 percent per year and 1.2 percent per year were calculated for the traffic volumes along OR-99E and OR-213, respectively, using ODOT's 2035 Future Volume Tables. This growth rate was applied to the measured existing traffic volumes over a five-year period to determine year 2022 background traffic volumes for the through traffic traveling along both ODOT roadways. A compounded growth rate of two percent per year for an assumed build-out condition of five years was applied to all other turning movement traffic volumes at study intersections along these ODOT roadways.

Figure 11 on page 26 and Figure 12 on page 27 show the projected year 2022 background traffic volumes at the study intersections during the morning and evening peak hours, respectively.

BACKGROUND VOLUMES PLUS SITE TRIPS

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2022 background traffic volumes to obtain the expected 2022 background volumes plus site trips.

Figure 13 on page 28 and Figure 14 on page 29 show the projected year 2022 peak hour background traffic volumes plus proposed development site trips at the study intersections during the morning and evening peak hours, respectively.

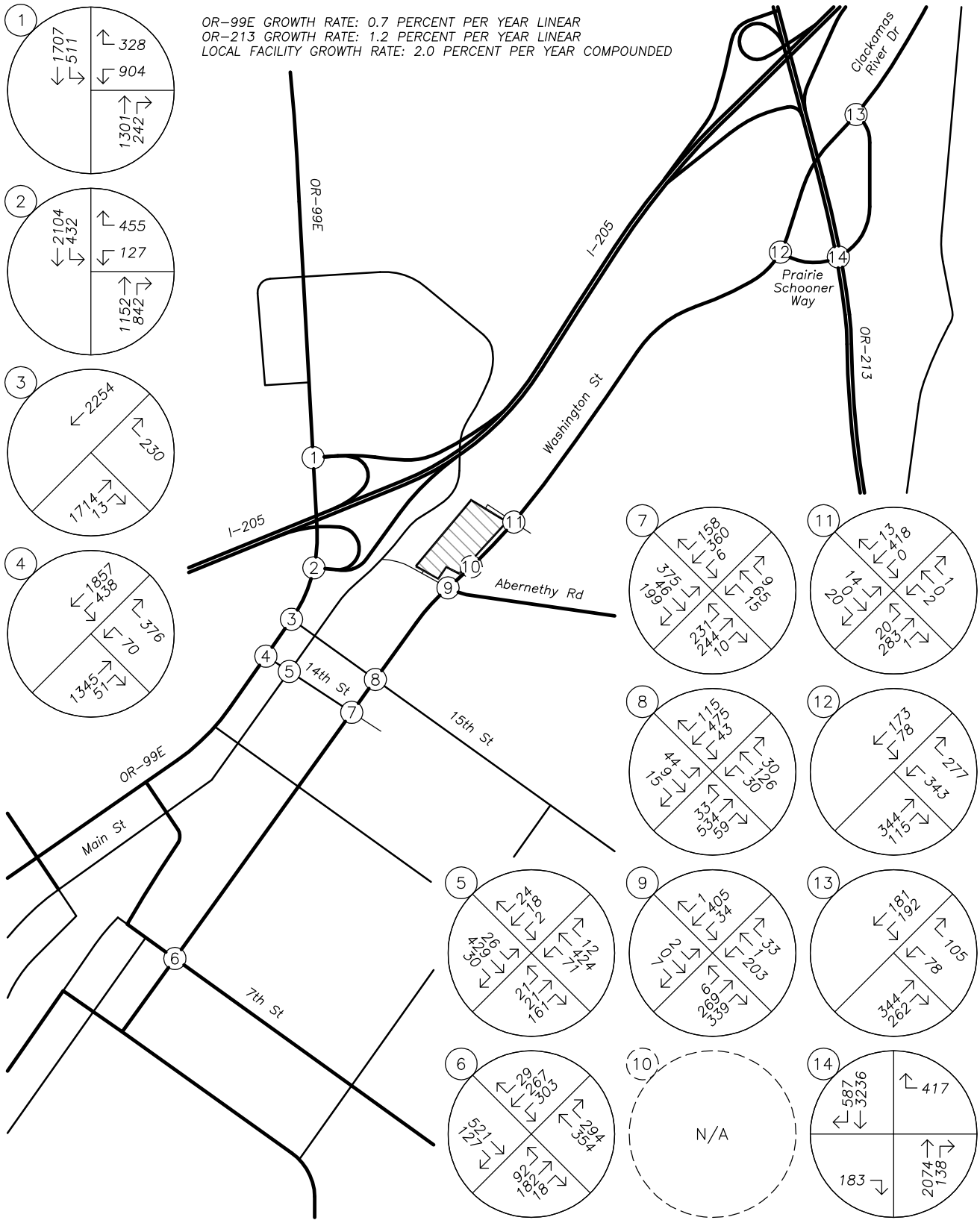


TRAFFIC VOLUMES
Year 2022 Background Conditions
AM Peak Hour

no scale

FIGURE 11

PAGE 26

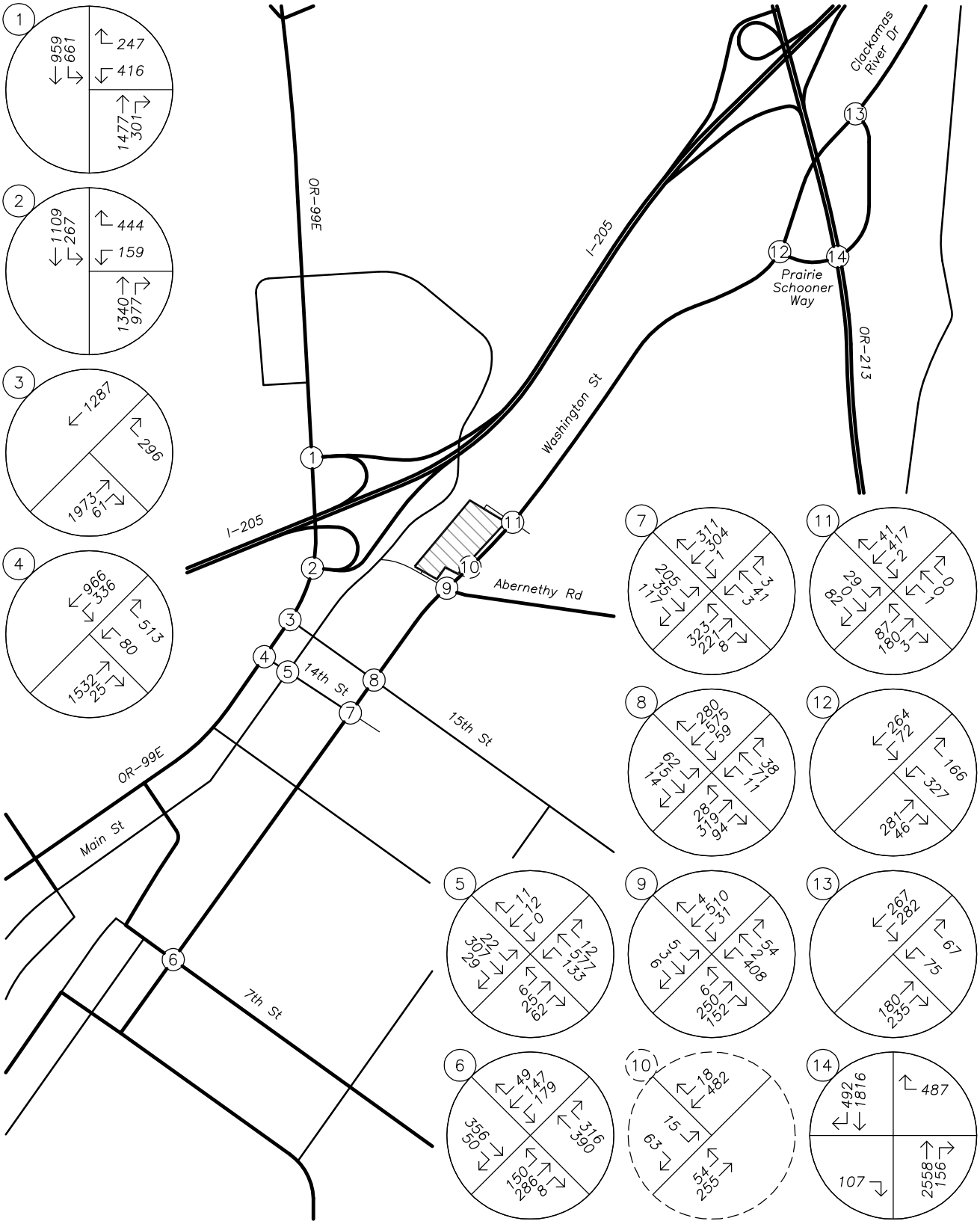


TRAFFIC VOLUMES
Year 2022 Background Conditions
PM Peak Hour

no scale

FIGURE 12

PAGE 27

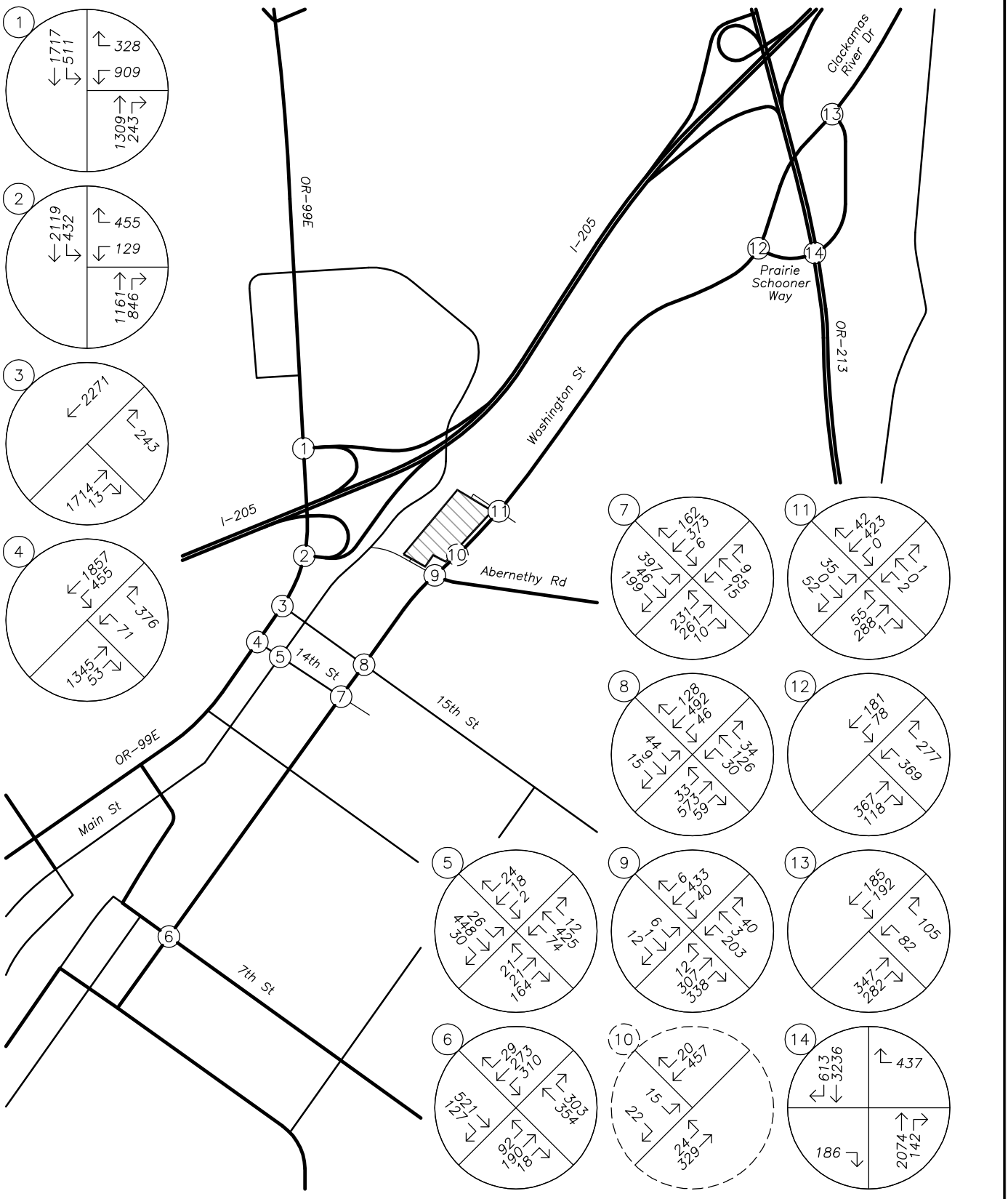


TRAFFIC VOLUMES
Year 2022 Background Conditions plus Site Trips
AM Peak Hour

no scale

FIGURE 13

PAGE 28



TRAFFIC VOLUMES
Year 2022 Background Conditions plus Site Trips
PM Peak Hour

no scale

FIGURE 14

CAPACITY ANALYSIS

A capacity and delay analysis was conducted for each of the study intersections. The analysis was conducted according to the signalized and unsignalized intersection analysis methodologies in the *HIGHWAY CAPACITY MANUAL* (HCM). The level-of-service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The v/c ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

Per Section 12.04.205 of the *Oregon City Municipal Code*, the following minimum acceptable operation standards apply when evaluating traffic impacts associated with the proposed land uses:

- For intersections within the Regional Center, a maximum v/c ratio of 1.10 is permissible during the peak hour, provided that during the second hour the v/c ratio is 0.99 or less. For signalized intersections, these standards apply to the intersection as a whole. For unsignalized intersections, these standards apply to the major-street approaches only. There is no performance standard for unsignalized minor street approaches.
- For intersections outside the Regional Center but designated on the Arterial and Throughway Network, a maximum v/c ratio of 0.99 shall be maintained. This standard applies to signalized intersections as a whole, and to the major-street approaches at unsignalized intersections. There is no performance standard for unsignalized minor street approaches.
- Signalized intersections located outside the Regional Center (Downtown Community Plan) boundaries and not designated on the Arterial and Throughway Network shall operate at LOS D or better for the intersection as a whole, no approach shall operate worse than LOS E, and the intersection shall operate with a v/c ratio no higher than 1.0 for the sum of critical movements.
- Unsignalized intersections located outside the Regional Center (Downtown Community Plan) boundaries and not designated on the Arterial and Throughway Network shall operate at LOS E or better for all approaches serving more than 20 peak hour vehicles. LOS F will be tolerated at movements serving no more than 20 vehicles during the peak hour.
- Until the City adopts new performance measures that identify alternative mobility targets, the City exempts proposed development that is permitted, either conditionally, outright, or through a detailed development master plan approval from compliance with the above mobility standards for identified intersections, including the intersections of OR-99E at the I-205 eastbound and westbound ramp terminals.

According to the City of Oregon City's Downtown Community Plan, the Regional Center encompasses all of the study intersections operating under City jurisdiction, except for Clackamas River Drive at Washington Street. Clackamas River Drive is, however, designated on the Arterial and Throughway Network.

The I-205 southbound ramps intersection at OR-99E is projected to operate with a v/c ratio of 1.02 during the morning peak hour and a v/c ratio of 0.98 during the evening peak hour under year 2022 background conditions. With the addition of site trips from the proposed development, the

intersection is projected to continue to operate with a v/c ratio of 1.02 during the morning peak and the v/c ratio is projected to increase to 0.99 during the evening peak hour.

The I-205 northbound ramps intersection at OR-99E is projected to operate with a v/c ratio of 0.90 during the morning peak hour and a v/c ratio of 0.81 during the evening peak hour under year 2022 background traffic conditions. With the addition of site trips from the proposed development, the intersection is projected to operate with a v/c ratio of 0.91 during the morning peak hour and 0.81 during the evening peak hour.

Under year 2022 background conditions the intersection of 15th Street at OR-99E is projected to operate with a v/c ratio of 0.85 during the morning peak hour and 0.71 during the evening peak hour. With the addition of site trips from the proposed development the intersection is projected to operate with a v/c ratio of 0.95 during the morning peak hour and 0.71 during the evening peak hour.

The intersection of 14th Street at OR-99E operates with a v/c ratio of 0.96 or less during the morning peak hour and 0.85 or less during the evening peak hour for all analysis scenarios.

The intersection of 14th Street at Main Street currently operates at LOS C with v/c ratios of 0.20 during the morning peak hour and 0.26 during the evening peak hour. Under year 2022 background conditions, the intersection is projected to operate at LOS E with a v/c ratio of 0.29 or less during the morning peak hour and at LOS E with a v/c ratio of 0.32 or less during the evening peak hour, regardless the addition of proposed development trips.

The intersection of 7th Street at Washington Street operates at LOS C with v/c ratios or 0.72 or less during the morning peak hour and 0.75 or less during the evening peak hour for all analysis scenarios.

The intersection of 14th Street at Washington Street is projected to operate at LOS C with v/c ratios of 0.86 or less during the morning peak hour and 0.89 or less during the evening peak hour through year 2022 background conditions. Upon build-out of the proposed development, the intersection is projected to operate at LOS D with v/c ratios of 0.90 during the morning peak hour and 0.95 during the evening peak hour.

The intersection of 15th Street at Washington Street operates at LOS B with v/c ratios of 0.79 or less during the morning peak hour and 0.64 or less during the evening peak hour for all analysis scenarios.

The intersection of Abernethy Road at Washington Street operates at LOS B with a v/c ratio of 0.82 or less during the morning peak hour and at LOS A with a v/c ratio of 0.55 or less during the evening peak hour for all analysis scenarios.

Upon build-out of the proposed development, the proposed site access intersection at Washington Street is projected to operate at LOS B with v/c ratios of 0.32 during the morning peak hour and 0.31 during the evening peak hour.

The Amtrak station access intersection at Washington Street currently operates at LOS B with a v/c ratio of 0.25 during both the morning and evening peak hours. Under year 2022 background

conditions, the intersection is projected to operate at LOS C with v/c ratios of 0.28 or less during the morning peak hour and 0.30 or less during the evening peak hour, regardless the addition of proposed development trips.

The intersection of Prairie Schooner Way at Washington Street operates at LOS A with a v/c ratio of 0.39 or less during the morning peak hour and at LOS B with a v/c ratio of 0.46 or less during the evening peak hour for all analysis scenarios.

The intersection of Clackamas River Drive at Washington Street operates at LOS B with v/c ratios of 0.62 or less during the morning peak hour and at level of service A with v/c ratios of 0.44 or less during the evening peak hour for all analysis scenarios.

The intersection of OR-213 at Clackamas River Drive operates at LOS B with v/c ratios of 0.84 or less during the morning peak hour and 0.90 or less during the evening peak hour for all analysis scenarios.

The v/c, delay, and LOS results of the capacity analysis are shown in Tables 3 and 4 for the morning and evening peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Based on the results of the operational analysis, all intersections are projected to operate acceptably per Oregon City standards through year 2022 either with or without the addition of site trips from the proposed development.

The intersections operating under ODOT jurisdiction are also projected to meet ODOT's respective performance standards, with the exception of OR 99-E at the I-205 ramp terminals. However, these intersections are specifically exempted from operational standards pursuant to OCMC 12.04.205(D).

Table 3 - Capacity Analysis Summary						
	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay	V/C	In	Out	Total
1. I-205 SB Ramps at OR-99E						
Existing Conditions	D	40	0.95	C	28	0.91
2022 Background Conditions	D	52	1.02	D	36	0.98
2022 Background plus Site Conditions	D	53	1.02	D	37	0.99
2. I-205 NB Ramps at OR-99E						
Existing Conditions	C	21	0.78	B	17	0.71
2022 Background Conditions	C	27	0.90	B	20	0.81
2022 Background plus Site Conditions	C	27	0.91	B	20	0.81
3. 15th St at OR-99E						
Existing Conditions	D	32	0.82	C	21	0.68
2022 Background Conditions	E	42	0.85	C	24	0.71
2022 Background plus Site Conditions	F	76	0.96	D	26	0.71
4. 14th St at OR-99E						
Existing Conditions	C	23	0.90	B	15	0.80
2022 Background Conditions	C	27	0.96	B	17	0.83
2022 Background plus Site Conditions	C	28	0.96	B	18	0.85
5. 14th St at Main St						
Existing Conditions	D	35	0.20	D	30	0.26
2022 Background Conditions	E	46	0.28	E	39	0.30
2022 Background plus Site Conditions	E	49	0.29	E	41	0.32
6. 7th St at Washington St						
Existing Conditions	C	20	0.65	C	21	0.68
2022 Background Conditions	C	22	0.71	C	24	0.74
2022 Background plus Site Conditions	C	23	0.72	C	24	0.75
7. 14th St at Washington St						
Existing Conditions	C	25	0.78	C	26	0.80
2022 Background Conditions	C	31	0.86	C	34	0.89
2022 Background plus Site Conditions	D	36	0.90	D	38	0.95
8. 15th St at Washington St						
Existing Conditions	B	11	0.66	B	11	0.58
2022 Background Conditions	B	11	0.70	B	13	0.62
2022 Background plus Site Conditions	B	17	0.79	B	14	0.64
9. Abernethy Rd at Washington St						
Existing Conditions	B	13	0.70	A	7	0.49
2022 Background Conditions	B	16	0.76	A	8	0.53
2022 Background plus Site Conditions	B	18	0.82	A	8	0.55

Table 4 - Capacity Analysis Summary (Continued)						
	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay	V/C	In	Out	Total
10. Site Access at Washington St						
2022 Background plus Site Conditions	B	15	0.32	B	15	0.31
11. Amtrak Station Access at Washington St						
Existing Conditions	B	15	0.25	B	14	0.25
2022 Background Conditions	C	16	0.27	C	15	0.28
2022 Background plus Site Conditions	C	23	0.29	C	18	0.30
12. Prairie Schooner Way at Washington St						
Existing Conditions	A	9	0.33	B	10	0.38
2022 Background Conditions	A	9	0.36	B	11	0.43
2022 Background plus Site Conditions	A	10	0.39	B	11	0.46
13. Clackamas River Dr at Washington St						
Existing Conditions	B	11	0.55	A	8	0.39
2022 Background Conditions	B	12	0.62	A	9	0.43
2022 Background plus Site Conditions	B	13	0.62	A	9	0.44
14. OR-213 at Clackamas River Dr						
Existing Conditions	B	10	0.77	B	11	0.84
2022 Background Conditions	B	12	0.83	B	14	0.89
2022 Background plus Site Conditions	B	12	0.84	B	14	0.90

Although not recommended in conjunction with the proposed development, it should be noted that according to Oregon City's Transportation System Plan (TSP), there is an identified project which would improve intersection operation at the intersection of OR-99E and the I-205 southbound ramps. The proposed improvement consists of installation of a second southbound left-turn lane, as well as providing a second eastbound receiving lane to accommodate the added turn lane. With installation of the additional turn lane, the intersection would be projected to operate with v/c ratios below 0.85 during the morning and evening peak hours either with or without the addition of site trips from the proposed development.

SAFETY ANALYSIS

CRASH DATA ANALYSIS

Using data obtained from the ODOT's Crash Analysis and Reporting Unit, a review of the most recent available five years of crash history (from January 2011 to December 2015) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak period represents 10 percent of average daily traffic (ADT) at the intersection. Crash rates in excess of one to two crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

I-205 Southbound Ramps Intersection at OR-99E

The I-205 southbound ramps intersection at OR-99E had 47 reported crashes during the analysis period. The crashes consisted of 25 rear-end collisions, 19 turning-movement collisions, one fixed-object collision, one collision involving a pedestrian, and one collision involving a bicyclist. Of the crashes reported, 20 were classified as "Property Damage Only" (*PDO*), 20 were classified as "Possible Injury – Complaint of Pain" (*Injury C*), six were classified as "Non-Incapacitating Injury" (*Injury B*), and one was classified as "Incapacitating Injury – Bleeding, Broken Bones" (*Injury A*). The crash rate at the intersection was calculated to be 0.55 CMEV.

Three of the reported crashes at the intersection involved a pedestrian, bicyclist, or was classified as an *Injury A* collision. The crash involving a pedestrian occurred when the driver of a westbound right-turning passenger car failed to yield right-of-way to a pedestrian who was utilizing some form of conveyance other than walking while in an intersection crosswalk. The driver of the vehicle had conducted a right-turn after coming to a stop at the intersection. The pedestrian sustained injuries consistent with *Injury B* classification while the driver of the vehicles was uninjured. The crash involving a bicyclist occurred when the driver of a westbound right-turning passenger car struck a southbound bicyclist who was traveling on the roadway shoulder against the flow of traffic. The bicyclist had disregarded the traffic signal and had entered the intersection illegally. The bicyclist sustained injuries consistent with *Injury B* classification while the driver of the vehicle was uninjured. The crash which resulted in injuries consistent with *Injury A* classification occurred when the driver of a northbound passenger car disregarded the traffic signal and collided with a westbound left-turning passenger car. The driver of the northbound vehicle sustained injuries while the other driver was uninjured.

I-205 Northbound Ramps Intersection at OR-99E

The I-205 northbound ramps intersection at OR-99E had 42 reported crashes during the analysis period. The crashes consisted of 28 rear-end collisions and 14 turning-movement collisions. Of the crashes reported, 23 were classified as *PDO*, 17 were classified as *Injury C*, one was classified as *Injury B*, and one was classified as *Injury A*. The crash rate at the intersection was calculated to be 0.48 CMEV.

One of the reported crashes at intersection was classified as an *Injury A* collision. The crash occurred when the driver of a westbound right-turning vehicle was following too close and rear-ended another passenger car that had stopped at the intersection. The driver of the vehicle that was rear-ended sustained injuries while the other driver was uninjured.

15th Street at OR-99E

The intersection of 15th Street at OR-99E had 20 reported crashes during the analysis period. The crashes consisted of 14 rear-end collisions, five turning-movement collisions, and one collision involving a bicyclist. Of the crashes reported, six were classified as *PDO*, 12 were classified as *Injury C*, one was classified as *Injury B*, and one was classified as *Injury A*. The crash rate at the intersection was calculated to be 0.27 CMEV.

One of the reported crashes at the intersection was classified as an *Injury A* collision. The crash occurred when the driver of a northwest-bound right-turning passenger car failed to yield right-of-way to a bicyclist crossing through the intersection. The driver of the passenger car had proceeded through the intersection after stopping, however had their vision obscured by some roadside obstruction. The bicyclist sustained injuries while the driver of the vehicle was uninjured.

14th Street at OR-99E

The intersection of 14th Street at OR-99E had 49 reported crashes during the analysis period. The crashes consisted of 24 turning-movement collisions, 23 rear-end collisions, and two collisions involving bicyclists. Of the crashes reported, 15 were classified as *PDO*, 25 were classified as *Injury C*, and nine were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.68 CMEV.

Two of the reported crashes at the intersection involved a bicyclist. One of the bicycle related crashes occurred when the driver of a southwest-bound left-turning passenger car was struck by a bicyclist who disregarded the traffic signal and had entered the intersection illegally. The driver of the vehicle was uninjured while the bicyclist sustained injuries consistent with *Injury B* classification. The second bicycle related crash occurred when the driver of a northeast-bound right-turning passenger car failed to yield right-of-way to a bicyclist. The driver of the vehicle was uninjured while the bicyclist sustained injuries consistent with *Injury B* classification.

14th Street at Main Street

The intersection of 14th Street at Main Street had 30 reported crashes during the analysis period. The crashes consisted of 21 angle-type collisions, six turning-movement collisions, two collisions involving bicyclists, and one collision involving a pedestrian. Of the crashes reported, 15 were

classified as *PDO*, 11 were classified as *Injury C*, and four were classified as *Injury B*. The crash rate at the intersection was calculated to be 1.46 CMEV.

Based on the calculated crash rate being in excess of one crash per million entering vehicles, additional investigation regarding the safety of the intersection is appropriate. It was noted that Oregon City's Transportation System Plan includes a recommendation to convert this intersection to all-way stop control as mitigation for the high incidence of crashes at the intersection. The intersection crash history shows five or more crashes per year that are susceptible to correction by installation of all-way stop control for each of the three most recent years analyzed (2013, 2014 and 2015). Accordingly, all-way stop control is both warranted and recommended based on the crash history. No other specific safety mitigations are recommended based on the crash history. A more detailed discussion of this potential safety mitigation including operational and queuing impacts is provided on page 40.

7th Street at Washington Street

The intersection of 7th Street at Washington Street had nine reported crashes during the analysis period. The crashes consisted of four angle-type collisions, four turning-movement collisions, and one rear-end collision. Of the crashes reported, five were classified as *PDO* and four were classified as *Injury C*. The crash rate at the intersection was calculated to be 0.25 CMEV.

14th Street at Washington Street

The intersection of 14th at Washington Street had nine reported crashes during the analysis period. The crashes consisted of four turning-movement collisions, three rear-end collisions, one fixed-object collision, and one angle-type collision. Of the crashes reported, four were classified as *PDO* and five were classified as *Injury C*. The crash rate at the intersection was calculated to be 0.32 CMEV.

15th Street at Washington Street

The intersection of 15th Street at Washington Street had 20 reported crashes during the analysis period. The crashes consisted of ten turning-movement collisions, six angle-type collisions, three rear-end collisions, and one collision involving a bicyclist. Of the crashes reported, nine were classified as *PDO*, nine were classified as *Injury C*, and two were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.80 CMEV.

One of the reported crashes at the intersection involved a bicyclist. The crash occurred when the driver of a southeast-bound left-turning passenger car failed to yield right-of-way to a bicyclist. The driver of the passenger car had their vision obscured by some roadside obstruction. The bicyclist sustained injuries consistent with *Injury C* classification while the driver of the vehicle was uninjured.

Abernethy Road at Washington Street

The intersection of Abernethy Road at Washington Street had no reported crashes during the analysis period.

Amtrak Station Access at Washington Street

The Amtrak station access intersection at Washington Street had no reported crashes during the analysis period.

Prairie Schooner Way at Washington Street

The intersection of Prairie Schooner Way at Washington Street had three reported crashes during the analysis period. All three crashes were turning-movement collisions, two of which were classified as *PDO* while one was classified as *Injury B*. Since the intersection was recently constructed near the end of year 2012, the crash rate was calculated to be 0.23 CMEV based on three years of complete crash history.

Clackamas River Drive at Washington Street

The intersection of Clackamas River Drive at Washington Street had two reported crashes during the analysis period. One of the crashes was a rear-end collision while the other was a turning-movement collision. Both crashes were classified as *PDO*. Since the intersection was recently constructed near the end of year 2012, the crash rate was calculated to be 0.17 CMEV based on three years of complete crash history.

OR-213 at Clackamas River Drive

The intersection of OR-213 at Clackamas River Drive was recently reconstructed near the end of year 2012. Prior to reconstruction, the intersection allowed full turning-movements for all approaches. Currently, the intersection allows only right-in/right-out movements for the minor-street approaches while bi-directional traffic along the major-street is separated by a raised median.

Since significant changes to traffic controls had occurred at the intersection, it's reasonable to assume that crash patterns have also significantly changed. Prior to reconstruction of the intersection, over a duration of two years (between 2011 and 2012) a total of 19 crashes were reported at the intersection. After construction was completed, over a duration of three years (between 2013 and 2015) a total of 15 crashes were reported. Based on this information, on average 9.5 crashes per year had occurred at the intersection prior to reconstruction while 5.0 crashes per year had occurred after construction had ended. In order to more accurately assess safety at the intersection, only three years of crash data between years 2013 and 2015 was reviewed instead of five years.

Based on the three years of crash history, the intersection had 15 reported crashes during the analysis period. The crashes consisted of eight rear-end collisions, two turning-movement collisions, two overturning collisions, one angle-type collision, one fixed-object collision, and one sideswipe collision. Of the crashes reported, four were classified as *PDO*, eight were classified as *Injury C*, and three were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.22 CMEV.

Based on the detailed crash data for the study intersections, it is recommended that the intersection of 14th Street at Main Street be converted to all-way stop control. No other specific mitigations are recommended for the study area intersections based on the crash history.

SIGHT DISTANCE

Sight distance was examined for the proposed site access intersection along Washington Street. The proposed access will be located at/near the existing driveway access that currently serves tax lot 1300 of the project site. Intersection sight distance was measured and evaluated in accordance with the standards established in *A Policy on Geometric Design of Highways and Streets*[2]. According to AASHTO, the driver's eye is assumed to be 15 feet from the near edge of the nearest travel lane of the intersecting street and at a height of 3.5 feet above the approach street pavement. The major-street approaching vehicle driver's eye-height is assumed to be 3.5 feet above the cross-street pavement.

The posted speed along Washington Street changes between 25 mph and 35 mph at the proposed access location; 25 mph to the southwest of the proposed access and 35 mph to the northeast. Based on the posted speeds along Washington Street, the minimum required intersection sight distances for maintaining relatively uninterrupted traffic flow along the roadway are 280 feet for northeast-bound approaching vehicles and 390 for southwest-bound approach vehicles. At the proposed site access, intersection sight distance was measured to be in excess of 700 feet to the northeast and 378 feet to the southwest, limited by a crest in the vertical curvature of the roadway.

Based on the detailed analysis, adequate sight distance is available for the proposed site access intersection. No sight distance mitigation is necessary or recommended.

WARRANT ANALYSIS

Left-turn lane and traffic signal warrants were examined for the study intersections where such treatments would be applicable.

A left-turn refuge lane is primarily a safety consideration for the major street, removing left-turning vehicles from the through traffic stream. The left-turn lane warrants used were developed from the National Cooperative Highway Research Project's (NCHRP) Report 457. Turn lane warrants were evaluated based on the number of advancing and opposing vehicles as well as the number of turning vehicles, the travel speed, and the number of through lanes.

Left-turn lane warrants are project to be met for the following two intersection approaches:

- Northeast-bound approach at the intersection of 14th Street at Main Street under existing conditions during the morning and evening peak hours.
- Northwest-bound approach at the site access intersection at Washington Street under year 2022 build-out conditions during the morning peak hour.

The intersection of 14th Street at Main Street is included within Oregon City's TSP and is planned for conversion to all-way stop control in the short-term. Typically, conversion of an intersection to all-way stop control means that the left-turn lane warrants are no longer applicable. However, based on

[2] American Association of State Highways and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 6th Edition, 2011.

the operational analysis of intersection operation under all-way stop control it is recommended that a northwest-bound left-turn lane be provided at the intersection even under all-way stop control in order to ensure that all approaches will continue to operate within capacity.

Traffic signal warrants were examined for unsignalized stop-controlled study intersections to determine whether the installation of any new traffic signal will be warranted at the intersections upon completion of the proposed development and change in zoning. Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met for any of the unsignalized stop-controlled study intersections under any of the analysis scenarios.

CIRCULATION AND CONNECTIVITY ANALYSIS

The proposed development is immediately adjacent to Washington Street, which provides connections to the greater street network for motor vehicles, pedestrians and bicycles.

Motor vehicle connectivity was described in detail in the description of the study area as well as the operational analysis provided for study area intersections. The proposed development site has adequate safe access for motor vehicle transportation modes.

Continuous sidewalks are provided along the east side of Washington Street in the site vicinity while intermittent sidewalks are available along the west side. It is anticipated that continuous sidewalks will be provided along the site frontage concurrent with development of the site. Sidewalks are also provided along both sides of most other roadways in the site vicinity.

Washington Street has continuous bike lanes in place on both sides of the roadway. Abernethy Road also has bike lanes in both directions southeast of the subject property. In addition to these major streets, local streets in the immediate site vicinity generally carry motorized traffic at speeds and volumes that allow bicycles to safely share the roadway.

In addition to the typical transportation modes described above, it should be noted that the subject property is also immediately adjacent to the Oregon City Amtrak station, which provides connectivity by rail to Salem, Albany, Eugene and beyond to the south, and to Portland, Vancouver, Kelso/Longview, Tacoma, Seattle and more to the north.

Within the subject property, motor vehicle speeds and volumes are projected to be low. Sidewalks and crosswalks will be provided internal to the site for access to the proposed buildings both from the adjacent street sidewalks and from the parking areas within the site. The proposed site plan adequately accommodates the circulation of pedestrians, bicycles and motor vehicles within the site.

Based on the analysis of connectivity and circulation for all modes, the surrounding transportation infrastructure is adequate for safe travel for pedestrians, bicycles, and motor vehicles.

ACCESS SPACING STANDARDS

The proposed development will either construct a new access near or utilize an existing access driveway, which currently serves tax lot 1300 of the project site, located along Washington Street. In

order to assess whether access spacing standards can be met at the proposed access location, code section 12.04.195 – *Spacing Standards* from Oregon City's municipal code was referenced.

According to Table 12.04.195.B – *Minimum Driveway Spacing Standards*, the *"minimum distance from a street corner to a driveway of all uses and minimum distance between driveways for uses other than single and two-family dwellings"* along Minor Arterial roadways shall be 175 feet. The nearest driveways/public roadways to the project site along northwestern side of Washington Street are the Amtrak station access immediately to the northeast and an automotive repair shop's driveway approximately 75 feet to the southwest. The project site has approximately 520 feet of frontage along Washington Street, 245 feet of which could have a site access built while satisfying City access spacing standards. Therefore, a proposed site access may be constructed along Washington Street while meeting Oregon City standards.

MITIGATION ANALYSIS

Although the operational analysis did not demonstrate the need for any operational mitigation in order to meet city standards, the high historical crash rate for the intersection of 14th Street at Main Street is indicative of the need for safety mitigation.

In conformance with the city's Transportation System Plan, the intersection was identified as a candidate location for conversion to all-way stop control. Providing all-way stop control would be expected to reduce the frequency of the reported crash types. However, introduction of stop signs along 14th Street could also result in increased queue lengths. Given the short distance between Main Street and OR-99E along 14th Street, special consideration of the potential capacity and queuing impacts of all-way stop control is appropriate at this location.

Based on the operational analysis, conversion to all-way stop control absent other improvements would be projected to result in eastbound queues on 14th Street backing up onto OR-99E. Installation of eastbound and westbound left-turn lanes along 14th Street at Main Street was also determined to be insufficient to mitigate queueing and capacity concerns along the 14th Street corridor with stop control at Main Street.

In order to improve operation and reduce queue lengths, two additional improvements are recommended in conjunction with conversion to all-way stop control. The first is to convert the eastbound and westbound approaches on 14th Street at Main Street to each have a shared left/through lane and a shared through/right lane. This lane configuration provides two eastbound lanes in which through traffic can queue, significantly increasing the available eastbound queue storage between Main Street and OR-99E. With two receiving lanes, the eastbound storage is sufficient to accommodate platoons of vehicles making southbound left turns from OR-99E onto 14th Street. This improvement thus ensures that acceptable operation can be maintained during the evening peak hour, when eastbound volumes are highest on 14th Street.

The second improvement addresses operation during the morning peak hour. Even with two westbound lanes provided along 14th Street, long queues would be projected to develop in the right lane since most eastbound drivers turn right onto OR-99E. Introduction of all-way stop control would limit the number of vehicles that could enter OR-99E during the green indication, since

vehicles that currently could be served may be stuck at the stop sign at Main Street. In order to balance traffic volumes between the two eastbound lanes and maximize the number of vehicles that can enter OR-99E during each green indication, it is recommended that the westbound approach on 14th Street to OR-99E be converted to have a shared left/right turn lane and a dedicated right turn lane.

A Synchro/SimTraffic analysis was conducted for the proposed improvements, including conversion to all-way stop control for safety as well as reconfiguration of the intersection approaches on 14th Street as described.

Based on the operational analysis, the intersection of Highway 99E at 14th Street is projected to operate at level of service C and with a v/c ratio of 0.94 during the morning peak hour under year 2022 traffic conditions with the addition of site trips from the proposed development and the proposed safety, queuing, and capacity improvements in place. During the evening peak hour, the intersection is projected to operate at level of service C with a v/c ratio of 0.91.

Under year 2022 traffic conditions with the addition of site trips from the proposed development and the proposed safety, capacity and queuing improvements in place, the intersection of 14th Street at Main Street is projected to operate at level of service C during the morning peak hour, with a v/c ratio of 0.72 for the critical approach. During the evening peak hour, the intersection is projected to operate at level of service C, with a v/c ratio of 0.54 for the critical movement. Notably, the v/c ratio for the eastbound 14th Street approaches is projected to be less than 0.50 during both the morning and evening peak hours.

Based on the queuing analysis, the average queue length projected on the eastbound 14th Street approach to Main Street was projected to be 70 feet during the morning peak hour and 84 feet during the evening peak hour. Observation of the queueing simulation showed that although the available queue storage eastbound often filled, the queues immediately clear following each cycle of the traffic signal at OR-99E, and the queues of southbound vehicles turning left from OR-99E onto 14th Street also clear regularly. Additionally, although westbound queues develop during the morning peak hour on 14th Street approaching Main Street, the queues do not extend to Washington Street and result in congestion on the local street network.

Based on the analysis, installation of all-way stop control can be recommended as a safety mitigation for the intersection of 14th Street at Main Street provided that the eastbound and westbound approaches on 14th Street approached Main Street are converted to each have a shared left/through lane and a shared through/right lane, and the westbound 14th Street approach to OR-99E is converted to have a shared left/right lane and a dedicated right-turn lane at the signal.

It should also be noted as an alternative to the above-recommended improvements that the city's Transportation System Plan also includes an alternative improvement consisting of conversion of 14th Street to one-way eastbound from OR-99E to John Adams Street and conversion of 15th Street to one-way westbound from Washington Street to OR-99E. This option would result in more significant changes to trip routing within the study area. It would also likely necessitate installation of a new traffic signal at the intersection of Highway 99E and 15th Street, since this would become the intersection that accommodates westbound left-turns onto OR-99E. Although this alternative

improvement can be considered by the city and ODOT, the associated impacts and costs are well beyond what can reasonably be expected as mitigation for development of the subject property.

PROPORTIONALITY ANALYSIS

In order to determine the relative impacts of the proposed development at locations requiring mitigation, a proportionality analysis was prepared. Generally, any requested mitigation must have a logical connection or "nexus" to the proposed development, and the requested mitigation must be roughly proportional to the impacts of the proposed development.

For this project, two primary mitigations were recommended based on the safety analysis. These consist of installation of a northbound left-turn lane at the site access and a collection of improvements near the intersection of 14th Street and Main Street to improve safety while maintaining acceptable operation of the impacted intersections.

The northbound left-turn lane recommended at the site access serves site traffic and is located along the site frontage. Accordingly, there is a logical nexus between the proposed development and the safety mitigation. Since the access will serve exclusively site traffic, it is reasonable to request that the improvement be funded by the proposed development.

The improvements intended to address existing safety concerns at the intersection of 14th Street and Main Street are not directly contiguous to the site, and the proposed development is not causing the safety problem since it is occurring under existing conditions. However, the site will add trips through the intersection. Accordingly, there is also a logical nexus between this improvement need and the proposed development.

In order to assess the proportionate impacts of the proposed development on the intersection, traffic volumes were considered for existing and year 2022 conditions. These volumes were compared to the projected number of site trips added to the intersection under Phase 1 development of the 99-room hotel as well as at full site build-out. Currently, the intersection accommodates 1,062 entering vehicles during the morning peak hour and 1,123 entering vehicles during the evening peak hour. Under year 2022 background plus site trips conditions, the intersection is projected to accommodate 1,196 entering vehicles during the morning peak hour and 1,265 entering vehicles during the evening peak hour.

Based on the site trip generation and distribution, Phase 1 of the proposed development would be projected to add 8 site trips to the intersection during the morning peak hour and 10 site trips during the evening peak hour. At full site build-out, the development is projected to add 23 trips to the intersection during the morning peak hour and 26 trips during the evening peak hour in total.

The added trips from Phase 1 are projected to represent less than one percent of the traffic passing through the intersection under year 2022 conditions, and the total impact from Phases 1 and 2 is projected to represent two percent of the traffic passing through the intersection.

Often, proportionality analysis is conducted not based on the total intersection volumes as compared to the site traffic volumes, but instead on the portion of the projected traffic increase that is

attributable to the proposed development. In this case, it is probably not appropriate to assess relative impacts in this manner, since the historical safety problem is entirely attributable to existing traffic rather than the projected traffic increases. Nevertheless, if the proportionality analysis were conducted based on only the projected increase in trips, the proposed development would represent 6% of the increase during the morning peak hour and 7% of the increase during the evening peak hour for Phase 1. The cumulative impact of Phases 1 and 2 would represent 17% of the increased traffic volumes during the morning peak hour and 18% of the increase during the evening peak hour.

Based on this analysis, it is reasonable to conclude that the proposed development should not be solely responsible for the costs associated with the recommended safety improvements for the intersection of 14th Street at Main Street. If the city desires to require mitigation from the proposed development, it may therefore be appropriate to request a proportionate share payment based on the impacts of the proposed development rather than requesting construction of the recommended improvements.

CONCLUSIONS

Based on the operational analysis, all study area intersections are projected to operate acceptably per Oregon City code standards through 2022 either with or without the addition of site trips from the proposed development.

Based on the crash analysis, the intersection of 14th Street at Main Street was identified as having a high crash rate. It is recommended that the intersection be converted to all-way stop control to address this safety concern. It is recommended that concurrent with conversion to all-way stop control the eastbound and westbound approaches on 14th Street be converted to have a shared left/through lane and a shared through/right lane. Additionally, it is recommended that the westbound approach to Highway 99E be converted to have a shared left/right turn lane and a dedicated right-turn lane. With these improvements in place, it is anticipated that the safety of the intersection will be improved while maintaining acceptable operation of the affected intersections.

It should be noted that the city's Transportation System Plan includes an alternative improvement that could address safety concerns at the intersection of 14th Street and Main Street, consisting of conversion of 14th Street to one-way eastbound from OR-99E to John Adams Street and conversion of 15th Street to one-way westbound from Washington Street to OR-99E. This alternative treatment would likely necessitate installation of a new traffic signal for the intersection of Highway 99E at 15th Street.

Intersection sight distance is adequate at the site access intersections. No sight distance mitigation is recommended.

Based on the left-turn lane warrant analysis, installation of a northbound left-turn lane on Washington Street at the site access is recommended for safe operation of the new site access.

Since the westbound 14th Street approach to Main Street currently meets left-turn lane warrants, it is recommended that a northwest-bound left-turn lane be provided even if the intersection is not converted to all-way stop control.

Due to insufficient main and side-street traffic volumes, traffic signal warrants are not projected to be met for any of the unsignalized stop-controlled study intersections under any of the analysis scenarios.

The proposed site access intersection at Washington Street can be constructed to meet the minimum access spacing standards required by the Oregon City Municipal Code.

Based on the proportionality analysis, it was determined that a requirement to construct a left-turn lane serving the site access would be proportionate to the impacts of the proposed development. However, a requirement for construction of safety improvements at the intersection of 14th Street and Main Street would not proportionate to the impacts of the development. If the city desires to require mitigation from the proposed development, it may therefore be appropriate to request a proportionate share payment based on the impacts of the proposed development rather than requesting construction of the recommended improvements.

REPLINGER & ASSOCIATES LLC
TRANSPORTATION ENGINEERING

July 14, 2017

Mr. Pete Walter
City of Oregon City
PO Box 3040
Oregon City, OR 97045

SUBJECT: REVIEW OF TRAFFIC IMPACT STUDY – ABERNETHY PLACE MIXED-USE DEVELOPMENT – CP17-02

Dear Mr. Walter:

In response to your request, I have reviewed the materials submitted in support of the proposed development of Abernethy Place. The relevant materials consisted of the Traffic Impact Study (TIS), dated April 26, 2017. It was prepared under the direction of Michael T. Ard, PE of Lancaster Engineering.

The proposed development is located on the northwest side of Washington Street between 17th Street and Oregon City's Amtrak Station. The site, located opposite the End of the Oregon Trail Interpretive Center, is approximately 4.1 acres in size. The development proposed consists of a 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop. The hotel is proposed as the first phase with other uses to be constructed in a subsequent phase. The analysis was conducted for the entire development using a horizon year of 2022.

The TIS provides a basis upon which the development can be evaluated for the specific purposes described above.

Comments

1. Study Area. The study addresses the appropriate intersections. The engineer evaluated traffic patterns, traffic volumes, and operations at fourteen locations. The key intersections were:

1. Interstate 205 (I-205) southbound ramps at McLoughlin Boulevard (OR-99E);
2. I-205 northbound ramps at OR-99E;
3. 15th Street at OR-99E;
4. 14th Street at OR-99E;
5. 14th Street at Main Street;
6. 7th Street at Washington Street;
7. 14th Street at Washington Street;

8. 15th Street at Washington Street;
9. Abernethy Road at Washington Street;
10. Proposed site access at Washington Street;
11. Amtrak station access at Washington Street;
12. Prairie Schooner Way at Washington Street;
13. Clackamas River Drive at Washington Street; and
14. OR-213 at Clackamas River Drive.

These fourteen intersections were identified for the study in consultation with city staff and the Oregon Department of Transportation (ODOT).

2. ***Traffic Counts.*** The traffic counts were conducted in January 2017 at the intersections in #1, above. Traffic counts were conducted during the AM and PM peak periods. The base year traffic volumes appear reasonable.

3. ***Trip Generation.*** The TIS presents information on trip generation from the construction of 99-room hotel, 131 apartment units, 9,500 square-feet of retail space, and a 2,500 square-foot coffee shop. The trip generation rates were taken from the Institute of Transportation Engineers' *Trip Generation Manual – 9th Edition.* The engineer accounted for internal trips (those made within the development between different uses) and pass-by trips. After accounting for these adjustments, the development is calculated to produce 159 new AM peak hour trips; 151 new PM peak hour trips; and 1595 new total weekday trips. The trip generation appears reasonable.

4. ***Trip Distribution.*** The engineer's trip distribution shows 30 percent of traffic going to and from the north on OR 213; 12 percent to and from the north on OR-99E; 10 percent to and from the southeast on 7th Street; 9 percent to and from the southwest on Washington Street; and 39 percent utilizing other streets including I-205, Clackamas River Drive, Main Street, 15th Street, and OR-99E to the south. Pass-by trips and primary trips are accounted for separately. The engineer also provided information about the predicted use of the three site access points. The trip distribution seems reasonable.

5. ***Traffic Growth.*** The engineer calculated 2020 traffic volumes using several factors. ODOT's Future Volume Tables were used for OR 213 and for OR-99E. An annual growth rate of 0.7 percent on OR-99E and 1.2 percent on OR 213. For other facilities, the annual growth rate was assumed to be 2.0 percent annually. These values adequately account for regional growth.

6. ***Analysis.*** Traffic volumes were calculated for the intersections described in #1, above. At each location, the level of service (LOS), delay calculations, and the volume-to-capacity ratio (v/c) were provided to assess operations relative to the ODOT and city's operational standards. The analysis was undertaken for the AM and PM peak hours and

included year 2017 existing conditions, year 2022 background conditions, and year 2022 total traffic conditions.

The analysis shows a slight or modest degradation in the performance at the study area intersections with somewhat greater impact at the intersections nearest the site.

The engineer concludes:

> "Based on the results of the operational analysis, all intersections are projected to operate acceptably per Oregon City standards through year 2022 either with or without the addition of site trips from the proposed development.
>
> "The intersections operating under ODOT jurisdiction are also projected to meet ODOT's respective performance standards, with the exception of OR 99-E at the I-205 ramp terminals. However, these intersections are specifically exempted from operational standards pursuant to OCMC 2.04.205(D)."

According to the analysis, the I-205/OR-99E ramp terminals currently do not meet ODOT's ramp terminal operational standard (v/c of 0.85) under existing conditions nor are they expected to do so without mitigation.

The I-205/OR-99E southbound ramp terminal is calculated under existing conditions to operate at v/c of 0.95 during the AM peak hour and 0.91 during the PM peak hour. Under 2022 background conditions, it is expected to degrade to 1.02 during the AM peak hour and 0.98 during the PM peak hour. With the development, some additional degradation is predicted. The v/c is predicted to be 1.02 during the AM peak hour and 0.99 during the PM peak hour.

The I-205/OR-99E northbound ramp terminal is calculated under existing conditions to operate at v/c of 0.78 during the AM peak hour and 0.71 during the PM peak hour. Under 2022 background conditions, it is expected to degrade to 0.90 during the AM peak hour and 0.81during the PM peak hour. With the development, some additional degradation is predicted. The v/c is predicted to be 0.91during the AM peak hour and 0.81 during the PM peak hour.

Having identified these operational issues at the I-205/OR-99E ramp terminals, the engineer concludes:

> "Although not recommended in conjunction with the proposed development, it should be noted that according to Oregon City's Transportation System Plan (TSP), there is an identified project which would improve intersection operation at the intersection of OR-99E and the I-205 southbound ramps. The proposed improvement consists of installation of a second southbound left-turn lane, as well as providing a second eastbound receiving lane to accommodate the added turn lane. With installation of the additional turn lane, the

> intersection would be projected to operate with v/c ratios below 0.85 during the morning and evening peak hours either with or without the addition of site trips from the proposed development."

The Transportation System Plan includes I-205/OR-99E ramp terminal improvements for the southbound ramp terminal and northbound ramp terminal as projects as D75 and D76 respectively. The estimated price of each listed in TSP Table A1 is $3 million. The projects are listed in the "not likely to be funded" category.

Asking or requiring the developer to contribute to these projects in proportion to his impact would be a method of starting to acquire funding in support of these projects. Using the total 2035 traffic volumes from the TSP for these intersections, the development would account for approximately 0.42 percent of the PM peak hour traffic at the southbound ramp terminal and 0.49 percent of the PM peak hour traffic at the northbound ramp terminal.

7. Crash Information. The TIS provides crash information for the five-year period from 2011 through 2015 for all of the existing intersections identified in #1, above.

All intersections experienced moderate or low crash rates with one exception. The intersection of Main Street and 14th Street experienced a crash rate of just under 1.5 reported crashes per million entering vehicles, exceeding the value of 1 crash per million that is generally indicative of need for more analysis and possible mitigation.

In the TIS, the engineer provides the following commentary:

> "The intersection of 14th Street at Main Street had 30 reported crashes during the analysis period. The crashes consisted of 21 angle-type collisions, six turning-movement collisions, two collisions involving bicyclists, and one collision involving a pedestrian. Of the crashes reported, 15 were classified as PDO[1], 11 were classified as Injury C[2], and four were classified as Injury B[3]. The crash rate at the intersection was calculated to be 1.46 CMEV.[4]
>
> "Based on the calculated crash rate being in excess of one crash per million entering vehicles, additional investigation regarding the safety of the intersection is appropriate. It was noted that Oregon City's Transportation System Plan includes a recommendation to convert this intersection to all-way stop control as mitigation for the high incidence of crashes at the intersection. The intersection crash history shows five or more crashes per year that are susceptible to correction by installation of all-way stop control for each of the three most recent years analyzed (2013, 2014 and 2015). Accordingly, all-way stop control is both warranted and recommended based on the crash history. No other specific safety

[1] PDO is the abbreviation for "property damage only."
[2] Injury C is for "possible injury – complaint of pain."
[3] Injury B is for "non-incapacitating injury."
[4] CMEV is the abbreviation for "crashes per million entering vehicles."

> mitigations are recommended based on the crash history. A more detailed discussion of this potential safety mitigation including operational and queuing impacts is provided on page 40."

I concur with the engineer's conclusion that the types of crashes prevalent at this intersection (including angle crashes and turning crashes) are among those that are susceptible to mitigation by conversion to all-way stop control. Though predicting the results of mitigation measures is somewhat speculative, it is likely that conversion to all-way stop control would produce significant reductions and could reduce the crash rate to less than 1.0 CMEV.

The proposed development will increase the intersection traffic volume by about two percent. Without mitigation it is unlikely that the number of crashes or crash rate would be changed significantly by the development. The existing crash rate and the slight increase in traffic caused by the proposed development are not justification for denial of the application nor would it be reasonable to require the applicant to fully fund or implement mitigation measures for the existing problem. Requiring the applicant to share in the project cost in proportion to his impact would help advance the implementation of appropriate crash mitigation and capacity-enhancing measures.

In his discussion of this crash mitigation measure, the engineer provides a detailed discussion about the implications associated with the conversion of this intersection to all-way stop control. The basic problem with all-way stop control is the potential for long queues that could back up to OR-99E. To avoid the problem of excessive queue lengths, the engineer recommends implementation of the following changes simultaneously:

- Convert Main Street/14th Street to all-way stop control;
- Convert the eastbound and westbound approaches on 14th Street at Main Street to each have a shared left/through lane and a shared through/right lane.
- Convert the westbound approach on 14th Street to OR-99E to have a shared left/right turn lane and a dedicated right turn lane.

The project described by the engineer is consistent with one of the options for TSP project D7, Main Street/14th Street Intersection Improvements.

As an alternative, the engineer discusses the other option from the TSP to address operations at this intersection. This option consists of converting 14th Street and 15th Street into a one-way couplet. Among other things, this option would require a new traffic signal at McLoughlin and 14th Street.

Note that both of these options for project D7 are discussed in the TSP as measures to reduce future congestion rather than as crash mitigation. Considerable detail including

the benefits and shortfalls of each option are included Volume 2 of the TSP (Section J – Performance Analysis of Planned and Constrained Transportation Systems).

Project D7 is listed in TSP Table 1: Likely to be Funded Transportation System as a short-term priority. The short-term priority projects are defined as projects recommended for implementation in one to five years. Requiring developments that put additional traffic through this intersection to participate in funding may help advance the implementation of this project.

8. ***Turn Lanes at Site Entrance(s).*** The engineer performed a warrant analysis to assess whether a left turn lane was justified at the on northbound Washington Street at the site access. Based on volumes, a left turn lane is warranted at this location and should be constructed in connection with improvements of Washington Street in connection with the development.

9. ***Pedestrian and Bicycle Facilities.*** The TIA provides information on the presence of facilities for bicyclists and pedestrians. Bike lanes are currently provided along Washington Street. Frontage improvements should retain these lanes and provide sidewalks consistent with the city's street standards.

10. ***Site Plan and Access.*** The site is proposed to have three access points: access from 17th Street, a new access on Washington Street, and a shared access with the adjacent Amtrak Station. The driveway to Washington Street will either be a new access point or will be one currently serving an existing use. The access locations appear appropriate.

11. ***Intersection Spacing.*** No new intersections are planned in connection with this proposal.

12. ***Sight Distance.*** The engineer measured sight distance where access. Sight distance was found to be in excess of the sight distance required in both directions.

13. ***Consistency with the Transportation System Plan (TSP).*** The frontage improvements appear to be consistent with the TSP and city standards. The crash mitigation measures discussed in connection with Main Street and 14th Street are also consistent with the TSP.

14. ***Conclusions and Recommendations.*** As stated in the TIS, all intersections are calculated to operate consistent with the city's operational standards in 2022 with or without the development.

The development is predicted to contribute additional traffic to the ramp terminals at I-205 and OR-99E. The ramp terminals are exempt from the city's operational standards, but are currently failing to operate at ODOT's operational standards for ramp terminals. The

engineer notes that projects to improve the performance are included in the city's adopted TSP, though he does not recommended addressing the limitations in connection with this development.

The intersection of Main Street and 14th Street was shown to experience a high crash rate. The proposed development will contribute a modest amount of traffic to this intersection. The engineer recommends conversion of the intersection to all-way stop control as a crash mitigation measure. Because the conversion to all-way stop control will result in longer queues, he recommends other modifications including more lanes on 14th Street and a change in the configuration of 14th Street at McLoughlin Boulevard (OR-99E). The engineer's recommendation is consistent with one option for improvements to this intersection specified in the adopted TSP. He acknowledges that it would be appropriate for the developer to pay a proportionate share of the project cost.

Since the westbound 14th Street approach to Main Street currently meets left-turn lane warrants, the engineer recommends that a northwest-bound left-turn lane be provided even if the intersection is not converted to all-way stop control.

The engineer concludes that a left-turn lane on northbound Washington Street at the site access. He concludes that sight distance and spacing are adequate.

Conclusion and Recommendations

I find that the TIS provides an adequate basis upon which to assess the impacts of the proposed development. The engineer uses appropriate data and methods to analyze the operations and developed appropriate mitigation measures to address safety and operation issues.

With regard to the proposed development, I recommend the following conditions of approval relative to the off-site transportation impacts:

> The developer shall construct Washington Street along the site frontage including a center turn lane to provide for left turns into the site. Applicant shall provide additional traffic engineering analysis relating to the location of the site access that shows the location of proposed access will not interfere with queuing or traffic operations at adjacent traffic signals through the TSP planning horizon.
>
> The developer shall participate in the funding of improvements for the I-205/OR-99E ramp terminal projects (TSP Projects D75 and D76) in proportion to his development's traffic volumes as a percentage of total year 2035 intersection volumes from the TSP. Based on this methodology, the developer would be responsible for 0.42% of the $3 million cost for Project D75 and for 0.49% of the

project cost for Project D76. This would result in a contribution from the applicant of $12,600 + $14,700.

The developer shall participate in the funding of improvements for the Main Street/14th Street improvements (TSP Projects D7 and D8) in proportion to his development's traffic volume as a percentage of the predicted 2035 traffic volume at the intersection calculated in the TSP. Based on the applicant's predicted site traffic, the applicant's responsibility would be 1.66% of the project's cost. The higher cost option in the TSP is listed at $670,000. That would result in a contribution from the applicant of $11,122.

Based on the existing high crash rate at the intersection of Main Street and 14th Street and continuing development in the city that will result in increased traffic volumes, the selection of a preferred option for TSP project D7 and a review of the implementation schedule for this project may be appropriate.

If you have any questions or need any further information concerning this review, please contact me at replinger-associates@comcast.net.

Sincerely,



John Replinger, PE
Principal

Oregon City\2017\CP17-02v4

REPORT OF GEOTECHNICAL ENGINEERING SERVICES

Proposed Abernethy Place Project
17th Street and Washington Street
Oregon City, Oregon

For
Hackett Hospitality Group, LLC
c/o Hill Architects
May 9, 2017

GeoDesign Project: HillArch-2-02

1.0 INTRODUCTION

This report presents the results of GeoDesign's geotechnical engineering evaluation for the proposed Abernethy Place project located north of the intersection of 17th Street and Washington Street in Oregon City, Oregon.

The site is shown relative to surrounding features on Figure 1. A site plan showing the location of our explorations and approximate site boundaries is presented on Figure 2. Acronyms and abbreviations used herein are defined at the end of this document.

2.0 PROJECT UNDERSTANDING

The site is approximately 4 acres in size and currently occupied by various businesses and the historic Hackett House. With the exception of the Hackett House, all the structures will be demolished. Based on information available in the RFP dated February 14, 2017, the proposed development will likely consist of two structures (Buildings A and B) up to five stories in height; basements are not planned. Building A is located on the western portion of the site and will include a hotel structure, and Building B is located on the eastern portion of the site and will likely be a mixed-use structure. In addition, development will include paved parking and drive aisles along with stormwater treatment facilities. Maximum column loads are estimated to be 400 kips and wall loads (dead and live loads) will be 14 kips per linear foot. We have assumed that floor slab loads will be less than 150 psf. Based on information provided by Sisul Engineering, site cuts will generally range from 0 to 2 feet above existing grades across the northwestern portion of the site and in a small area at the eastern edge. Site fills will range up 8 feet above existing grades across the southwestern portion of the site.

3.0 PURPOSE AND SCOPE

The purpose of our services was to provide geotechnical engineering recommendations for design and construction of the proposed development, including design parameters and foundation options. The specific scope of our services is summarized as follows:

- Reviewed readily available published geologic data and our in-house files for existing information on subsurface conditions in the site vicinity.
- Completed and submitted permit applications and appropriate fees to the City of Oregon City to conduct exploratory borings in the ROWs at the site.
- Coordinated and managed the field investigation, including locating utilities, coordination with existing tenants, and scheduling subcontractors.
- Completed a geotechnical exploration program that consists of the following:
  - Two borings in each of the building footprints (Buildings A and B) to depths of up to 55.4 feet BGS.
  - Four shallow borings to depths of up to 12.0 feet BGS within the parking and drive aisle areas. The borings were drilled using mud rotary and hollow-stem auger drilling methods.
- Conducted infiltration testing in two of the borings at a depth of 5.0 feet BGS. Test locations were discussed with Sisul Engineering.

- Collected soil samples for laboratory testing, and maintained a log of encountered soil and groundwater conditions in each exploration.
- Completed the following laboratory testing on selected soil samples:
  - Thirty-one moisture content determinations in general accordance with ASTM D 2216
  - One consolidation test in general accordance with ASTM D 2435
  - Four Atterberg limits tests in general accordance with ASTM D 4318
  - Four particle-size analyses in general accordance with ASTM D 1140
- Provide recommendations for site preparation and grading, including over-excavation, general excavation, temporary and permanent slopes, fill placement and compaction criteria, suitability of on-site soil for fill, subgrade preparation for buildings and pavements, and recommendations for wet weather construction.
- Provided foundation support recommendations for the proposed development. Our recommendations will include preferred foundation type, allowable bearing capacity, and lateral resistance parameters.
- Evaluated the liquefaction potential at the site.
- Assessed geologic hazard issues as of the City of Oregon City Master Plan process. This assessment was provided as a separate letter to our report.
- Provided seismic design recommendations in accordance with the procedures outlined in the 2012 IBC and 2014 SOSSC.
- Discussed groundwater conditions at the site, including recommendations for dewatering during construction and subsurface drainage (if required).
- Provided floor slabs recommendations.
- Provided trench backfill recommendations.
- Provided pavement recommendations for automobile driving and parking areas and heavy truck traffic areas in proposed parking and driveway areas.
- Prepared this geotechnical engineering report that presents our findings, conclusions, and recommendations. In addition, provided ten paper copies of the geotechnical report.

4.0 SITE CONDITIONS

4.1 SURFACE CONDITIONS

The site consists of an approximately 4-acre, irregular-shaped parcel. The site is currently occupied by various single-story structures with associated sheds and AC parking and drive aisles across the northeastern portions. The historic Hackett House and AC-paved parking area and vacant parcel with remnant AC areas are located to the southwest. Several large trees are located near the central and southwestern portions of the site near the Hackett House. Site elevations range from 39 feet (NAVD 1988) at the northeastern edge to 52 feet (NAVD 1988) at the southwestern corner. The topography of the site generally slopes slightly downward form south-southwest to northeast across the site.

Union Pacific Railroad tracks border the site to the west and Abernethy Creek is located to the south of the site across 17th Street. Land use in the vicinity of the site is mixed industrial, commercial, and residential.

4.2 SUBSURFACE CONDITIONS

We explored subsurface conditions at the site by drilling four borings (B-1 through B-4) to depths of up to 55.4 feet BGS. The borings were completed within the proposed building footprints. Approximate boring locations are shown on Figure 2. The details of our field exploration and laboratory testing programs, exploration logs, and laboratory test results are presented in Appendix A. Also, we reviewed boring logs and laboratory data from the previous geotechnical study at the train station located immediately north of the site. Relevant site plans, exploration logs, and laboratory data from the adjacent geotechnical study are presented in Appendix B.

In general, subsurface conditions in the borings consist of fill underlain by alluvial silt and sand; gravel underlies the silt and sand.

4.2.1 Fill

Fill is present all borings to depths ranging between 1 and 11.5 feet BGS (elevation 29.5 to 45.0 feet). The fill is comprised of loose to medium dense gravel and sand and soft to stiff silt. Organic material (woody debris) was also encountered in the fill. Fill of this type and consistency generally exhibits moderate strength characteristics and compressibility characteristics that are highly variable and unpredictable.

4.2.2 Alluvial Silt and Sand

The fill is underlain by layers of silt and sand. Based on the SPTs, the silt is very soft to medium stiff silt and contains varying proportions of sand and clay. SPTs show that the sand is very loose to loose and contains varying proportions of silt and extends to depths of approximately 34.5 to 52.5 feet BGS (elevation -0.5 foot to 4.5 feet) at the boring locations. Soils of this type and consistency generally exhibit low to moderate to high strength and moderate compressibility characteristics. Our laboratory testing program shows that the moisture content of the alluvial silt and sand varied between approximately 32 to 51 percent at the time of our exploration.

4.2.3 Gravel

The alluvial silt and sand is underlain by very dense gravel with varying proportions of silt and sand to the total depths explored of 42 to 55.4 feet BGS (elevation -3 to -8.3 feet) in borings B-1 through B-4. Cobbles are typically present in the gravel formation. Based on SPTs, the gravel is very dense. Gravel of this type and density generally exhibits moderate to high strength and low compressibility characteristics. Based on our laboratory testing program, the moisture content of the gravel varied between 10 and 36 percent at the time of our exploration.

4.2.4 Groundwater

Mud rotary drilling methods prevented groundwater observation in the borings. Free water was generally encountered in the borings at depths of 25 to 30 feet BGS. Groundwater was reported in the boring at the adjacent train station at similar depths. The depth to groundwater may fluctuate in response to seasonal changes, prolonged rainfall, changes in surface topography, and other factors not observed in this study.

The site is map both within the FEMA 100-year flood plain and 1996 flood inundation zone.

4.2.5 Infiltration

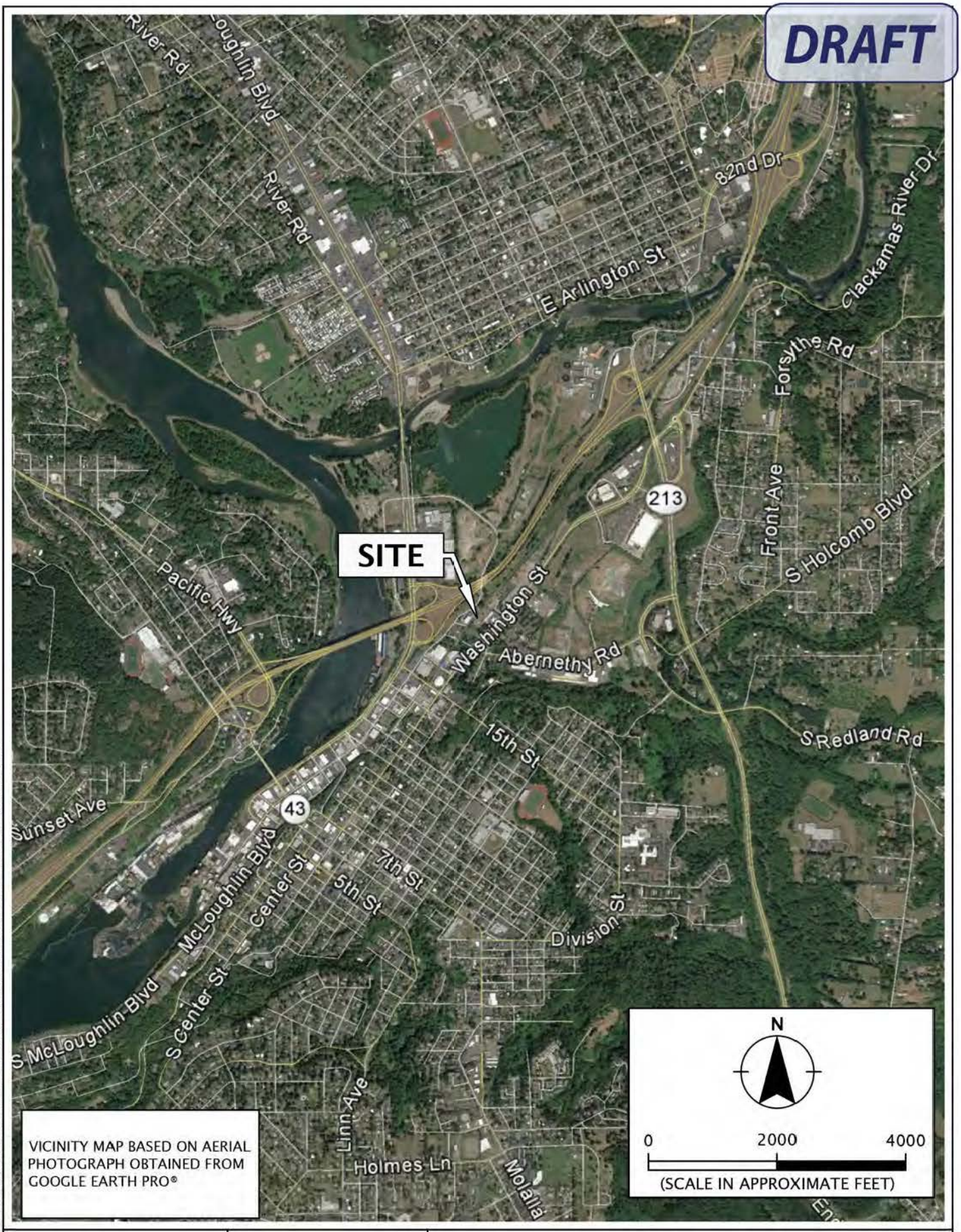
Infiltration testing was conducted in borings B-3 and B-6 located on the north and west sides of the site, respectively. Infiltration testing was conducted in general accordance with the local jurisdiction requirements and City of Portland 2016 Stormwater Management Manual.

Table 1 summarizes the infiltration test results. The exploration logs are presented in Appendix A.

Table 1. Infiltration Test Results

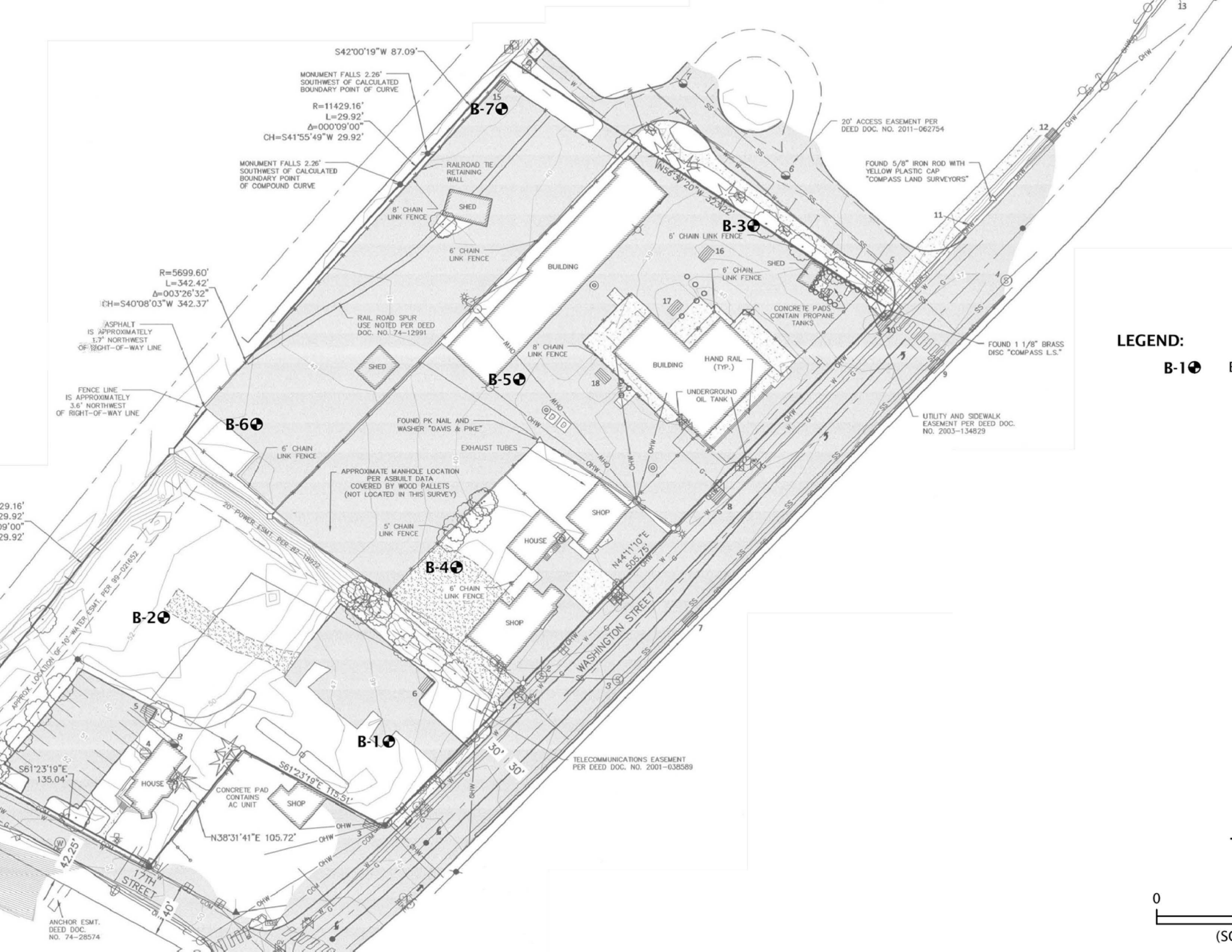
Exploration	Depth (feet BGS)	Soil Description	Observed Infiltration Rate (inches/hour)
B-3	5	Silt with trace sand (native)	Negligible
B-6	5	Silty sand (native)	Negligible

FIGURES

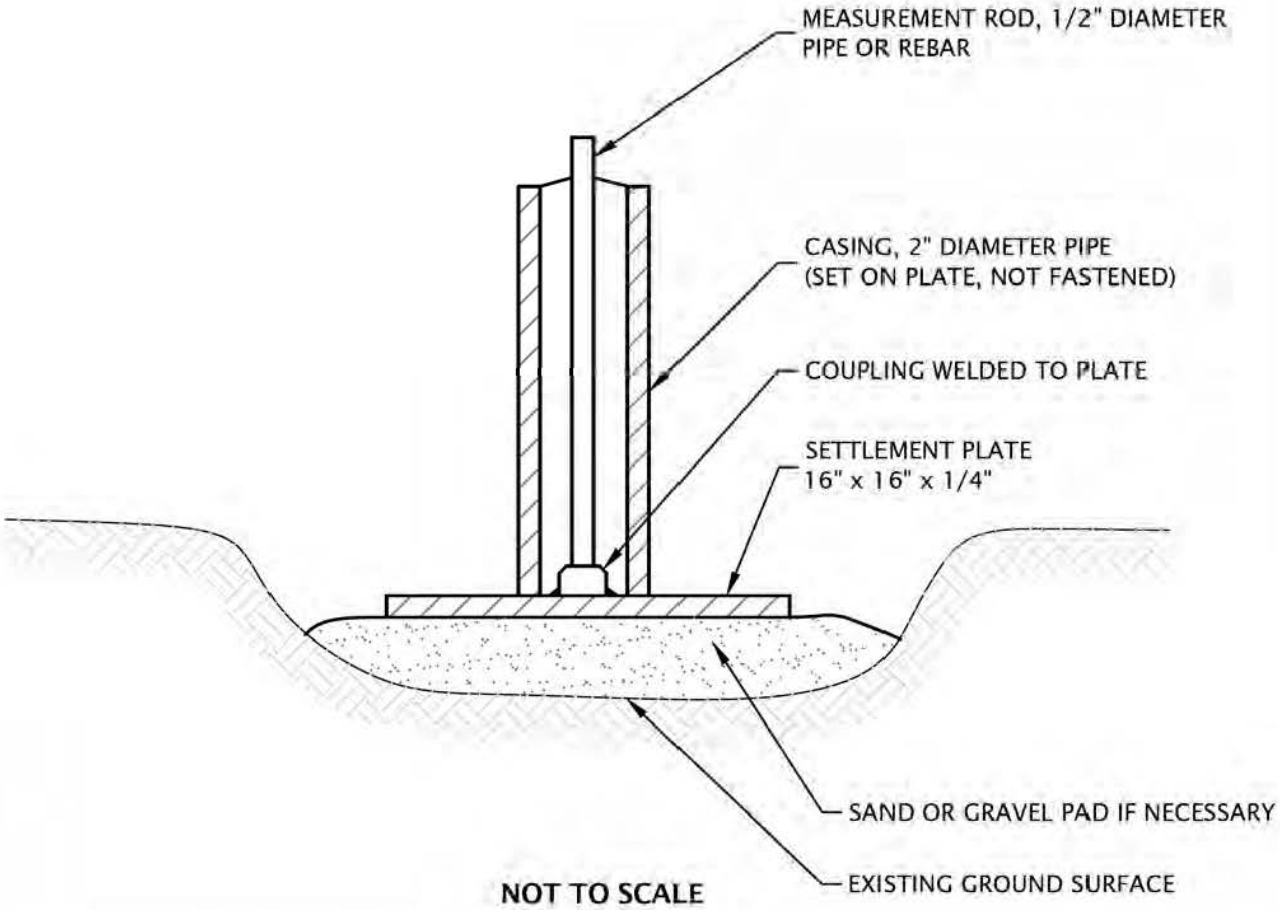


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	MAY 2017	PROPOSED ABERNETHY PLACE PROJECT OREGON CITY, OR
		FIGURE 1

Printed By: aday | Print Date: 5/3/2017 9:23:30 AM
File Name: J:\E-L\HillArch\HillArch-2\HillArch-2-02\Figures\CAD\HillArch-2-02-VM01.dwg | Layout: FIGURE 1


S42°00'19"W 87.09'
MONUMENT FALLS 2.26' SOUTHWEST OF CALCULATED BOUNDARY POINT OF CURVE
R=11429.16'
L=29.92'
Δ=000°09'00"
CH=S41°55'49"W 29.92'
MONUMENT FALLS 2.26' SOUTHWEST OF CALCULATED BOUNDARY POINT OF COMPOUND CURVE
RAILROAD TIE RETAINING WALL
8' CHAIN LINK FENCE
SHED
6' CHAIN LINK FENCE
BUILDING
R=5699.60'
L=342.42'
Δ=003°26'32"
CH=S40°08'03"W 342.37'
ASPHALT IS APPROXIMATELY 1.7' NORTHWEST OF RIGHT-OF-WAY LINE
RAIL ROAD SPUR USE NOTED PER DEED DOC. NO. 74-12991
FENCE LINE IS APPROXIMATELY 3.6' NORTHWEST OF RIGHT-OF-WAY LINE
FOUND PK NAIL AND WASHER "DAVIS & PIKE"
EXHAUST TUBES
APPROXIMATE MANHOLE LOCATION PER ASBUILT DATA COVERED BY WOOD PALLETS (NOT LOCATED IN THIS SURVEY)
5' CHAIN LINK FENCE
HOUSE
SHOP
20' POWER ESMT. PER B2-18922
APPROX. LOCATION OF 16" WATER ESMT. PER 89-021652
B-1
B-2
B-3
B-4
B-5
B-6
B-7
20' ACCESS EASEMENT PER DEED DOC. NO. 2011-062754
FOUND 5/8" IRON ROD WITH YELLOW PLASTIC CAP "COMPASS LAND SURVEYORS"
N56°53'20"W 323.22'
CONCRETE PADS CONTAIN PROPANE TANKS
FOUND 1 1/8" BRASS DISC "COMPASS L.S."
HAND RAIL (TYP.)
UNDERGROUND OIL TANK
UTILITY AND SIDEWALK EASEMENT PER DEED DOC. NO. 2003-134829
N44°11'10"E 505.75'
WASHINGTON STREET
TELECOMMUNICATIONS EASEMENT PER DEED DOC. NO. 2001-038589
30'
S61°23'19"E 135.04'
CONCRETE PAD CONTAINS AC UNIT
S61°23'19"E 115.51'
N38°31'41"E 105.72'
42.25'
17TH STREET
40'
ANCHOR ESMT. DEED DOC. NO. 74-28574
LEGEND:
B-1
0

DRAFT



NOT TO SCALE

NOTES:

1. INSTALL MARKERS ON FIRM GROUND OR ON SAND OR GRAVEL PADS IF NEEDED FOR STABILITY. TAKE INITIAL READING ON TOP OF ROD AND AT ADJACENT GROUND LEVEL PRIOR TO PLACING ANY FILL.
2. FOR EASE IN HANDLING, ROD AND CASING ARE USUALLY INSTALLED IN 5-FOOT SECTIONS. AS FILL PROGRESSES, COUPLINGS ARE USED TO INSTALL ADDITIONAL LENGTHS. CONTINUITY IS MAINTAINED BY READING THE TOP OF THE MEASUREMENT ROD, THEN IMMEDIATELY ADDING THE NEW SECTION AND READING THE TOP OF THE ADDED ROD. BOTH READINGS ARE RECORDED.
3. RECORD THE ELEVATION OF THE TOP OF THE MEASUREMENT ROD IN EACH MARKER AT THE RECOMMENDED TIME INTERVALS. EACH TIME, NOTE THE ELEVATION OF THE ADJACENT FILL SURFACE.
4. READ THE MARKER TO THE NEAREST 0.01 FOOT, OR 0.005 FOOT IF POSSIBLE. NOTE THE FILL ELEVATION TO THE NEAREST 0.1 FOOT.

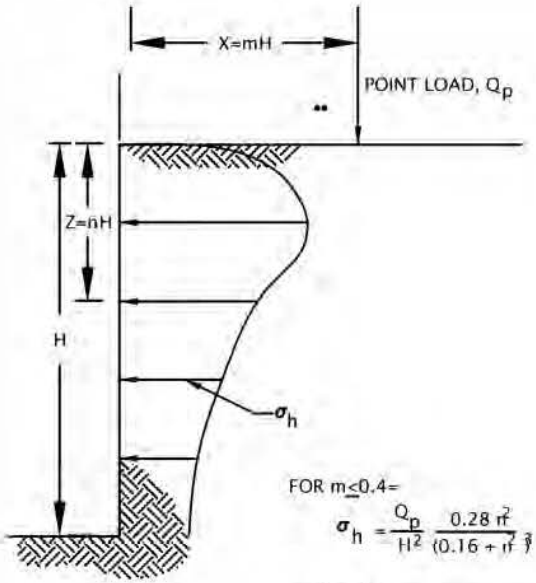
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HILLARCH-2-02	**SETTLEMENT PLATE DETAIL**	
MAY 2017	PROPOSED ABERNETHY PLACE PROJECT OREGON CITY, OR	**FIGURE 3**

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File Name: J:\E-L\HillArch\HillArch-2\HillArch-2-02\Figures\CAD\HillArch-2-02-det-stlmnt-plt.dwg | Layout: FIGURE 3

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File Name: J:\E-L\HillArch\HillArch-2\HillArch-2-02\Figures\CAD\HillArch-2-02-DET01.dwg | Layout: FIGURE 4

DRAFT

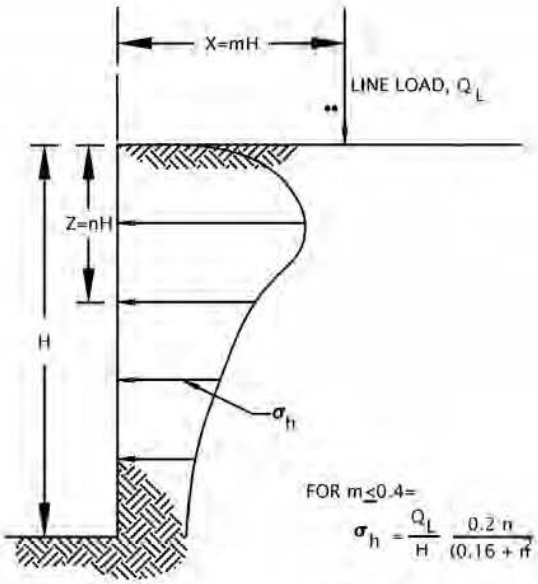


FOR $m \leq 0.4$=

$$\sigma_h = \frac{Q_p}{H^2} \frac{0.28\, n^2}{(0.16 + n^2)^3}$$

FOR $m > 0.4$=

$$\sigma_h = \frac{Q_p}{H^2} \frac{1.77 m^2 n^2}{(m^2 + n^2)^3}$$



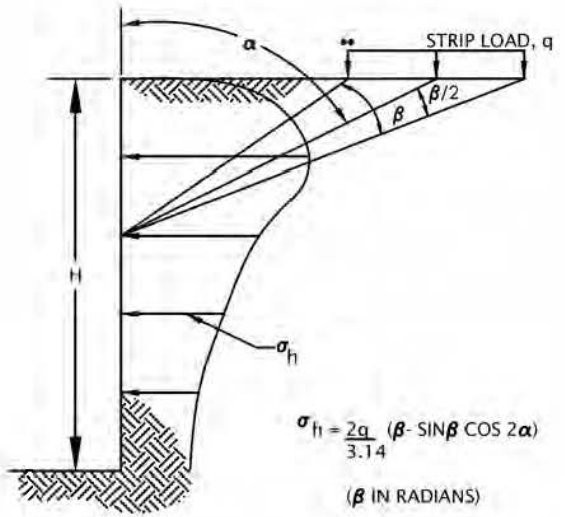
FOR $m \leq 0.4$=

$$\sigma_h = \frac{Q_L}{H} \frac{0.2\, n}{(0.16 + n^2)^2}$$

FOR $m > 0.4$=

$$\sigma_h = \frac{Q_L}{H} \frac{1.28 m^2 n}{(m^2 + n^2)^2}$$

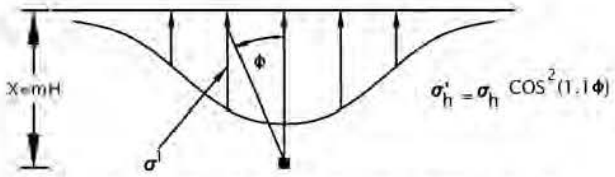
LINE LOAD PARALLEL TO WALL



$$\sigma_h = \frac{2q}{3.14} (\beta - \sin\beta \cos 2\alpha)$$

(β IN RADIANS)

STRIP LOAD PARALLEL TO WALL



DISTRIBUTION OF HORIZONTAL PRESSURES

VERTICAL POINT LOAD

NOTES:

1. THESE GUIDELINES APPLY TO RIGID WALLS WITH POISSON'S RATIO ASSUMED TO BE 0.5 FOR BACKFILL MATERIALS.
2. LATERAL PRESSURES FROM ANY COMBINATION OF ABOVE LOADS MAY BE DETERMINED BY THE PRINCIPLE OF SUPERPOSITION.
3. VALUES IN THIS FIGURE ARE UNFACTORED.

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HILLARCH-2-02	**SURCHARGE-INDUCED LATERAL EARTH PRESSURES**	
MAY 2017	PROPOSED ABERNETHY PLACE PROJECT OREGON CITY, OR	**FIGURE 4**

APPENDIX A

APPENDIX A

FIELD EXPLORATIONS

GENERAL

We explored subsurface conditions at the site by drilling eight borings (B-1 through B-8) to depths of up to approximately 55.4 feet BGS. Figure 2 shows the approximate exploration locations. The borings were drilled on March 8 through 10, 2017 by Hard Core Drilling of Dundee, Oregon. The borings were drilled using mud rotary and hollow-stem auger drilling methods. The exploration logs are presented in this appendix.

The exploration locations were located in the field pacing from survey existing site features. This information should be considered accurate only to the degree implied by the methods used.

SOIL SAMPLING

Members of our geology staff observed the explorations. We collected representative samples of the various soil encountered in the explorations for geotechnical laboratory testing. Sampling methods and intervals are shown on the exploration logs.

Soil samples were collected from the borings using the following methods:

- SPTs were performed in general conformance with ASTM D 1586. The sampler was driven with a 140-pound automatic trip hammer free-falling 30 inches. The number of blows required to drive the sampler 1 foot, or as otherwise indicated, into the soil is shown adjacent to the sample symbols on the exploration logs. Disturbed samples were collected from the split barrel for subsequent classification and index testing.
- Relatively undisturbed samples were obtained at selected intervals by pushing a Shelby tube sampler 24 inches ahead of the boring front.

The calibration factor for the SPT hammer used by Hard Core Drilling was 87 percent. The results of the calibration testing are presented at the end of this appendix.

SOIL CLASSIFICATION

The soil samples were classified in accordance with the "Exploration Key" (Table A-1) and "Soil Classification System" (Table A-2), which are presented in this appendix. The exploration logs indicate the depths at which the soils or their characteristics change, although the change actually could be gradual. If the change occurred between sample locations, the depth was interpreted. Classifications are shown on the exploration logs.

LABORATORY TESTING

CLASSIFICATION

The soil samples were classified in the laboratory to confirm field classifications. The laboratory classifications are shown on the exploration logs if those classifications differed from the field classifications.

MOISTURE CONTENT

We tested the natural moisture content of selected soil samples in general accordance with ASTM D 2216. The natural moisture content is a ratio of the weight of the water to soil in a test sample and is expressed as a percentage. The test results are presented in this appendix.

ATTERBERG LIMITS

The plastic limit and liquid limit (Atterberg limits) of selected soil samples were determined in accordance with ASTM D 4318. The Atterberg limits and the plasticity index were completed to aid in the classification of the soil. The test results are presented in this appendix.

PARTICLE-SIZE TESTING

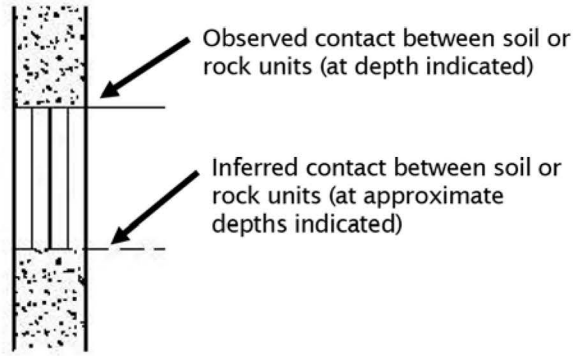
Particle-size testing was completed on selected soil samples in general accordance with ASTM D 1140. The test results are presented in this appendix.

CONSOLIDATION TESTING

We performed one-dimensional consolidation testing in general accordance with ASTM D 2435 on a relatively undisturbed sample. The test measures the volume change of a soil sample under predetermined loads. The test results are presented in this appendix.

SYMBOL	SAMPLING DESCRIPTION
	Location of sample obtained in general accordance with ASTM D 1586 Standard Penetration Test with recovery
	Location of sample obtained using thin-wall Shelby tube or Geoprobe® sampler in general accordance with ASTM D 1587 with recovery
	Location of sample obtained using Dames & Moore sampler and 300-pound hammer or pushed with recovery
	Location of sample obtained using Dames & Moore and 140-pound hammer or pushed with recovery
	Location of sample obtained using 3-inch-O.D. California split-spoon sampler and 140-pound hammer
	Location of grab sample
	Rock coring interval
	Water level during drilling
	Water level taken on date shown

Graphic Log of Soil and Rock Types



GEOTECHNICAL TESTING EXPLANATIONS

ATT	Atterberg Limits	PP	Pocket Penetrometer
CBR	California Bearing Ratio	P200	Percent Passing U.S. Standard No. 200 Sieve
CON	Consolidation		
DD	Dry Density	RES	Resilient Modulus
DS	Direct Shear	SIEV	Sieve Gradation
HYD	Hydrometer Gradation	TOR	Torvane
MC	Moisture Content	UC	Unconfined Compressive Strength
MD	Moisture-Density Relationship	VS	Vane Shear
OC	Organic Content	kPa	Kilopascal
P	Pushed Sample		

ENVIRONMENTAL TESTING EXPLANATIONS

CA	Sample Submitted for Chemical Analysis	ND	Not Detected
P	Pushed Sample	NS	No Visible Sheen
PID	Photoionization Detector Headspace Analysis	SS	Slight Sheen
		MS	Moderate Sheen
ppm	Parts per Million	HS	Heavy Sheen

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EXPLORATION KEY

TABLE A-1

RELATIVE DENSITY - COARSE-GRAINED SOILS

Relative Density	Standard Penetration Resistance	Dames & Moore Sampler (140-pound hammer)	Dames & Moore Sampler (300-pound hammer)
Very Loose	0 – 4	0 - 11	0 - 4
Loose	4 – 10	11 - 26	4 - 10
Medium Dense	10 – 30	26 - 74	10 - 30
Dense	30 – 50	74 - 120	30 - 47
Very Dense	More than 50	More than 120	More than 47

CONSISTENCY - FINE-GRAINED SOILS

Consistency	Standard Penetration Resistance	Dames & Moore Sampler (140-pound hammer)	Dames & Moore Sampler (300-pound hammer)	Unconfined Compressive Strength (tsf)
Very Soft	Less than 2	Less than 3	Less than 2	Less than 0.25
Soft	2 - 4	3 – 6	2 - 5	0.25 - 0.50
Medium Stiff	4 - 8	6 – 12	5 - 9	0.50 - 1.0
Stiff	8 - 15	12 – 25	9 - 19	1.0 - 2.0
Very Stiff	15 - 30	25 – 65	19 – 31	2.0 - 4.0
Hard	More than 30	More than 65	More than 31	More than 4.0

PRIMARY SOIL DIVISIONS			GROUP SYMBOL	GROUP NAME
COARSE-GRAINED SOILS (more than 50% retained on No. 200 sieve)	GRAVEL (more than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVELS (< 5% fines)	GW or GP	GRAVEL
		GRAVEL WITH FINES (≥ 5% and ≤ 12% fines)	GW-GM or GP-GM	GRAVEL with silt
			GW-GC or GP-GC	GRAVEL with clay
		GRAVELS WITH FINES (> 12% fines)	GM	silty GRAVEL
			GC	clayey GRAVEL
			GC-GM	silty, clayey GRAVEL
	SAND (50% or more of coarse fraction passing No. 4 sieve)	CLEAN SANDS (<5% fines)	SW or SP	SAND
		SANDS WITH FINES (≥ 5% and ≤ 12% fines)	SW-SM or SP-SM	SAND with silt
			SW-SC or SP-SC	SAND with clay
		SANDS WITH FINES (> 12% fines)	SM	silty SAND
			SC	clayey SAND
			SC-SM	silty, clayey SAND
FINE-GRAINED SOILS (50% or more passing No. 200 sieve)	SILT AND CLAY	Liquid limit less than 50	ML	SILT
			CL	CLAY
			CL-ML	silty CLAY
			OL	ORGANIC SILT or ORGANIC CLAY
		Liquid limit 50 or greater	MH	SILT
			CH	CLAY
			OH	ORGANIC SILT or ORGANIC CLAY
HIGHLY ORGANIC SOILS			PT	PEAT

MOISTURE CLASSIFICATION

Term	Field Test
dry	very low moisture, dry to touch
moist	damp, without visible moisture
wet	visible free water, usually saturated

ADDITIONAL CONSTITUENTS

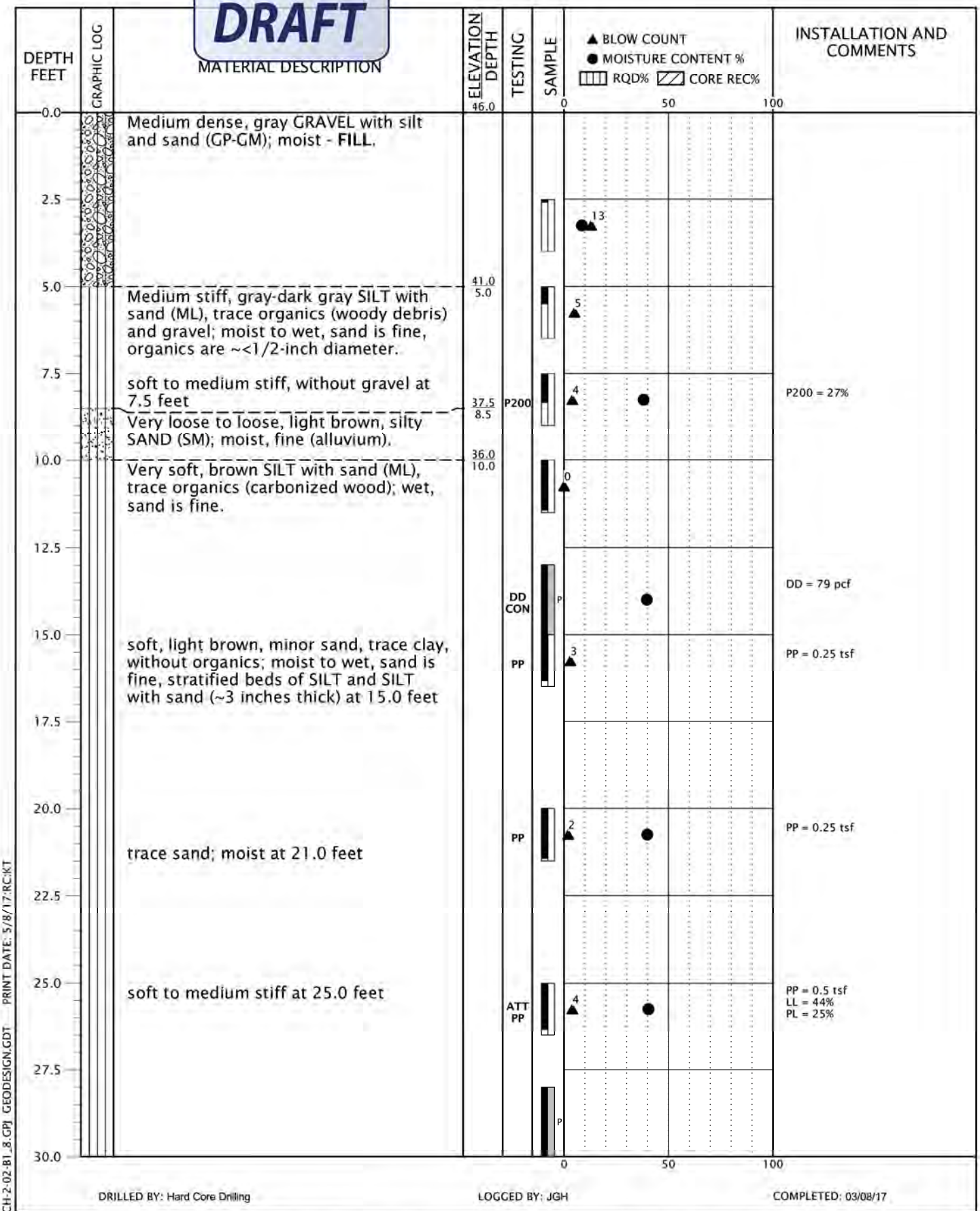
Secondary granular components or other materials such as organics, man-made debris, etc.

Percent	Silt and Clay In: Fine-Grained Soils	Silt and Clay In: Coarse-Grained Soils	Percent	Sand and Gravel In: Fine-Grained Soils	Sand and Gravel In: Coarse-Grained Soils
< 5	trace	trace	< 5	trace	trace
5 – 12	minor	with	5 – 15	minor	minor
> 12	some	silty/clayey	15 – 30	with	with
			> 30	sandy/gravelly	Indicate %

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SOIL CLASSIFICATION SYSTEM

TABLE A-2


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DEPTH FEET
GRAPHIC LOG
MATERIAL DESCRIPTION
ELEVATION DEPTH
TESTING
SAMPLE
▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%
INSTALLATION AND COMMENTS
0
50
100
46.0
0.0
Medium dense, gray GRAVEL with silt and sand (GP-GM); moist - FILL.
2.5
13
41.0
5.0
5.0
Medium stiff, gray-dark gray SILT with sand (ML), trace organics (woody debris) and gravel; moist to wet, sand is fine, organics are ~<1/2-inch diameter.
5
7.5
soft to medium stiff, without gravel at 7.5 feet
4
P200
P200 = 27%
37.5
8.5
Very loose to loose, light brown, silty SAND (SM); moist, fine (alluvium).
36.0
10.0
10.0
Very soft, brown SILT with sand (ML), trace organics (carbonized wood); wet, sand is fine.
0
12.5
DD CON
P
DD = 79 pcf
15.0
soft, light brown, minor sand, trace clay, without organics; moist to wet, sand is fine, stratified beds of SILT and SILT with sand (~3 inches thick) at 15.0 feet
PP
3
PP = 0.25 tsf
17.5
20.0
PP
2
PP = 0.25 tsf
trace sand; moist at 21.0 feet
22.5
25.0
soft to medium stiff at 25.0 feet
ATT PP
4
PP = 0.5 tsf
LL = 44%
PL = 25%
27.5
P
30.0
0
50
100
DRILLED BY: Hard Core Drilling
LOGGED BY: JGH
COMPLETED: 03/08/17
BORING METHOD: mud rotary (see document text)
BORING BIT DIAMETER: 4 7/8 inches
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HILLARCH-2-02
BORING B-1
MAY 2017
PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR
FIGURE A-1
BORING LOG HILLARCH-2-02-B1_8.GPJ GEODESIGN.GDT PRINT DATE: 5/8/17:RC:KT

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
30.0		very soft, without clay; moist to wet at 30.0 feet				0	
32.5							
35.0		with sand; wet, stratified beds of SILT and SILT with sand to silty SAND (2 to 3 inches thick) at 35.0 feet				0	
37.5							
40.0		Very loose, brown, silty SAND (SM); wet, fine to medium.	6.0 40.0	P200		2	P200 = 39%
42.5							
		Loose, gray GRAVEL with sand (GP/GW), trace silt; wet.	2.0 44.0				Gravel chatter at 44.0 feet.
45.0		Very loose, brown-gray SAND (SP), trace silt; wet.	1.0 45.0			0	
47.5							
		Very dense, brown-gray GRAVEL with cobbles and sand (GP/GW), trace silt: wet, cobbles are ~6-inch diameter.	-2.5 48.5				
50.0						50/4"	
52.5							
						18-39-50/4"	
		Exploration completed at a depth of 54.3 feet.	-8.3 54.3				
55.0		Hammer efficiency factor is 87 percent.					
57.5							
60.0							

DRILLED BY: Hard Core Drilling | LOGGED BY: JGH | COMPLETED: 03/08/17

BORING METHOD: mud rotary (see document text) | BORING BIT DIAMETER: 4 7/8 inches

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HILLARCH-2-02

MAY 2017

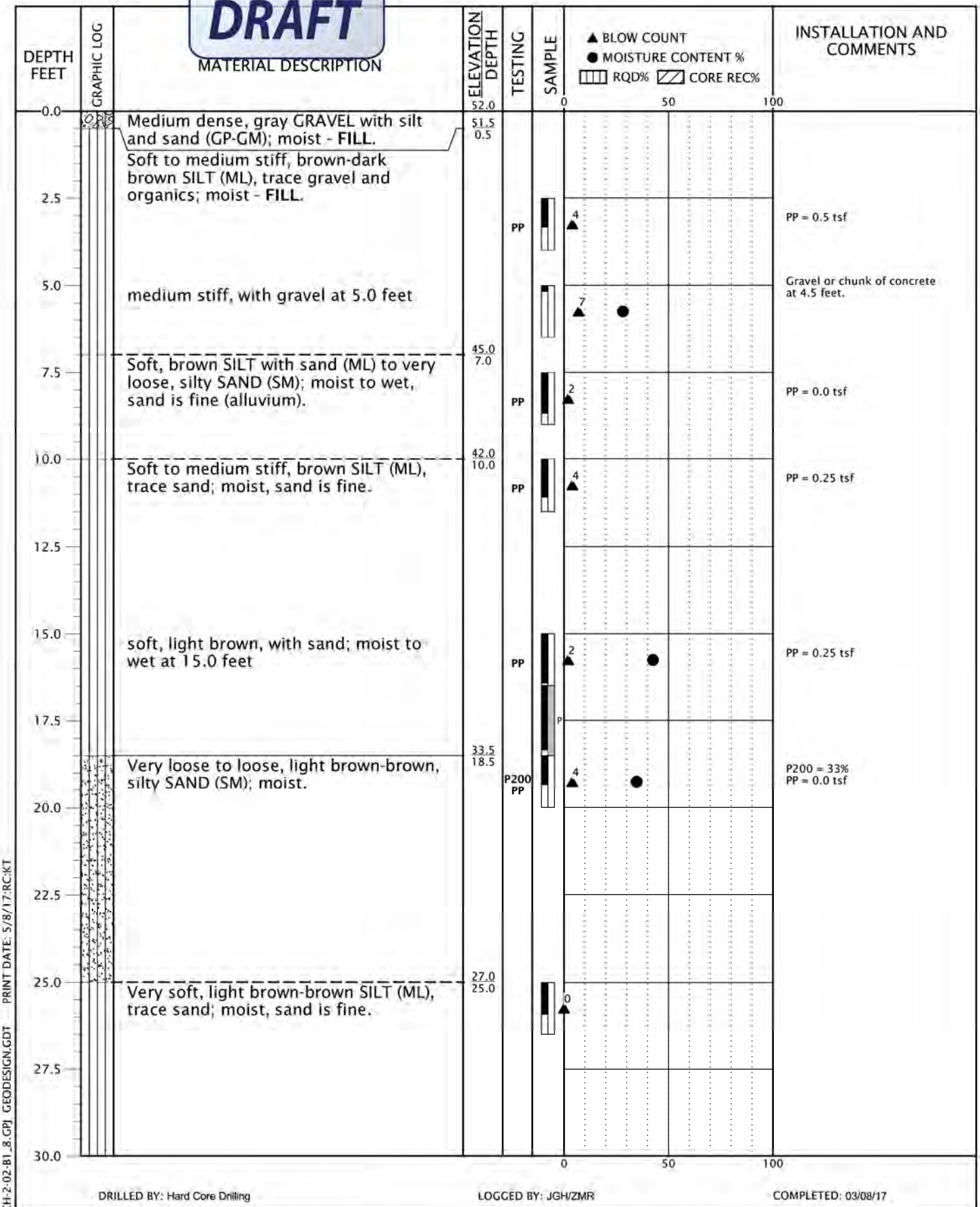
BORING B-1
(continued)

PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-1

BORING LOG HILLARCH-2-02-B1_8.GPJ GEODESIGN.GDT PRINT DATE: 5/8/17:RC:KT

DRAFT



DRILLED BY: Hard Core Drilling | LOGGED BY: JGH/ZMR | COMPLETED: 03/08/17

BORING METHOD: mud rotary (see document text) | BORING BIT DIAMETER: 4 7/8 inches

BORING LOG HILLARCH-2-02-B1_8.GPJ GEODESIGN.GDT PRINT DATE: 5/8/17:RC:KT

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BORING B-2

PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-2

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
30.0	soft, minor sand; moist to wet at 30.0 feet		ATT PP	2	PP = 0.0 tsf LL = 37% PL = 28%
35.0	soft to medium stiff, with sand; wet, stratified beds of silty SAND (2 to 3 inches thick) at 35.0 feet		P200 PP	4	P200 = 55% PP = 0.25 tsf
40.0	very soft, trace sand; moist to wet at 40.0 feet		PP	1	PP = 0.0 tsf
45.0	Very loose, light brown-orange, silty SAND (SM); wet, fine, laminated to stratified beds of SILT (up to 1 inch thick).	7.0 45.0	PP	2	PP = 0.0 tsf
50.0	Soft, light brown-orange SILT with sand (ML) to silty SAND (SM); moist to wet, sand is fine, stratified beds of SILT; moist and silty SAND; wet.	2.0 50.0	PP	3	PP = 0.0 tsf
52.5	Very dense, brown-gray GRAVEL with sand (GP/GW), trace silt; wet.	-0.5 52.5			Driller Comment: gravelly at 52.5 feet.
55.0	Exploration completed at a depth of 55.4 feet. Hammer efficiency factor is 87 percent.	-3.4 55.4		50/5"	
57.5					
60.0					

GRAPHIC LOG

SAMPLE: ▲ BLOW COUNT; ● MOISTURE CONTENT %; RQD% CORE REC%; 0 50 100

DRILLED BY: Hard Core Drilling

LOGGED BY: JGH/ZMR

COMPLETED: 03/08/17

BORING METHOD: mud rotary (see document text)

BORING BIT DIAMETER: 4 7/8 inches

BORING LOG HILLARCH-2-02-B1_8.GPJ GEODESIGN.GDT PRINT DATE: 5/8/17:RC:KT

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BORING B-2
(continued)

PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-2

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	BLOW COUNT / MOISTURE CONTENT % / RQD% / CORE REC%	INSTALLATION AND COMMENTS
0.0	ASPHALT CONCRETE (3.0 inches).	39.0				
	Medium dense, gray-brown GRAVEL with sand and silt (GP-GM); moist, subrounded - **FILL**.	38.7 / 0.3				
2.5	Stiff, dark gray, brown SILT with gravel (ML), trace organics (woody debris), clay, and sand; moist, organics are <1/4-inch diameter) - **FILL**.	37.0 / 2.0	PP	14		PP = 0.5 tsf
5.0	Stiff, brown with orange mottled SILT (ML), trace sand; moist, sand is fine (alluvium).	35.5 / 3.5	PP	12		Infiltration test: ~0.0 inches per hour at 5.0 feet. Switch to mud rotary at 5.0 feet. PP = 0.25 tsf
7.5	medium stiff to stiff, light brown to light gray, with sand, trace organics (carbonized wood); organics are <1/4-inch diameter at 5.0 feet medium stiff, light gray with orange mottles, trace sand at 7.5 feet		PP	6		PP = 0.5 tsf
10.0			P			
12.5	soft to medium stiff, dark gray to brown-orange, without organics at 12.0 feet		ATT PP	4		PP = 0.5 tsf LL = 53% PL = 28%
15.0	soft, some clay at 15.0 feet		PP	3		PP = 0.5 tsf
17.5						
20.0	gray-orange at 20.0 feet		PP	3		PP = 0.5 tsf
22.5			P			
25.0	soft to medium stiff, minor sand at 25.0 feet		PP	4		PP = 0.5 tsf
	Very loose to loose, light brown, silty SAND (SM); moist, fine.	13.0 / 26.0				
27.5						
30.0						

SAMPLE: 0 50 100

DRILLED BY: Hard Core Drilling

LOGGED BY: JGH/ZMR

COMPLETED: 03/09/17

BORING METHOD: hollow-stem auger and mud rotary (see document text)

BORING BIT DIAMETER: 8 inches/4 7/8 inches

BORING LOG HILLARCH-2-02-B1_B.GPJ GEODESIGN.GDT PRINT DATE: 5/8/17:RC:KT

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BORING B-3

PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-3

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
30.0		Very loose, light brown, silty SAND (SM) to SILT with sand (ML); wet, sand is fine, stratified beds of SILT with sand and silty SAND; sand is fine (up to 3 inches thick).	9.0 / 30.0	PP		2	PP = 0.0 tsf
35.0		Very dense, gray-brown GRAVEL with sand (GP/GW), trace silt; wet.	4.5 / 34.5			● 68	Driller Comment: gravel at 34.5 feet.
40.0		with cobbles at 40.0 feet				53	Cobble in sample at 40.0 feet.
42.5		Exploration completed at a depth of 42.0 feet. Hammer efficiency factor is 87 percent.	-3.0 / 42.0				
45.0							
47.5							
50.0							
52.5							
55.0							
57.5							
60.0							

0 50 100

DRILLED BY: Hard Core Drilling LOGGED BY: JGH/ZMR COMPLETED: 03/09/17

BORING METHOD: hollow-stem auger and mud rotary (see document text) BORING BIT DIAMETER: 8 inches/4 7/8 inches

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BORING B-3
(continued)

PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-3

BORING LOG HILLARCH-2-02-B1_B.GPJ GEODESIGN.GDT PRINT DATE: 5/8/17:RC:KT

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DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
0.0		Medium dense, gray GRAVEL (GP), trace sand and silt; moist - **FILL**.	41.0			0 50 100	
			40.0 / 1.0				
2.5		Soft, brown SILT (ML), trace sand and organics (rootlets, carbonized wood); moist, sand is fine, organics are 1/4-inch diameter (alluvium).		PP	2		PP = 0.0 tsf
5.0		very soft at 5.0 feet		PP	1	●	PP = 0.5 tsf
7.5					P		
10.0		soft, without organics at 9.5 feet		PP	3		PP = 0.5 tsf
12.5							
15.0				PP	3	●	PP = 0.0 tsf
17.5					P		
20.0		very soft, minor sand at 20.0 feet		ATT PP	0	●	PP = 0.0 tsf LL = 42% PL = 27%
22.5							
25.0		trace sand at 25.0 feet		PP	0		PP = 0.25 tsf
27.5							
30.0						0 50 100	

DRILLED BY: Hard Core Drilling | LOGGED BY: ZMR | COMPLETED: 03/09/17

BORING METHOD: mud rotary (see document text) | BORING BIT DIAMETER: 4 7/8 inches

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BORING B-4

MAY 2017

PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-4

BORING LOG HILLARCH-2-02-B1_8.GPJ GEODESIGN.GDT PRINT DATE: 5/8/17:RC:KT

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DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE / BLOW COUNT / MOISTURE CONTENT % / RQD% / CORE REC%	INSTALLATION AND COMMENTS
30.0	Very soft, light brown-light gray SILT with sand (ML) to silty SAND (SM); wet, sand is fine.	11.0 / 30.0	PP	1	PP = 0.0 tsf
35.0	Loose, brown SAND (SP), trace silt; wet.	6.0 / 35.0		7	Driller Comment: felt more stiff at 35.0 feet.
40.0	medium dense at 40.0 feet Very dense, gray-brown GRAVEL with sand (GP/GW), trace silt; wet.	0.5 / 40.5		54	
45.0				30-40-50/2"	
47.5	Exploration completed at a depth of 48.5 feet. Hammer efficiency factor is 87 percent.	-7.5 / 48.5		50/5.5"	
50.0					
52.5					
55.0					
57.5					
60.0					

0 50 100

DRILLED BY: Hard Core Drilling LOGGED BY: ZMR COMPLETED: 03/09/17

BORING METHOD: mud rotary (see document text) BORING BIT DIAMETER: 4 7/8 inches

BORING LOG HILLARCH-2-02-B1_8.GPJ GEODESIGN.GDT PRINT DATE: 5/8/17:RC:KT

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BORING B-4
(continued)

PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-4

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	BLOW COUNT / MOISTURE CONTENT % / RQD% / CORE REC%	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (3.0 inches).	40.0 / 39.7 / 0.3				
		Medium dense, brown-gray GRAVEL (GP/GM), trace sand and silt; moist, subrounded - **FILL**.	37.5 / 2.5				
2.5		Soft to medium stiff, light brown SILT (ML), trace sand and organics (rootlets); moist (alluvium).		PP		4	PP = 0.0 tsf
5.0		Soft, light brown SILT (ML) to silty SAND (SM), trace organics (carbonized wood); wet, sand is fine, organics are 1/8-inch diameter.	35.0 / 5.0	PP		3	PP = 0.5 tsf
7.5		Soft, light brown, silty SAND (SM); wet, fine.	32.5 / 7.5	PP		2	PP = 0.25 tsf
10.0		Soft, light gray with brown-orange mottled SILT (ML), trace sand and organics (carbonized wood); wet, sand is fine, organics are 1/4-inch diameter.	30.0 / 10.0	PP		3	PP = 0.5 tsf
		Exploration completed at a depth of 11.5 feet.	28.5 / 11.5				
		Hammer efficiency factor is 87 percent.					
12.5							
15.0							
17.5							
20.0							
22.5							
25.0							
27.5							
30.0							

SAMPLE / BLOW COUNT / MOISTURE CONTENT % / RQD% / CORE REC%: 0, 50, 100

DRILLED BY: Hard Core Drilling

LOGGED BY: ZMR

COMPLETED: 03/10/17

BORING METHOD: mud rotary (see document text)

BORING BIT DIAMETER: 4 7/8 inches

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BORING B-5

PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-5

BORING LOG HILLARCH-2-02-B1_8.GPJ GEODESIGN.GDT PRINT DATE: 5/8/17:RC:KT

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DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC% (0 – 50 – 100)	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (3.0 inches).	43.0				
		Medium dense, gray GRAVEL with sand and silt (GP-GW); moist, subrounded - **FILL**.	42.7 / 0.3				
2.5		Loose, light brown with orange mottled, silty SAND (SM); moist, fine (alluvium).	40.0 / 3.0	PP		▲ 8	PP = 0.5 tsf
5.0		medium dense, trace organics (carbonized wood); organics are 1/4-inch diameter at 5.0 feet		PP		▲ 12 ●	Infiltration test: ~0.0 inches per hour at 5.0 feet. PP = 0.5 tsf
7.5		loose, light brown at 7.5 feet		PP		▲ 6	PP = 0.0 tsf
10.0		Very loose, light brown, silty SAND (SM) to SILT with sand (ML); moist, sand is fine.	33.0 / 10.0	PP		▲ 3 ●	PP = 0.0 tsf
		Exploration completed at a depth of 11.5 feet.	31.5 / 11.5				
12.5		Hammer efficiency factor is 87 percent.					
15.0							
17.5							
20.0							
22.5							
25.0							
27.5							
30.0							

DRILLED BY: Hard Core Drilling | LOGGED BY: ZMR | COMPLETED: 03/10/17

BORING METHOD: hollow-stem auger and mud rotary (see document text) | BORING BIT DIAMETER: 8 inches/4 7/8 inches

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BORING B-6

PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-6

BORING LOG HILLARCH-2-02-B1_8.GPJ GEODESIGN.GDT PRINT DATE: 5/8/17:RC:KT

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DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▭ RQD% ▨ CORE REC%	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (3.0 inches).	41.0 / 40.7 / 0.3			0 50 100	
		Medium dense, gray-brown GRAVEL with sand and silt (GP-GW); moist, subrounded - **FILL**.					
2.5						▲ 14	
		Loose, dark gray-brown, silty SAND with organics (wood chunks) (SM); wet, organics are ~2-inch diameter - **FILL**.	36.5 / 4.5				
5.0						▲ 6	
7.5		Medium stiff, dark gray, sandy SILT (ML), trace organics (wood chunks); moist, sand is fine, organics are 1/4-inch diameter - **FILL**.	33.5 / 7.5			▲ 5 ●	
10.0		Soft, dark gray, sandy SILT to SILT with sand (ML); moist, sand is fine - **FILL**.	31.0 / 10.0			▲ 3	
		Exploration completed at a depth of 11.5 feet.	29.5 / 11.5				
12.5		Hammer efficiency factor is 87 percent.					
15.0							
17.5							
20.0							
22.5							
25.0							
27.5							
30.0						0 50 100	

DRILLED BY: Hard Core Drilling | LOGGED BY: ZMR | COMPLETED: 03/10/17

BORING METHOD: mud rotary (see document text) | BORING BIT DIAMETER: 4 7/8 inches

BORING LOG HILLARCH-2-02-B1_8.GPJ GEODESIGN.GDT PRINT DATE: 5/8/17:RC:KT

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HILLARCH-2-02

BORING B-7

MAY 2017

PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-7

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % ▭ RQD% ▨ CORE REC%	INSTALLATION AND COMMENTS
0.0		Medium dense, gray GRAVEL with silt and sand (GP-GM); moist - **FILL**.	50.0 / 49.5 / 0.5				
2.5		Soft, brown-orange to dark brown SILT with sand (ML), trace organics (fine rootlets) and gravel; moist, sand is fine, organics are <1/4-inch diameter - **FILL**.		PP	3		PP = 0.0 tsf
5.0		very stiff to hard, sandy, with gravel, without organics at 5.0 feet		PP	25/5"		PP = 0.0 tsf
7.5		Medium dense, brown-dark brown, silty SAND (SM), trace gravel; moist, fine - **FILL**.	43.0 / 7.0	PP	12		PP = 3.0 tsf
10.0		very loose, without gravel at 10.0 feet			4		
12.5		Soft to medium stiff, brown-dark brown SILT with sand (ML); wet, fine (alluvium).	39.0 / 11.0				
15.0		Exploration completed at a depth of 12.0 feet.	38.0 / 12.0				
17.5		Hammer efficiency factor is 87 percent.					
20.0							
22.5							
25.0							
27.5							
30.0							

0 50 100

DRILLED BY: Hard Core Drilling | LOGGED BY: ZMR | COMPLETED: 03/10/17

BORING METHOD: mud rotary (see document text) | BORING BIT DIAMETER: 4 7/8 inches

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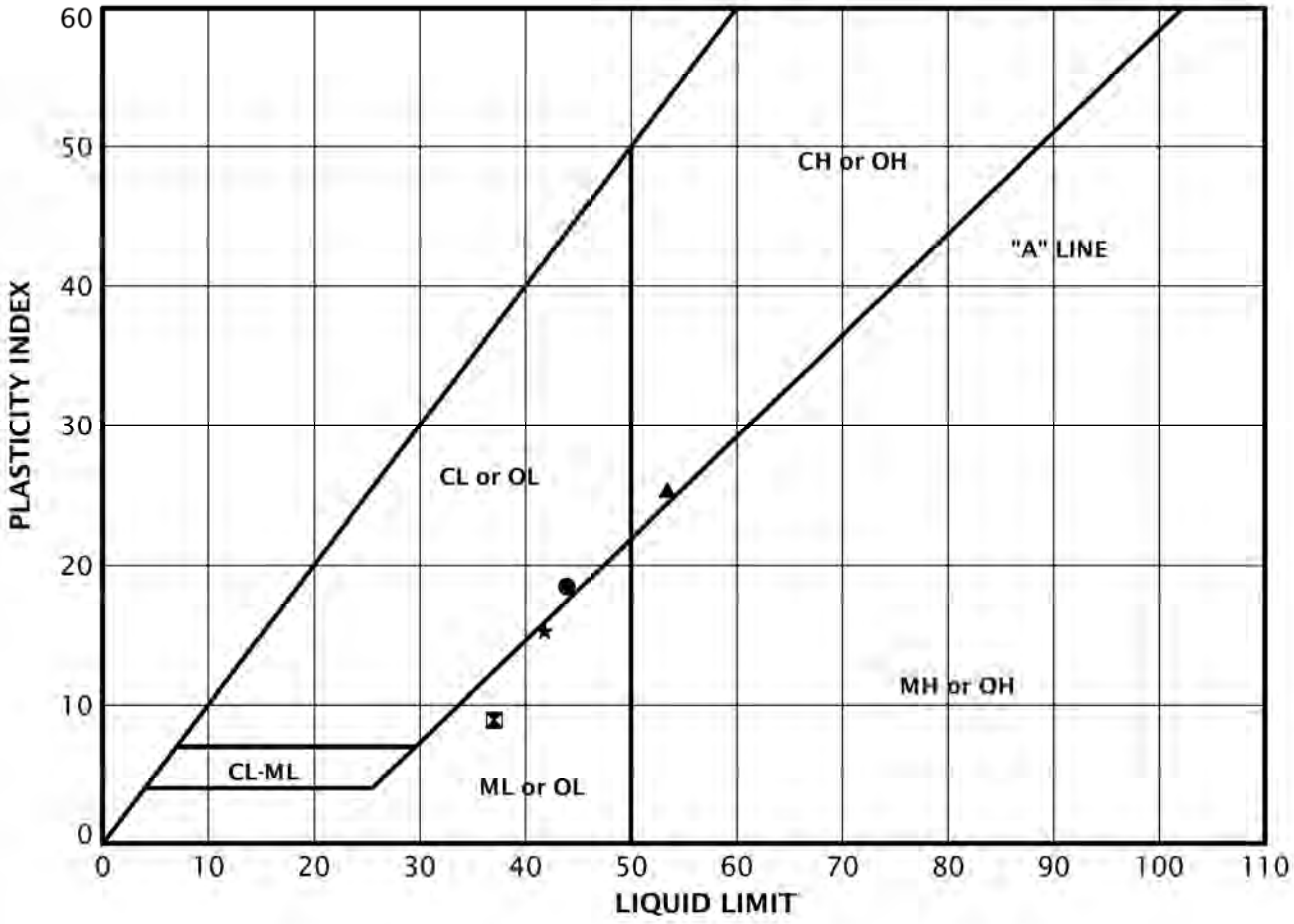
BORING B-8

MAY 2017

PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-8

DRAFT



KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX
●	B-1	25.0	40	44	25	19
⊠	B-2	30.0	41	37	28	9
▲	B-3	12.0	42	53	28	25
★	B-4	20.0	36	42	27	15

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ATTERBERG LIMITS TEST RESULTS

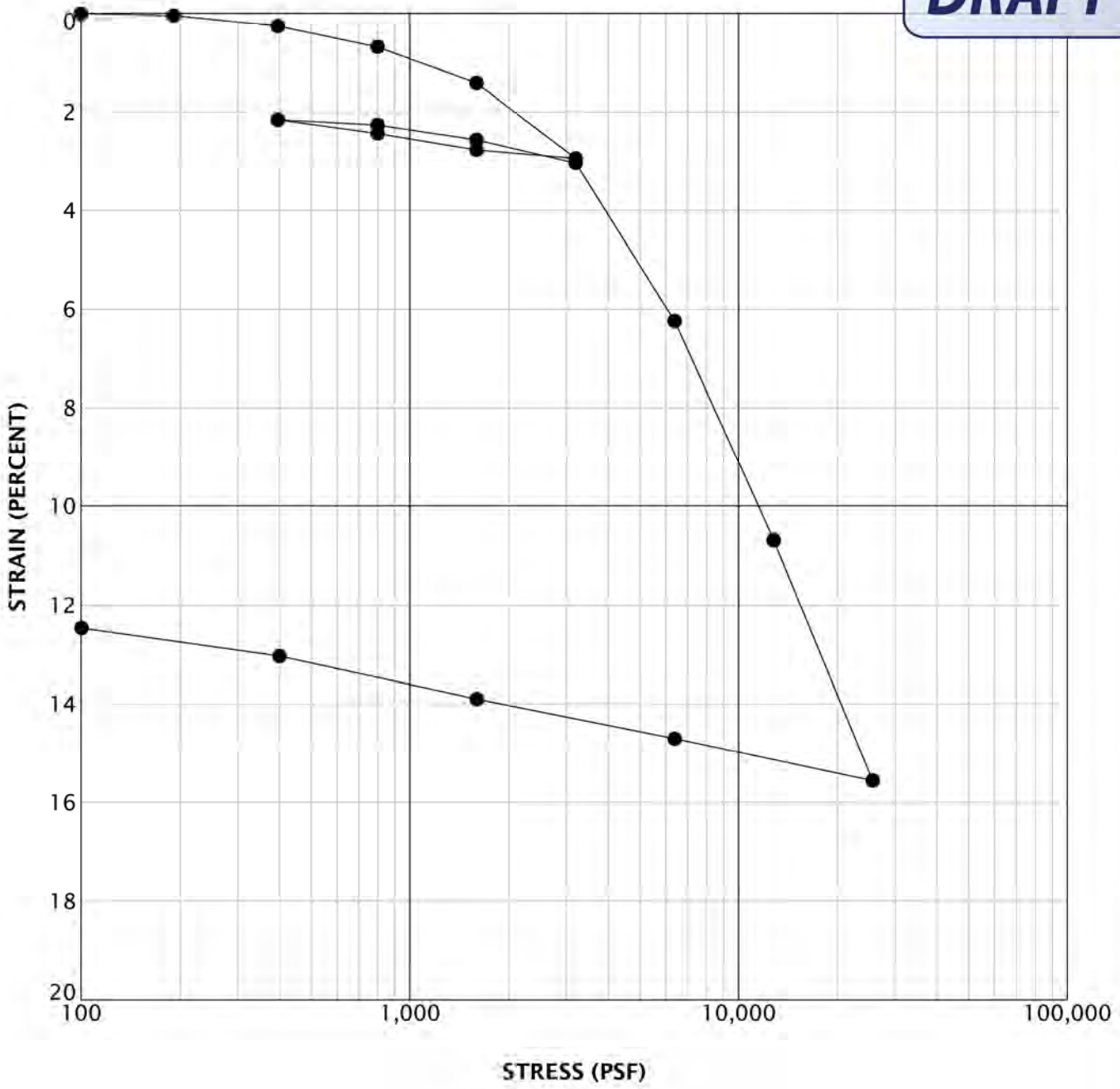
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PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-9

ATTERBERG_LIMITS 7 HILLARCH 2-02-B1_8.GPJ GEODESIGN.GDT PRINT DATE 5/8/17 KT

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KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)
●	B-1	13.0	40	79

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HILLARCH-2-02	**CONSOLIDATION TEST RESULTS**	
MAY 2017	PROPOSED ABERNETHY PLACE PROJECT OREGON CITY, OR	**FIGURE A-10**

CONSOL_STRAIN_100K HILLARCH-2-02-B1_B.GPJ GEODESIGN.GDT PRINT DATE: 5/8/17 KT

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SAMPLE INFORMATION			MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	SIEVE			ATTERBERG LIMITS		
EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	ELEVATION (FEET)			GRAVEL (PERCENT)	SAND (PERCENT)	P200 (PERCENT)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX
B-1	2.5	43.5	9							
B-1	7.5	38.5	38				27			
B-1	13.0	33.0	40	79						
B-1	20.0	26.0	40							
B-1	25.0	21.0	40					44	25	19
B-1	30.0	16.0	45							
B-1	40.0	6.0	40				39			
B-2	5.0	47.0	28							
B-2	15.0	37.0	43							
B-2	18.5	33.5	35				33			
B-2	30.0	22.0	41					37	28	9
B-2	35.0	17.0	40				55			
B-2	50.0	2.0	48							
B-3	7.5	31.5	40							
B-3	12.0	27.0	42					53	28	25
B-3	20.0	19.0	43							
B-3	35.0	4.0	10							
B-4	5.0	36.0	42							
B-4	15.0	26.0	40							
B-4	20.0	21.0	36					42	27	15
B-4	30.0	11.0	51							
B-4	48.0	-7.0	36							
B-5	2.5	37.5	34							
B-5	7.5	32.5	42							
B-5	10.0	30.0	43							
B-6	5.0	38.0	32							
B-6	10.0	33.0	38							

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SUMMARY OF LABORATORY DATA

PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-11

LAB SUMMARY HILLARCH-2-02-81_8.GPJ GEODESIGN.GDT PRINT DATE: 5/8/17:KT

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SAMPLE INFORMATION			MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	SIEVE			ATTERBERG LIMITS		
EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	ELEVATION (FEET)			GRAVEL (PERCENT)	SAND (PERCENT)	P200 (PERCENT)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX
B-7	2.5	38.5	14							
B-7	7.5	33.5	36							
B-8	5.0	45.0	23							
B-8	10.5	39.5	37							

LAB SUMMARY HILLARCH-2-02-81_8.CPJ GEODESIGN.GDT PRINT DATE: 5/8/17:KT

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SUMMARY OF LABORATORY DATA
(continued)

PROPOSED ABERNETHY PLACE PROJECT
OREGON CITY, OR

FIGURE A-11

Robert Miner Dynamic Testing, Inc.
Dynamic Measurements and Analyses for Deep Foundations

January 26, 2017

Mr. Matt Van Bergen
Hard Core Drilling, Inc.
18755 SW Niederberger Rd
Dundee, Oregon

Re: Penetration Test Energy Measurements
CME-75, Rig No. 103, CME Auto Hammer
Bore Hole: BH2, December 29, 2016
Newberg Steel Yard, Newberg, Oregon

RMDT Job No. 17F04b

Dear Mr. Van Bergen,

This letter presents energy transfer measurements made during Standard Penetration Tests for the drill hole and drill rig referenced above. Robert Miner Dynamic Testing, Inc. (RMDT) made dynamic measurements with a Pile Driving Analyzer® as a hammer advanced the NW rod during sampling with a split spoon sampler.

The purpose of RMDT's testing was the measurement of energy transferred to the drill rods. Measurements were made on a section of NW gauge rod at the top of the drill rod. Strain gages and accelerometers on the rod were connected to a Pile Driving Analyzer® (PDA) which generally processed acceleration and strain measurements from each hammer blow and stored both the measurements and computed results. Measurements and data processing generally followed the ASTM D 4633-16 standard. Energy transfer past the gage location, EFV, was computed by the PDA using force and velocity records as follows:

$$EFV = \int_a^b F(t)\, v(t)\, dt$$

The value "a" corresponds to the start of the record which is when the energy transfer begins and *"b"* is the time at which energy transferred to the rod reaches a maximum value. Appendix A contains more information on our measurement equipment and methods of analysis. The EFV energy calculation is identical to the EMX energy result discussed in Appendix A. The EFV and EMX values apply to the sensor location near the top of the rod.

TEST DETAILS

On December 29, 2016, a boring was advanced at the yard of Newberg Steel in Newberg, Oregon. The drill rig used during sampling was a truck mounted CME-75 auger unit manufactured by Central Mine Equipment (CME) and referred to as Rig 103 (OR Licence No.

YEAA724) by the operator. The CME-75 unit drilled to five predetermined depth intervals ranging from 20 to 60 ft below ground surface. The 40 and 50 ft Samples were over driven by 0.5 ft for a total of 2 ft of sample advancement per measurement. Over driving of a sample was performed to increase the data population available for analysis. The rod used to advance the spoon at each sample depth had a diameter matching that of NW rod. The automatic hammer in use during our testing was manufactured by CME and appeared to use a chain drive powered by a hydraulic motor, with the ram and chain drive enclosed within an outer casing.

RESULTS

A summary of testing and monitoring results is given in Table 1. The tabulated results include the starting sample depth, the penetration resistance, the number of hammers blows in our data set, measured energy transfer, EFV, the computed transfer efficiency, ETR, and the hammer blow rate, BPM. Appendix B contains detailed numeric results for each individual test.

Energy measurements must be divided by the theoretical free fall energy of the hammer to obtain an efficiency. A 140 lb ram raised 30 inches above an impact surface has 350 lb-ft of potential energy. Thus, the transfer energy results for sampling with the 140 lb ram may be divided by 350 lb-ft to yield the ratio of the delivered energy to the nominal potential energy. This efficiency ratio, ETR, is given for each sample interval as a percent efficiency.

Table 1. Summary of Test Details and Results for the 140-lb ram and Split Spoon Sampler

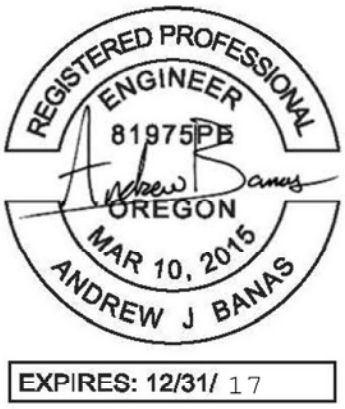
Sample Name and Sample Depth	Penetration Resistance (Blow/Set)	Number of Blows in Data Set	Average Transfer Energy EFV (lb-ft)	Average Transfer Efficiency ETR (percent)	Average Hammer Blow Rate BPM (blow/min)
20 ft Sample	5/1.0 ft	5	306	87	56
30 ft Sample	3/1.0 ft	2	306	88	42
40 ft Sample*	14/1.5 ft	13	302	86	57
50 ft Sample*	14/1.5 ft	12	298	85	56
60 ft Sample	23/1.0 ft	23	305	87	57
Average for Split Spoon samples:			**303**	**87**	**54**

**Note: Over Drove Sample 0.5 ft. Analyzed 1.5 ft of N-Values.*

Five sample returns were monitored while the 140 lb ram and standard split spoon sampler were in use. The overall average ETR and hammer blow rate was 87 percent and 54 blows per minute, respectively.

It was a pleasure to assist you and to participate on this project with the staff of Hard Core Drilling. Please do not hesitate to contact us if you or other project participants have any questions about this report.

Sincerely,



Andrew Banas, P.E.

Robert Miner Dynamic Testing, Inc.

APPENDIX A
AN INTRODUCTION INTO DYNAMIC PILE TESTING METHODS

The following has been written by Goble Rausche Likins and Associates, Inc. and may only be copied with its written permission.

BACKGROUND

Modern procedures of design and construction control require verification of bearing capacity and integrity of deep foundations during preconstruction test programs and also production installation. Dynamic pile testing methods meet this need economically and reliably, and therefore, form an important part of a quality assurance program when deep foundations are executed. Several dynamic pile testing methods exist; they have different benefits and limitations and different requirements for proper execution.

The Case Method of dynamic pile testing, named after the Case Institute of Technology where it was developed between 1964 and 1975, requires that a substantial ram mass (such as that of a pile driving hammer) impacts the pile top such that the pile undergoes at least a small permanent set. The method is therefore also referred to as a "High Strain Method". The Case Method requires dynamic measurements on the pile or shaft under the ram impact and then an evaluation of various quantities based on closed form solutions of the wave equation, a partial differential equation describing the motion of a rod under the effect of an impact. Conveniently, measurements and analyses are done by a single piece of equipment: the Pile Driving Analyzer® (PDA). However, for bearing capacity evaluations an important additional method is CAPWAP® which performs a much more rigorous analysis of the dynamic records than the simpler Case Method.

A related analysis method is the "Wave Equation Analysis" which calculates a relationship between bearing capacity and pile stress and field blow count. The GRLWEAP™ program performs this analysis and provides a complete set of helpful information and input data.

The following description deals primarily with the Case Method or "High Strain Test" Method of pile testing, however, for the sake of completeness, the "Low Strain Test" performed with the Pile Integrity Test™ (PIT), mainly for pile integrity evaluation, will also be described.

RESULTS FROM DYNAMIC TESTING

There are two main objectives of high strain dynamic pile testing:

- *Dynamic Pile Monitoring* and
- *Dynamic Load Testing*.

Dynamic pile monitoring is conducted during the installation of impact driven piles to achieve a safe and economical pile installation. Dynamic load testing, on the other hand, has as its primary goal the assessment of pile bearing capacity. It is applicable to both cast *insitu* piles or drilled shafts and impact driven piles during restrike.

Dynamic Pile Monitoring

During pile installation, the sensors attached to the pile measure pile top force and velocity. A PDA conditions and processes these signals and calculates or evaluates:

- Bearing capacity at the time of testing, including an assessment of shaft resistance development and driving resistance. This information supports formulation of a driving criterion.

- Dynamic pile stresses, axial and averaged over the pile cross section, both tensile and compressive, during pile driving to limit the potential of damage either near the pile top or along its length. Bending stresses can be evaluated at the point of sensor attachment.

- Pile integrity assessment by the PDA is based on the recognition of certain wave reflections from along the pile. If detected early enough, a pile may be saved from complete destruction. On the other hand, once damage is recognized measures can be taken to prevent reoccurrence.

- Hammer performance parameters including the energy transferred to the pile, the hammer speed in blows per minute and the stroke of open ended diesel hammers.

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Dynamic Pile Load Testing

Bearing capacity testing of either driven piles or drilled shafts applies the same basic measurement approach of dynamic pile monitoring. However, the test is done independent of the pile installation process and therefore a pile driving hammer or other dynamic loading device may not be available. If a special ram has to be mobilized then its weight should be between 0.8 and 2% of the test load (e.g. between 4 and 10 tons for a 500 ton test load) to assure sufficient soil resistance activation.

For a successful test, it most important that the test is conducted after a sufficient waiting time following pile installation for soil properties approaching their long term condition or concrete to properly set. During testing, PDA results of pile/shaft stresses and transferred energy are used to maintain safe stresses and assure sufficient resistance activation. For safe and sufficient testing of drilled shafts, ram energies are often increased from blow to blow until the test capacity has been activated. On the other hand, restrike tests on driven piles may require a warm hammer so that the very first blow produces a complete resistance activation. Data must be evaluated by CAPWAP for bearing capacity.

After the dynamic load test has been conducted with sufficient energy and safe stresses, the CAPWAP analysis provides the following results:

- Bearing capacity i.e. the mobilized capacity present at the time of testing
- Resistance distribution including shaft resistance and end bearing components
- Stresses in pile or shaft calculated for both the static load application and the dynamic test. These stresses are averages over the cross section and do not include bending effects or nonuniform contact stresses, e.g. when the pile toe is on uneven rock.
- Shaft impedance vs depth; this is an estimate of the shaft shape if it differs substantially from the planned profile
- Dynamic soil parameters for shaft and toe, i.e. damping factors and quakes (related to the dynamic stiffness of the resistance at the pile/soil interface.)

MEASUREMENTS

PDA

The basis for the results calculated by the PDA are pile top strain and acceleration measurements which are converted to force and velocity records, respectively. The PDA conditions, calibrates and displays these signals and immediately computes average pile force and velocity thereby eliminating bending effects. Using closed form Case Method solutions, based on the one-dimensional linear wave equation, the PDA calculates the results described in the analytical solutions section below.

HPA

The ram velocity may be directly obtained using radar technology in the Hammer Performance Analyzer™. For this unit to be applicable, the ram must be visible. The impact velocity results can be automatically processed with a PC or recorded on a strip chart.

Saximeter™

For open end diesel hammers, the time between two impacts indicates the magnitude of the ram fall height or stroke. This information is not only measured and calculated by the PDA but also by the convenient, hand-held Saximeter.

PIT

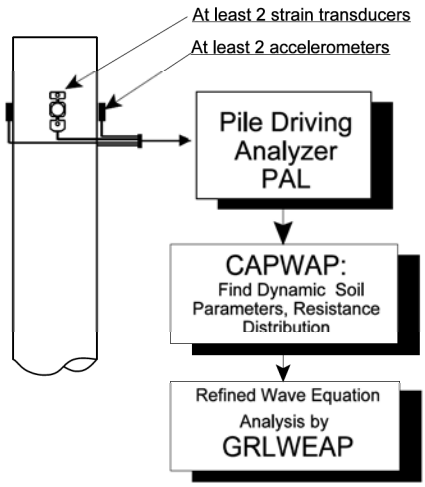
The Pile Integrity Tester™ (PIT) can be used to evaluate defects in concrete piles or shafts which may have occurred during driving or casting. Also timber piles of limited length can be tested in that manner. This so-called "Low Strain Method" or “Pulse-Echo Method” of integrity testing requires only the measurement of acceleration at the pile top. The stress wave producing impact is then generated by a small hand-held hammer and the records interpreted in the time domain. PIT also supports the so-called “Transient Response Method” which requires the additional measurement of the hammer force and an analysis in the frequency domain. This method may also be used to evaluate the unknown length of deep foundations under existing structures.

ANALYTICAL SOLUTIONS
BEARING CAPACITY

Wave Equation

GRL has written the GRLWEAP™ program which calculates a relationship between bearing capacity, pile stress and blow count. This relationship is often called the "bearing graph." Once the blow count is known from pile installation logs, the bearing graph yields the bearing capacity. This approach requires no measurements and therefore can be performed during the design stage of a project, for example for the selection of hammer, cushion and pile size.

After dynamic pile monitoring and/or dynamic load testing has been performed, the "Refined Wave Equation Analysis" or RWEA (see schematic below) is often performed by inputting the PDA and CAPWAP calculated parameters. Then the bearing graph from the RWEA is the basis for a safe and sufficient driving criteria.



Case Method

The Case Method is a closed form solution based on a few simplifying assumptions such as ideal plastic soil behavior and an ideally elastic and uniform pile. Given the measured pile top force F(t) and pile top velocity v(t), the total soil resistance is

$$R(t) = \tfrac{1}{2}\{[F(t) + F(t_2)] + Z[v(t) - v(t_2)]\} \quad (1)$$

where

t = a point in time after impact
t_2 = time t + 2L/c
L = pile length below gages
c = $(E/\rho)^{1/2}$ is the speed of the stress wave
ρ = pile mass density
Z = EA/c is the pile impedance
E = elastic modulus of the pile ($\rho\ c^2$)
A = pile cross sectional area

The total soil resistance consists of a dynamic (R_d) and a static (R_s) component. The static component is therefore

$$R_s(t) = R(t) - R_d(t) \quad (2)$$

The dynamic component may be computed from a soil damping factor, J, and a pile toe velocity, $v_t(t)$ which is conveniently calculated for the pile toe. Using wave considerations, this approach leads immediately to the dynamic resistance

$$R_d(t) = J[F(t) + Zv(t) - R(t)] \quad (3)$$

and finally to the static resistance by means of Equation 2.

There are a number of ways in which Eq. 1 through 3 can be evaluated. Most commonly, t_2 is set to that time at which the static resistance becomes maximum. The result is the so-called **RMX** capacity. Damping factors for RMX typically range between 0.5 for coarse grained materials to 1.0 for clays. The **RSP** capacity (this method is most commonly referred to in the literature, yet it is not very frequently used) requires damping factors between 0.1 for sand and 1.0 for clay. Another capacity, **RA2**, determines the capacity at a time when the pile is essentially at rest and thus damping is small; RA2

therefore requires no damping parameter. In any event, the proper Case Method and its associated damping parameter is most conveniently found after a CAPWAP analysis has been performed.

The static resistance calculated by Case Method or CAPWAP is the mobilized resistance at the time of testing. Consideration therefore has to be given to soil setup or relaxation effects and whether or not a sufficient set has been achieved under the test loading that would correspond to a full activation of the ultimate soil resistance.

The PDA also calculates an estimate of shaft resistance as the difference between force and velocity times impedance at the time immediately prior to the return of the stress wave from the pile toe. This shaft resistance is not reduced by damping effects and is therefore called the total shaft resistance **SFT**. A correction for damping effects produces the static shaft resistance estimate, **SFR**.

The Case Method solution is simple enough to be evaluated "in real time," i.e. between hammer blows, using the PDA. It is therefore possible to calculate all relevant results for all hammer blows and plot these results as a function of depth or blow number. This is done in the PDAPLOT program.

CAPWAP

The CAse Pile Wave Analysis Program combines the wave equation pile and soil model with the Case Method measurements. Thus, the solution includes not only the total and static bearing capacity values but also the shaft resistance, end bearing, damping factors and soil stiffnesses. The method iteratively calculates a number of unknowns by signal matching. While it is necessary to make hammer performance assumptions for a GRLWEAP analysis, the CAPWAP program works with the pile top measurements. Furthermore, while GRLWEAP and Case Method require certain assumptions regarding the soil behavior, CAPWAP calculates these soil parameters.

STRESSES

During pile monitoring, it is important that compressive stress maxima at pile top and toe and tensile stress maxima somewhere along the pile be calculated for each hammer blow.

At the pile top (location of sensors) both the maximum compression stress, **CSX**, and the maximum stress from individual strain transducers, **CSI**, are directly obtained from the measurements. Note that CSI is greater than or equal to CSX and the difference between CSI and CSX is a measure of bending in the plane of the strain transducers. Note also that all stresses calculated for locations below the sensors are averaged over the pile cross section and therefore do not include components from either bending or eccentric soil resistance effects.

The PDA calculates the compressive stress at the pile bottom, **CSB**, assuming (a) a uniform pile and (b) that the pile toe force is the maximum value of the total resistance R(t) minus the total shaft resistance, SFT. Again, for this stress estimation uniform resistance force are assumed (e.g. not a sloping rock.)

For concrete piles, the maximum tension stress, **TSX**, is also of great importance. It occurs at some point below the pile top. The maximum tension stress can be computed from the pile top measurements by finding the maximum tension wave (either traveling upward, W_U, or downward, W_d) and reducing it by the minimum compressive wave traveling in opposite direction.

$$W_u = ½[F(t) - Zv(t)] \quad (4)$$

$$W_d = ½[F(t) + Zv(t)] \quad (5)$$

CAPWAP also calculates tensile and compressive stresses along the pile and, in general, more accurately than the PDA. In fact, for non-uniform piles or piles with joints, cracks or other discontinuities, the closed form solutions from the PDA may be in error.

PILE INTEGRITY

High Strain Tests (PDA)

Stress waves in a pile are reflected wherever the pile impedance, $Z = EA/c = \rho cA = A\sqrt{(E\rho)}$, changes. Therefore, the pile impedance is a measure of the quality of the pile material (E, ρ, c) and the size of its cross section (A). The reflected waves arrive at the pile top at a time which is greater the farther away from the pile top the reflection occurs. The

magnitude of the change of the upward traveling wave (calculated from the measured force and velocity, Eq. 4) indicates the extent of the cross sectional change. Thus, with β_i (**BTA**) being a relative integrity factor which is unity for no impedance change and zero for the pile end, the following is calculated by the PDA.

$$\beta_i = (1 - \alpha_i)/(1 + \alpha_i) \quad (6)$$

with

$$\alpha_i = ½(W_{UR} - W_{UD})/(W_{Di} - W_{UR}) \quad (7)$$

where

W_{UR} is the upward traveling wave at the onset of the reflected wave. It is caused by resistance.

W_{UD} is the upwards traveling wave due to the damage reflection.

W_{Di} is the maximum downward traveling wave due to impact.

It can be shown that this formulation is quite accurate as long as individual reflections from different pile impedance changes have no overlapping effects on the stress wave reflections.

Without rigorous derivation, it has been proposed to consider as slight damage when β is above 0.8 and a serious damage when β is less than 0.6.

Low Strain Tests (PIT)

The pile top is struck with a held hand hammer and the resulting pile top velocity is measured, displayed and interpreted for signs of wave reflections. In general, a comparison of the reflected acceleration leads to a relative measure of extent of damage, again the location of the problem is indicated by the arrival time of the reflection. PIT records can also be interpreted by the β-Method. However, low strain tests do not activate much resistance which simplifies Eq. 7 since W_{UR} is then equal to zero.

For drilled shafts and PIT records that clearly show a toe reflection, an approximate shaft profile can be calculated from low strain records using the PITSTOP program's PROFILE routine.

HAMMER PERFORMANCE

The PDA calculates the energy transferred to the pile top from:

$$E(t) = {}_o\int^t F(t)v(t)\,dt \quad (8a)$$

The maximum of the E(t) curve is the most important information for an overall evaluation of the performance of a hammer and driving system. This **EMX** value allows for a classification of the hammer's performance when presented as the rated transfer efficiency, also called energy transfer ratio (**ETR**) or global efficiency

$$e_T = EMX/E_R \quad (8b)$$

where

E_R is the manufacturer's rated energy value.

Both Saximeter and PDA calculate the stroke (**STK**) of an open end diesel hammer using

$$STK = (g/8)\,T_B^2 - h_L \quad (9)$$

where

g is the earth's gravitational acceleration,
T_B is the time between two hammer blows,
h_L is a stroke loss value due to gas compression and time losses during impact (usually 0.3 ft or 0.1 m).

DETERMINATION OF WAVE SPEED

An important facet of dynamic pile testing is an assessment of pile material properties. Since in general force is determined from strain by multiplication with elastic modulus, E, and cross sectional area, A, the dynamic elastic modulus has to be determined for pile materials other than steel. In general, the records measured by the PDA clearly indicate a pile toe reflection as long as pile penetration per blow is greater than 1 mm or .04 inches. The time between the onset of the force and velocity records at impact and the onset of the reflection from the toe (usually apparent by a local maximum of the wave up curve) is the so-called wave travel time, T. Dividing 2L (L is here the length of the pile below sensors) by T leads to the stress wave speed in the pile:

$$c = 2L/T \quad (10)$$

The elastic modulus of the pile material is related to the wave speed according to the linear elastic wave equation theory by

$$E = c^2\rho \qquad (11)$$

Since the mass density of the pile material, ρ, is usually well known (an exception is timber for which samples should be weighed), the elastic modulus is easily found from the wave speed. Note, however, that this is a dynamic modulus which is generally higher than the static one and that the wave speed depends to some degree on the strain level of the stress wave. For example, experience shows that the wave speed from PIT is roughly 5% higher than the wave speed observed during a high strain test.

Other Notes:

- If the pile material is nonuniform then the wave speed c, according to Eq. 10, is an average wave speed and does not necessarily reflect the pile material properties of the location where the strain sensors are attached to the pile top. For example, pile driving often causes fine tension cracks some distance below the top of concrete piles. Then the average c is slower than that at the pile top. It is therefore recommended to determine E in the beginning of pile driving and not adjust it when the average c changes.

- If the pile has such a high resistance that there is no clear indication of a toe reflection then the wave speed of the pile material must be determined either by assumption or by taking a sample of the concrete and measuring its wave speed in a simple free column test. Another possibility is to use the proportionality relationship, discussed under "DATA QUALITY CHECKS" to find c as the ratio between the measured velocity and measured strain.

DATA QUALITY CHECKS

Quality data is the first and foremost requirement for accurate dynamic testing results. It is therefore important that the measurement engineer performing PDA or PIT tests has the experience necessary to recognize measurement problems and take appropriate corrective action should problems develop. Fortunately, dynamic pile testing allows for certain data quality checks because two independent measurements are taken that have to conform to certain relationships.

Proportionality

As long as there is only a wave traveling in one direction, as is the case during impact when only a downward traveling wave exists in the pile, force and velocity measured at the pile top are proportional

$$F = v\,Z = v\,(EA/c) \qquad (12a)$$

This relationship can also be expressed in terms of stress

$$\sigma = v\,(E/c) \qquad (12b)$$

or strain

$$\epsilon = v / c \qquad (12c)$$

This means that the early portion of strain times wave speed must be equal to the velocity unless the proportionality is affected by high friction near the pile top or by a pile cross sectional change not far below the sensors. Checking the proportionality is an excellent means of assuring meaningful measurements.

Measurements are always taken at opposite sides of the pile as a means of calculating the average force and velocity in the pile. The velocity on the two sides of the pile is very similar even when high bending exists. Thus, an independent check of the velocity measurements is easy and simple.

Strain measurements may differ greatly between the two sides of the pile when bending exists. It is even possible that tension is measured on one side while very high compression exists on the other side of the pile. In extreme cases, bending might be so high that it leads to a nonlinear stress distribution. The averaging of the two strain signals does then not lead to the average pile force and proportionality will not be achieved.

When testing drilled shafts, measurements of strain may also be affected by local concrete quality variations. It is then often necessary to use four strain transducers spaced at 90 degrees around the pile for an improved strain data quality. The use of four transducers is also recommended for large pile

diameters, particularly when it is difficult to mount the sensors at least two pile widths or diameters below the pile top.

LIMITATIONS, ADDITIONAL CONSIDERATIONS

Mobilization of capacity

Estimates of pile capacity from dynamic testing indicate the **mobilized pile capacity at the time of testing**. At very high blow counts (low set per blow), dynamic test methods tend to produce lower bound capacity estimates as not all resistance (particularly at and near the toe) is fully activated.

Time dependent soil resistance effects

Static pile capacity from dynamic method calculations provide an estimate of the axial pile capacity. Increases and decreases in the pile capacity with time typically occur (soil setup/relaxation). Therefore, **restrike testing usually yields a better indication of long term pile capacity than a test at the end of pile driving**. Often a wait period of one or two days between end of driving and restrike is satisfactory for a realistic prediction of pile capacity but this waiting time depends, among other factors, on the permeability of the soil.

(A) Soil setup

Because excess positive pore pressures often develop during pile driving in fine grained soil (clays, silts or even fine sands), the capacity of a pile at the time of driving may often be less than the long term pile capacity. These pore pressures reduce the effective stress acting on the pile thereby reducing the soil resistance to pile penetration, and thus the pile capacity at the time of driving. As these pore pressures dissipate, the soil resistance acting on the pile increases as does the axial pile capacity. This phenomena is routinely called soil setup or soil freeze.

(*B) Relaxation*

Relaxation (capacity reduction with time) has been observed for piles driven into weathered shale, and may take several days to fully develop. Pile capacity estimates based upon initial driving or short term restrike tests can significantly overpredict long term pile capacity. Therefore, piles driven into shale should be tested after a minimum one week wait either statically or dynamically (with particular emphasis than on the first few blows). Relaxation has also been observed for displacement piles driven into dense saturated silts or fine sands due to a negative pore pressure effect at the pile toe. Again, restrike tests should be used, with great emphasis on early blows.

Capacity results for open pile profiles

Larger diameter open ended pipe piles (or H-piles which do not bear on rock) may behave differently under dynamic and static loading conditions. Under dynamic loads the soil inside the pile or between its flanges may slip and produce internal friction while under static loads the plug may move with the pile, thereby creating end bearing over the full pile cross section. As a result both friction and end bearing components may be different under static and dynamic conditions.

CAPWAP Analysis Results

A portion of the soil resistance calculated on an individual soil segment in a CAPWAP analysis can usually be shifted up or down the shaft one soil segment without significantly altering the match quality. Therefore, use of the CAPWAP resistance distribution for uplift, downdrag, scour, or other geotechnical considerations should be made with an understanding of these analysis limitations.

Stresses

PDA and CAPWAP calculated stresses are average values over the cross section. Additional allowance has to be made for bending or non-uniform contact stresses. To prevent damage it is therefore important to maintain good hammer-pile alignment and to protect the pile toes using appropriate devices or an increased cross sectional area.

In the United States is has become generally acceptable to limit the dynamic installation stresses of driven piles to the following levels:

90% of yield strength for steel piles

85% of the concrete compressive strength - after subtraction of the effective prestress - for concrete piles in compression

100% of effective prestress plus ½ of the concrete's tension strength for prestressed piles in tension

70% of the reinforcement strength for regularly reinforced concrete piles in tension

300% of the static design allowable stress for timber

Note that the dynamic stresses may either be directly measured at the pile top by the PDA or calculated by the PDA for other locations along the pile based on the pile top measurements.

Additional design considerations

Numerous factors have to be considered in pile foundation design. Some of these considerations include

- additional pile loading from downdrag or negative skin friction,
- lateral and uplift loading requirements
- effective stress changes (due to changes in water table, excavations, fills or other changes in overburden),
- long term settlements in general and settlement from underlying weaker layers and/or pile group effects,

These factors have not been evaluated by GRL and have not been considered in the interpretation of the dynamic testing results. The foundation designer should determine if these or any other considerations are applicable to this project and the foundation design.

Wave equation analysis results

The results calculated by the wave equation analysis program depend on a variety of hammer, pile and soil input parameters. Although attempts have been made to base the analysis on the best available information, actual field conditions may vary and therefore stresses and blow counts may differ from the predictions reported. Capacity predictions derived from wave equation analyses should use restrike information. However, because of the uncertainties associated with restrike blow counts and restrike hammer energies, correlations of such results with static test capacities with have often displayed considerable scatter.

As for PDA and CAPWAP, the theory on which GRLWEAP is based is the one-dimensional wave equation. For that reason, stress predictions by the wave equation analysis can only be averages over the pile cross section. Thus, bending stresses or stress concentrations due to non-uniform impact or uneven soil or rock resistance are not considered in these results. Stress maxima calculated by the wave equation are usually subjected to the same limits as those measured directly or calculated from measurements by the PDA.

Appendix B

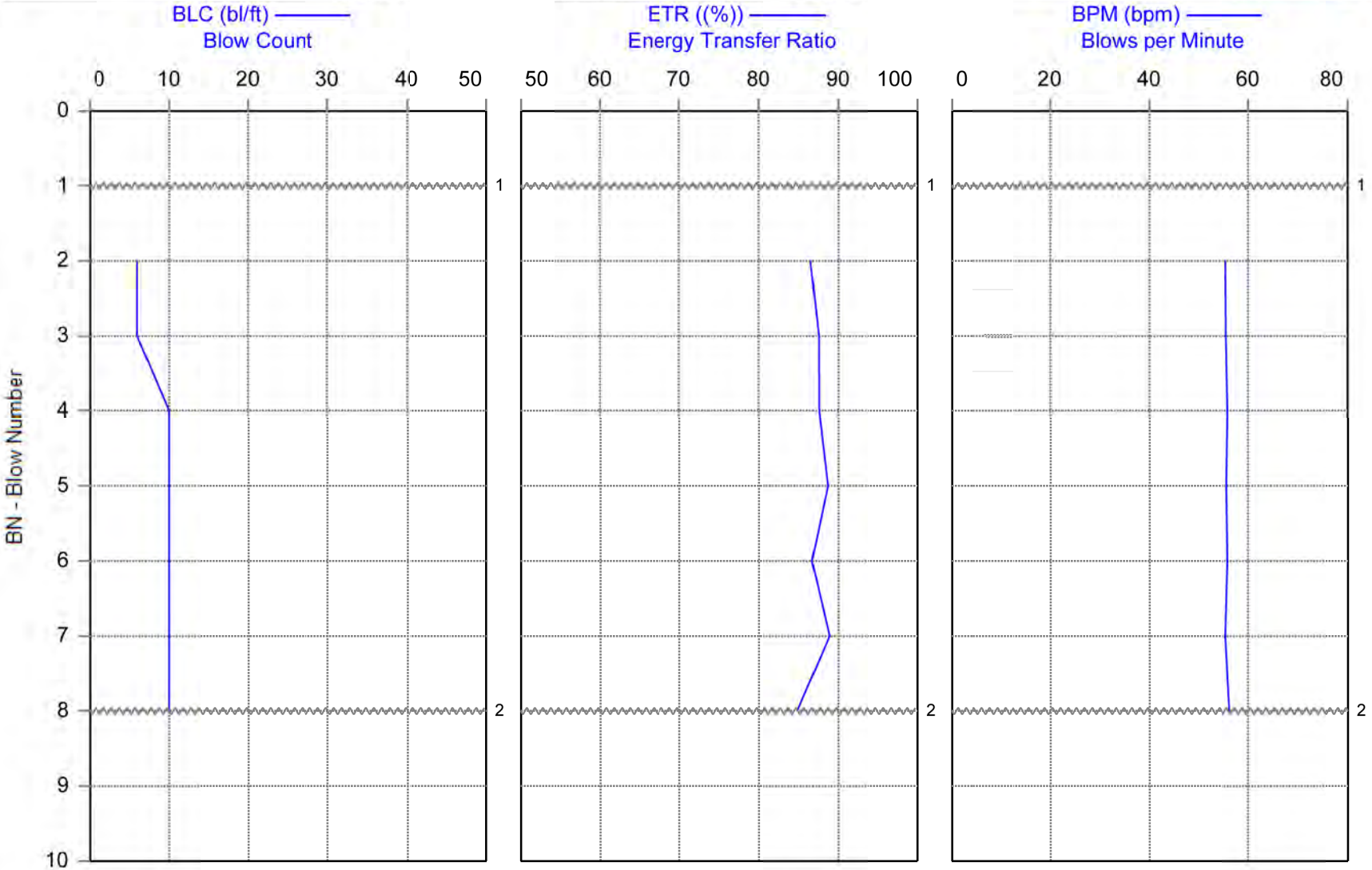
Summary of Case Method Results

Robert Miner Dynamic Testing, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 03-January-2017

Test started: 29-December-2016

HARDCORE, NWBRG STEEL, NO 103 - 20 FT SAMPLE



1 - Start of test on 12/29/2016 at 11:42 AM

2 - End of test on 12/29/2016 at 11:42 AM

HARDCORE, NWBRG STEEL, NO 103 - 20 FT SAMPLE RIG 103, CME-75, 140LB, NWJ
OP: RMDT Date: 29-December-2016

AR: 1.44 in² SP: 0.492 k/ft³
LE: 26.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress FMX: Maximum Force
BPM: Blows per Minute VMX: Maximum Velocity
EFV: Energy of FV RAT: SPT Length Ratio
ETR: Energy Transfer Ratio EF2: Energy of F^2

BL#	Depth	BLC	CSX	BPM	EFV	ETR	FMX	VMX	RAT	EF2
	ft	bl/ft	ksi	bpm	k-ft	(%)	kips	f/s	[]	k-ft
4	21.10	10	29.6	55.8	306.7	87.6	43	14.3	1.1	404.05
5	21.20	10	30.5	55.6	310.5	88.7	44	14.7	1.1	408.50
6	21.30	10	29.9	55.8	303.6	86.7	43	14.2	1.1	401.89
7	21.40	10	31.0	55.4	311.3	88.9	45	14.6	1.1	416.67
8	21.50	10	29.8	56.2	297.1	84.9	43	14.4	1.1	396.70
		Average	30.2	55.8	305.8	87.4	43	14.5	1.1	405.56
		Std. Dev.	0.5	0.3	5.2	1.5	1	0.2	0.0	6.73
		Maximum	31.0	56.2	311.3	88.9	45	14.7	1.1	416.67
		Minimum	29.6	55.4	297.1	84.9	43	14.2	1.1	396.70

Total number of blows analyzed: 5

BL# Sensors

2-8 F1: [62NWJ-1] 216.9 (1.00); F2: [62NWJ-2] 217.3 (1.00); A1: [K2445] 307.0 (1.00); A2: [K847] 310.0 (1.00)

BL# Comments

1 Start of test on 12/29/2016 at 11:42 AM
8 End of test on 12/29/2016 at 11:42 AM

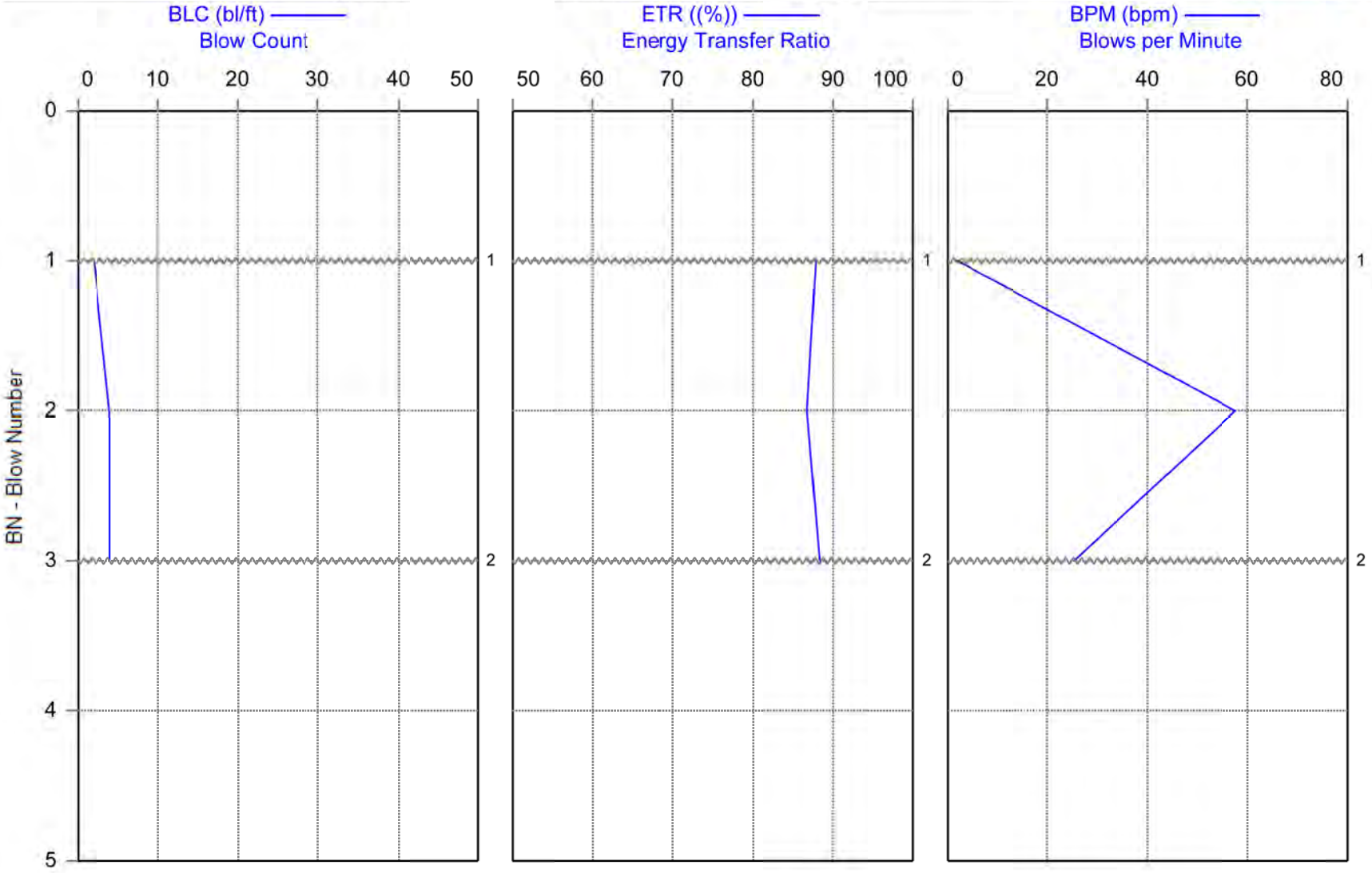
Time Summary

Drive 7 seconds 11:42 AM - 11:42 AM BN 1 - 8

Robert Miner Dynamic Testing, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 03-January-2017 Test started: 29-December-2016

HARDCORE, NWBRG STEEL, NO 103 - 30 FT SAMPLE



1 - Start of test on 12/29/2016 at 11:58 AM

2 - End of test on 12/29/2016 at 11:58 AM

HARDCORE, NWBRG STEEL, NO 103 - 30 FT SAMPLE RIG 103, CME-75, 140LB, NWJ
OP: RMDT Date: 29-December-2016

AR: 1.44 in² SP: 0.492 k/ft³
LE: 36.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress FMX: Maximum Force
BPM: Blows per Minute VMX: Maximum Velocity
EFV: Energy of FV RAT: SPT Length Ratio
ETR: Energy Transfer Ratio EF2: Energy of F^2

BL#	Depth	BLC	CSX	BPM	EFV	ETR	FMX	VMX	RAT	EF2
	ft	bl/ft	ksi	bpm	k-ft	(%)	kips	f/s	[]	k-ft
2	31.25	4	28.8	57.6	303.7	86.8	41	14.5	1.1	393.31
3	31.50	4	29.6	25.3	309.1	88.3	43	14.4	1.0	398.70
		Average	29.2	41.5	306.4	87.5	42	14.4	1.1	396.01
		Std. Dev.	0.4	16.2	2.7	0.8	1	0.1	0.0	2.69
		Maximum	29.6	57.6	309.1	88.3	43	14.5	1.1	398.70
		Minimum	28.8	25.3	303.7	86.8	41	14.4	1.0	393.31

Total number of blows analyzed: 2

BL# Sensors

1-3 F1: [62NWJ-1] 216.9 (1.00); F2: [62NWJ-2] 217.3 (1.00); A1: [K2445] 307.0 (1.00); A2: [K847] 310.0 (1.00)

BL# Comments

1 Start of test on 12/29/2016 at 11:58 AM
3 End of test on 12/29/2016 at 11:58 AM

Time Summary

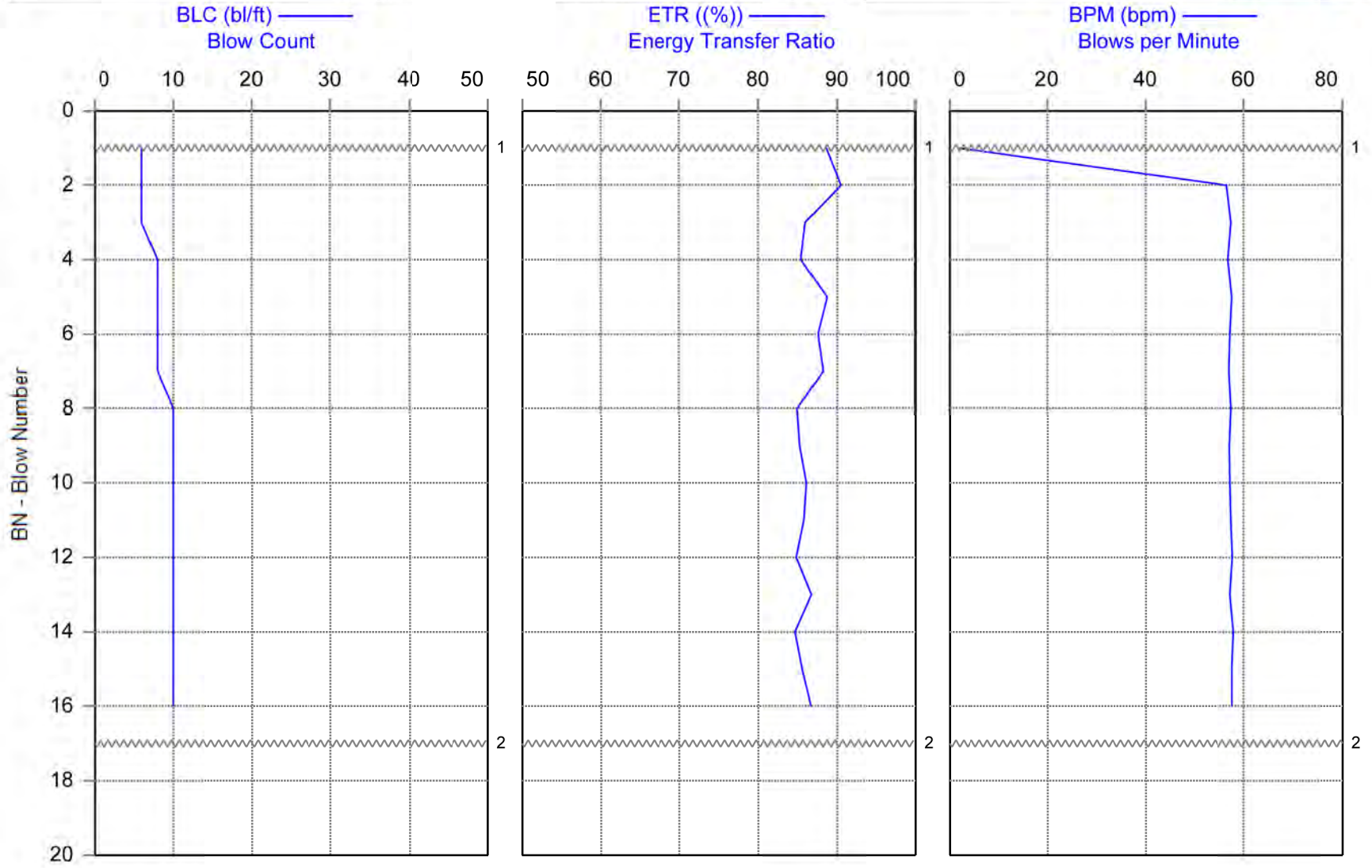
Drive 3 seconds 11:58 AM - 11:58 AM BN 1 - 3

Robert Miner Dynamic Testing, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 23-January-2017

Test started: 29-December-2016

HARDCORE, NWBRG STEEL, NO 103 - 40 FT SAMPLE



1 - Start of test on 12/29/2016 at 12:14 PM

2 - End of test on 12/29/2016 at 12:15 PM

HARDCORE, NWBRG STEEL, NO 103 - 40 FT SAMPLE RIG 103, CME-75, 140LB, NWJ
OP: RMDT Date: 29-December-2016

AR: 1.44 in² SP: 0.492 k/ft³
LE: 46.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress FMX: Maximum Force
BPM: Blows per Minute VMX: Maximum Velocity
EFV: Energy of FV RAT: SPT Length Ratio
ETR: Energy Transfer Ratio EF2: Energy of F^2

BL#	Depth	BLC	CSX	BPM	EFV	ETR	FMX	VMX	RAT	EF2
	ft	bl/ft	ksi	bpm	k-ft	(%)	kips	f/s	[]	k-ft
4	40.63	8	29.4	56.8	299.1	85.5	42	13.7	1.1	413.00
5	40.75	8	30.6	57.6	310.7	88.8	44	15.0	0.7	420.53
6	40.88	8	30.7	57.2	306.6	87.6	44	14.9	0.7	421.48
7	41.00	8	31.0	57.0	309.0	88.3	45	14.4	0.7	426.29
8	41.10	10	29.8	57.4	297.5	85.0	43	13.7	1.1	428.43
9	41.20	10	30.0	57.1	298.6	85.3	43	13.6	1.1	431.58
10	41.30	10	30.1	57.2	301.7	86.2	43	13.9	0.7	422.40
11	41.40	10	29.7	57.4	300.5	85.9	43	13.3	1.1	430.27
12	41.50	10	29.7	57.7	297.1	84.9	43	13.5	1.1	419.07
13	41.60	10	29.5	57.2	303.9	86.8	42	13.4	1.1	425.69
14	41.70	10	30.4	57.9	296.6	84.7	44	14.0	0.7	408.54
15	41.80	10	30.0	57.6	299.8	85.7	43	14.0	0.7	405.11
16	41.90	10	30.4	57.6	303.8	86.8	44	14.1	0.7	410.99
		Average	30.1	57.4	301.9	86.3	43	14.0	0.9	420.26
		Std. Dev.	0.5	0.3	4.4	1.3	1	0.5	0.2	8.20
		Maximum	31.0	57.9	310.7	88.8	45	15.0	1.1	431.58
		Minimum	29.4	56.8	296.6	84.7	42	13.3	0.7	405.11

Total number of blows analyzed: 13

BL# Sensors

1-16 F1: [62NWJ-1] 216.9 (1.00); F2: [62NWJ-2] 217.3 (1.00); A1: [K2445] 307.0 (1.00); A2: [K847] 310.0 (1.00)

BL# Comments

1 Start of test on 12/29/2016 at 12:14 PM
17 End of test on 12/29/2016 at 12:15 PM

Time Summary

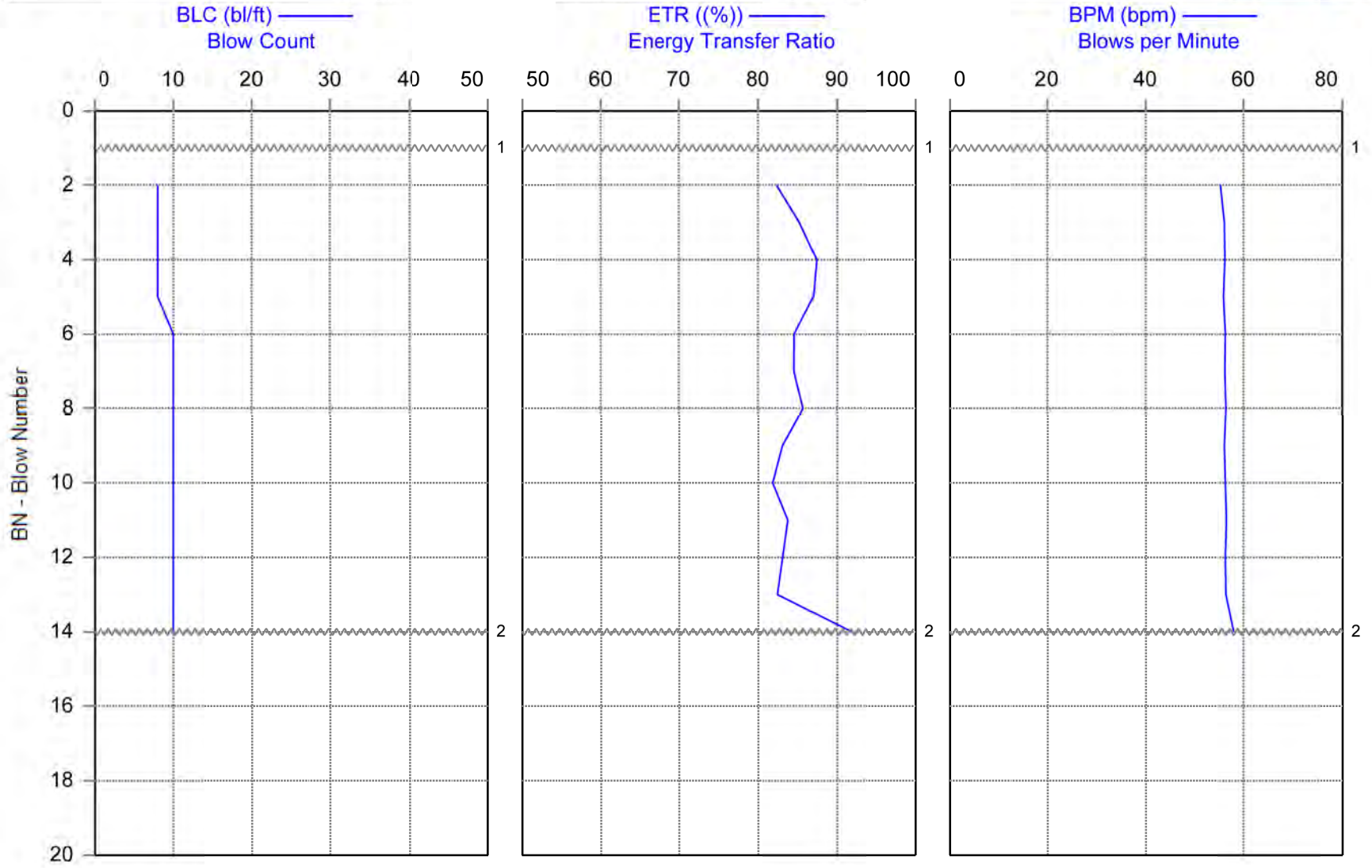
Drive 16 seconds 12:14 PM - 12:15 PM BN 1 - 17

Robert Miner Dynamic Testing, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 03-January-2017

Test started: 29-December-2016

HARDCORE, NWBRG STEEL, NO 103 - 50 FT SAMPLE



1 - Start of test on 12/29/2016 at 12:37 PM

2 - End of test on 12/29/2016 at 12:38 PM

HARDCORE, NWBRG STEEL, NO 103 - 50 FT SAMPLE RIG 103, CME-75, 140LB, NWJ
OP: RMDT Date: 29-December-2016

AR: 1.44 in² SP: 0.492 k/ft³
LE: 56.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress FMX: Maximum Force
BPM: Blows per Minute VMX: Maximum Velocity
EFV: Energy of FV RAT: SPT Length Ratio
ETR: Energy Transfer Ratio EF2: Energy of F^2

BL#	Depth	BLC	CSX	BPM	EFV	ETR	FMX	VMX	RAT	EF2
	ft	bl/ft	ksi	bpm	k-ft	(%)	kips	f/s	[]	k-ft
3	50.75	8	29.5	56.1	298.5	85.3	42	15.7	0.5	401.39
4	50.88	8	30.0	56.2	306.1	87.5	43	16.6	0.5	402.44
5	51.00	8	29.9	55.9	304.6	87.0	43	16.9	0.5	401.97
6	51.10	10	30.9	56.3	296.2	84.6	44	16.0	0.5	410.18
7	51.20	10	30.6	56.2	296.0	84.6	44	16.4	0.5	409.39
8	51.30	10	30.5	56.4	300.1	85.8	44	15.9	0.5	409.99
9	51.40	10	30.2	56.1	291.0	83.1	43	16.0	0.5	404.81
10	51.50	10	30.7	56.3	286.7	81.9	44	15.9	0.5	401.46
11	51.60	10	30.3	56.5	293.4	83.8	44	15.6	0.5	396.79
12	51.70	10	29.8	56.3	291.1	83.2	43	16.5	0.5	394.38
13	51.80	10	29.7	56.4	288.8	82.5	43	15.5	0.5	390.58
14	51.90	10	28.8	58.0	321.6	91.9	41	17.2	0.5	378.35
		Average	30.1	56.4	297.9	85.1	43	16.2	0.5	400.15
		Std. Dev.	0.6	0.5	9.2	2.6	1	0.5	0.0	8.79
		Maximum	30.9	58.0	321.6	91.9	44	17.2	0.5	410.18
		Minimum	28.8	55.9	286.7	81.9	41	15.5	0.5	378.35

Total number of blows analyzed: 12

BL# Sensors

2-14 F1: [62NWJ-1] 216.9 (1.00); F2: [62NWJ-2] 217.3 (1.00); A1: [K2445] 307.0 (1.00); A2: [K847] 310.0 (1.00)

BL# Comments

1 Start of test on 12/29/2016 at 12:37 PM
14 End of test on 12/29/2016 at 12:38 PM

Time Summary

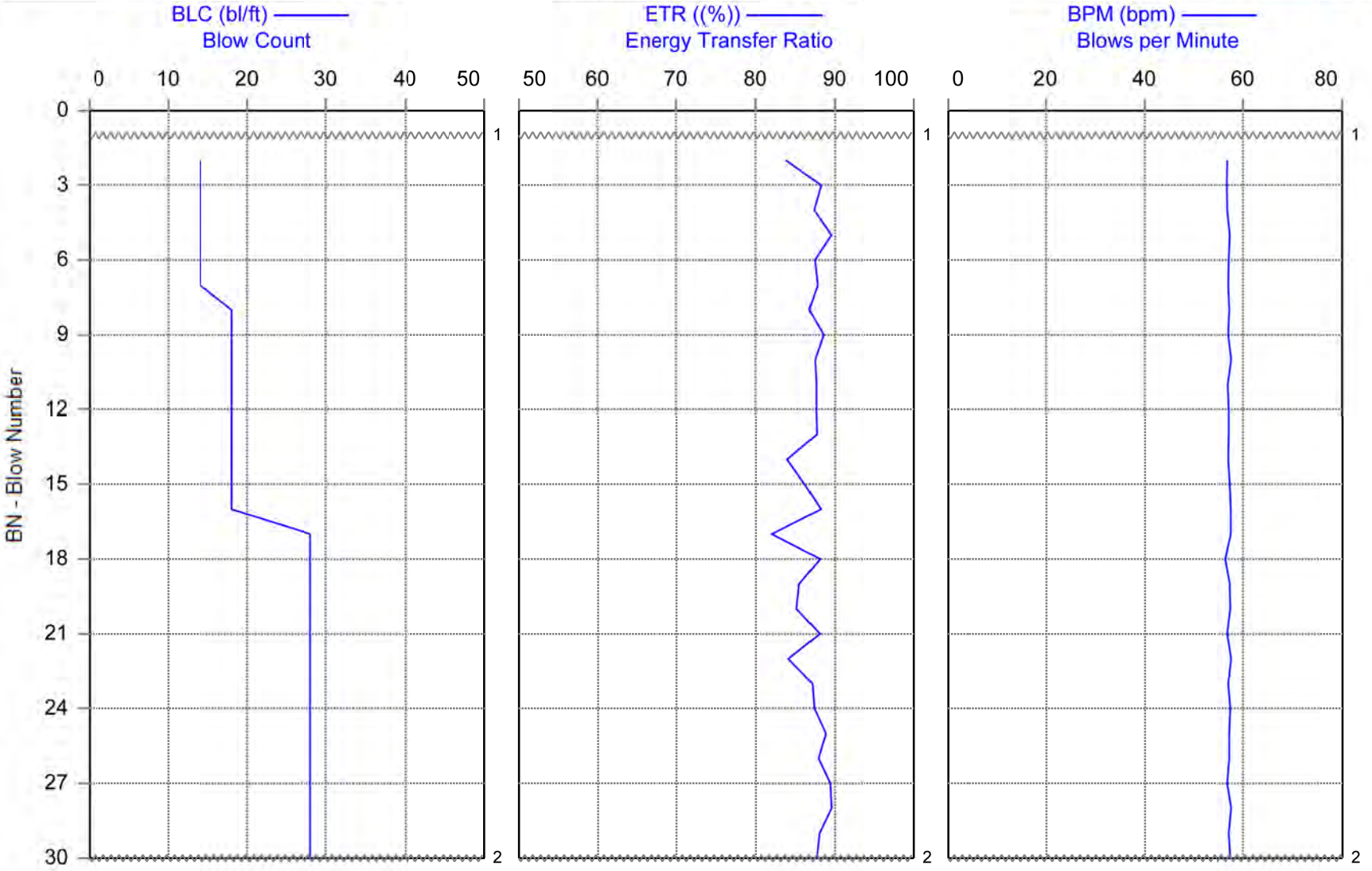
Drive 13 seconds 12:37 PM - 12:38 PM BN 1 - 14

Robert Miner Dynamic Testing, Inc. - PDIPLOT2 Ver 2016.1.56.1 - Case Method & iCAP® Results

Printed: 03-January-2017

Test started: 29-December-2016

HARDCORE, NWBRG STEEL, NO 103 - 60 FT SAMPLE



1 - Start of test on 12/29/2016 at 1:02 PM

2 - End of test on 12/29/2016 at 1:02 PM

HARDCORE, NWBRG STEEL, NO 103 - 60 FT SAMPLE RIG 103, CME-75, 140LB, NWJ
OP: RMDT Date: 29-December-2016

AR: 1.44 in² SP: 0.492 k/ft³
LE: 66.00 ft EM: 30,000 ksi
WS: 16,807.9 f/s JC: 0.00 []

CSX: Max Measured Compr. Stress FMX: Maximum Force
BPM: Blows per Minute VMX: Maximum Velocity
EFV: Energy of FV RAT: SPT Length Ratio
ETR: Energy Transfer Ratio EF2: Energy of F^2

BL#	Depth	BLC	CSX	BPM	EFV	ETR	FMX	VMX	RAT	EF2
	ft	bl/ft	ksi	bpm	k-ft	(%)	kips	f/s	[]	k-ft
8	60.56	18	30.0	57.2	303.8	86.8	43	15.1	0.6	402.00
9	60.61	18	30.8	57.0	310.2	88.6	44	14.6	0.6	419.61
10	60.67	18	30.0	57.6	306.4	87.5	43	14.5	0.6	409.93
11	60.72	18	30.6	56.9	307.0	87.7	44	15.1	0.5	415.23
12	60.78	18	31.1	57.1	306.9	87.7	45	14.8	0.6	422.47
13	60.83	18	31.2	57.1	307.2	87.8	45	15.1	0.6	422.30
14	60.89	18	30.6	57.0	294.1	84.0	44	14.3	0.6	416.37
15	60.94	18	31.3	57.3	301.8	86.2	45	14.9	0.6	423.34
16	61.00	18	31.2	57.5	309.0	88.3	45	15.0	0.6	411.31
17	61.04	28	29.2	57.5	287.4	82.1	42	14.5	0.6	387.70
18	61.07	28	30.3	56.4	308.6	88.2	44	14.3	0.6	406.84
19	61.11	28	30.6	57.3	299.4	85.6	44	15.0	0.6	408.23
20	61.14	28	29.4	57.4	298.2	85.2	42	14.0	0.6	400.47
21	61.18	28	30.9	56.8	308.6	88.2	45	14.5	0.6	412.52
22	61.21	28	30.2	57.6	294.7	84.2	43	14.1	0.6	402.38
23	61.25	28	30.5	57.0	305.2	87.2	44	14.5	0.6	404.49
24	61.29	28	30.8	57.4	306.1	87.4	44	14.3	0.6	412.10
25	61.32	28	31.4	57.2	311.1	88.9	45	14.2	0.6	423.11
26	61.36	28	31.3	57.2	307.8	88.0	45	14.1	0.5	420.85
27	61.39	28	31.3	56.8	313.0	89.4	45	14.1	0.6	423.91
28	61.43	28	30.4	57.6	313.6	89.6	44	14.3	0.6	411.63
29	61.46	28	30.3	57.1	308.3	88.1	44	14.0	0.6	410.16
30	61.50	28	30.7	57.4	307.2	87.8	44	14.2	0.6	404.38
		Average	30.6	57.2	305.0	87.2	44	14.5	0.6	411.80
		Std. Dev.	0.6	0.3	6.3	1.8	1	0.4	0.0	8.98
		Maximum	31.4	57.6	313.6	89.6	45	15.1	0.6	423.91
		Minimum	29.2	56.4	287.4	82.1	42	14.0	0.5	387.70

Total number of blows analyzed: 23

BL# Sensors

2-30 F1: [62NWJ-1] 216.9 (1.00); F2: [62NWJ-2] 217.3 (1.00); A1: [K2445] 307.0 (1.00); A2: [K847] 310.0 (1.00)

BL# Comments

1 Start of test on 12/29/2016 at 1:02 PM
30 End of test on 12/29/2016 at 1:02 PM

Time Summary

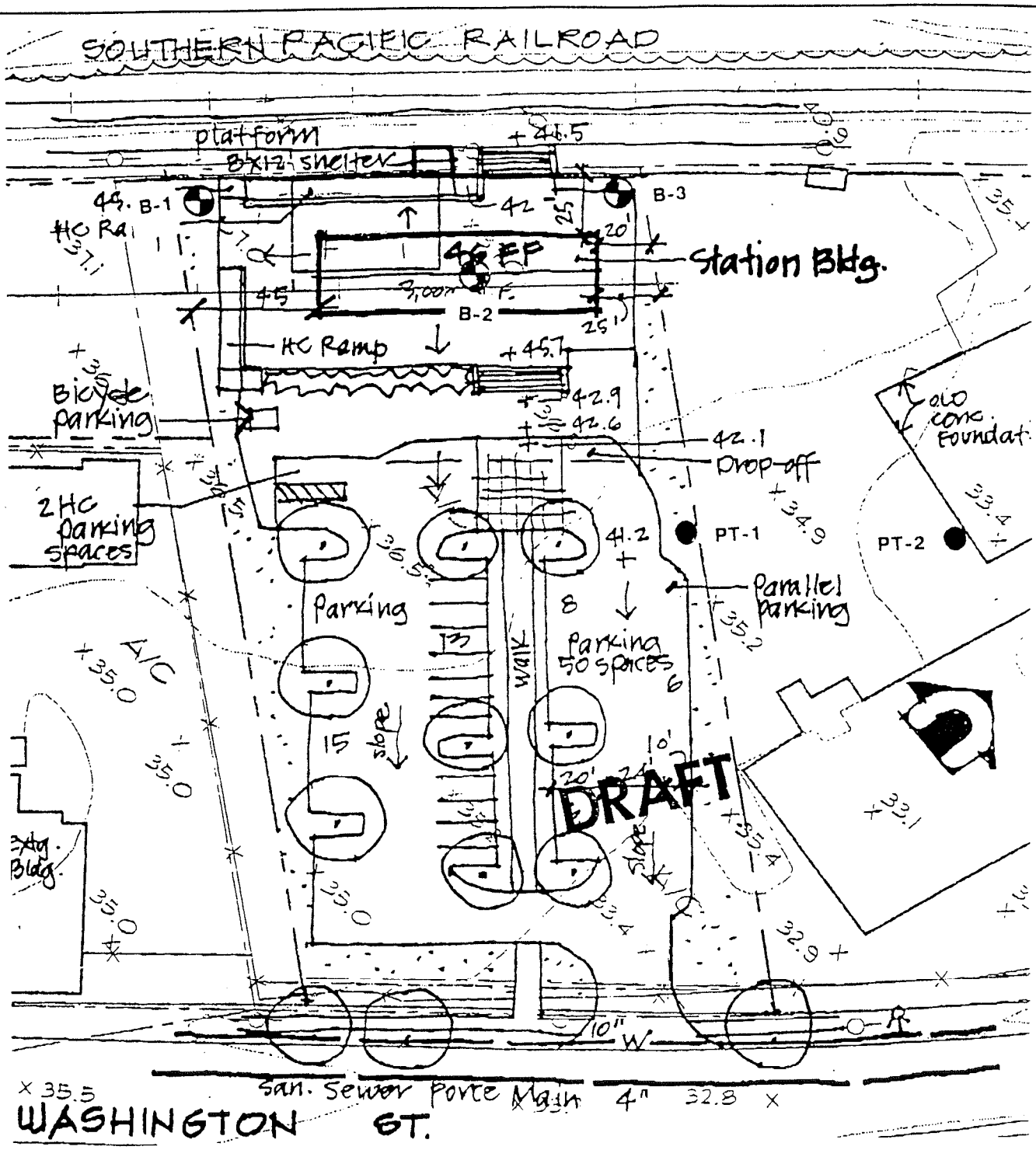
Drive 30 seconds 1:02 PM - 1:02 PM BN 1 - 30

APPENDIX B

APPENDIX B

PRIOR EXPLORATIONS AT ADJACENT SITE TO NORTH

We reviewed geotechnical information and laboratory data from the previous geotechnical study completed for the train station located to the north of the site. The site plan, relevant explorations logs, and applicable laboratory results from the report are presented in this appendix.



LEGEND

B-1	Location and designation of exploratory boring by CDM December 2000
PT-1	Location and designation of infiltration test by CDM December 2000

Reference: DEA Concetptual Site Plan Oct. 11, 2000

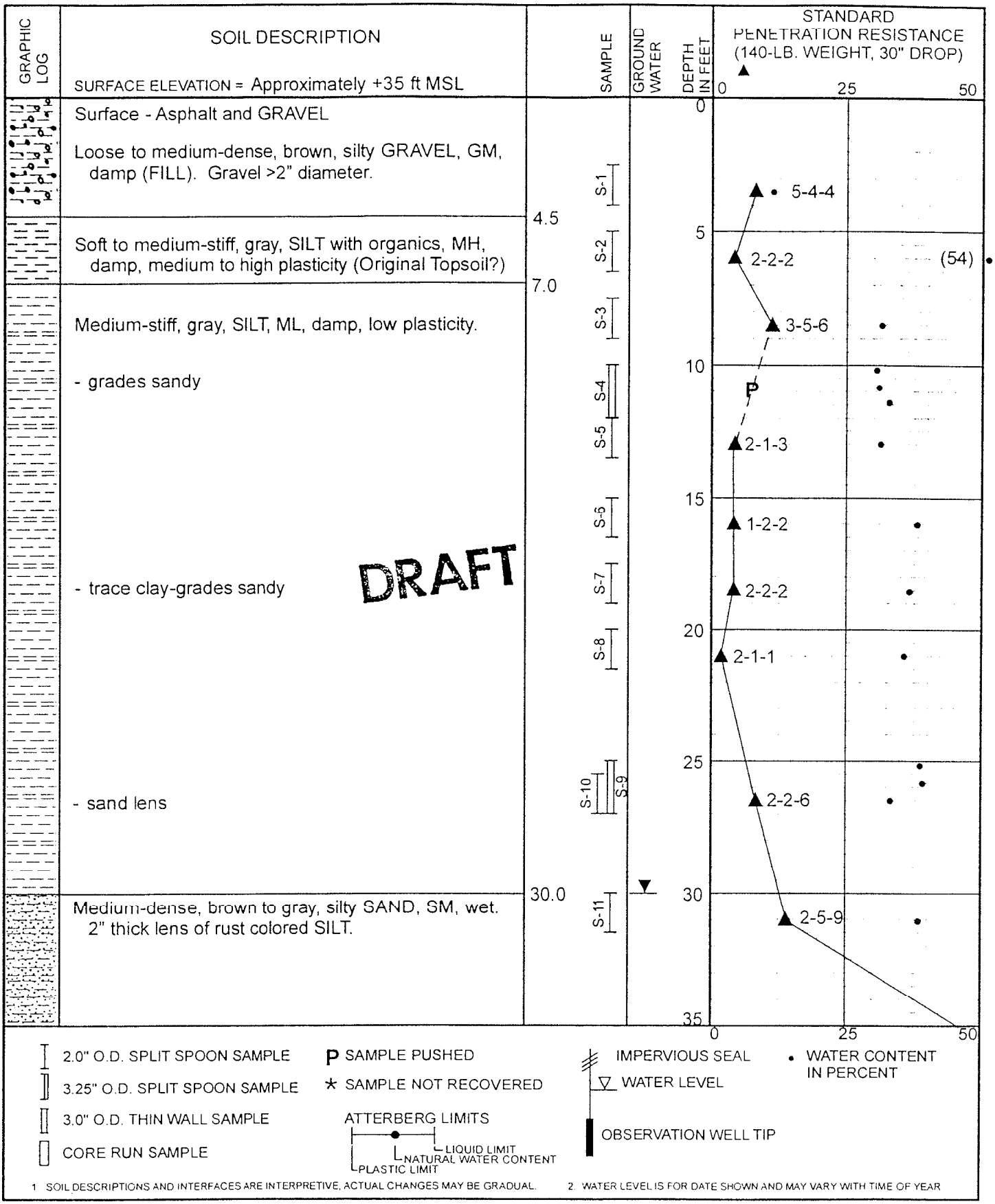
CDM

Site Exploration Plan

DEA/ OR City/ Amtrak Station
Oregon City, Oregon

FIGURE
2

DRAWING NAME	CLIENT NO	PROJECT NO	TASK	DRAWN	DATE	APPROVED
Site cdr	20136	31297		LJR	23 Jan 01	



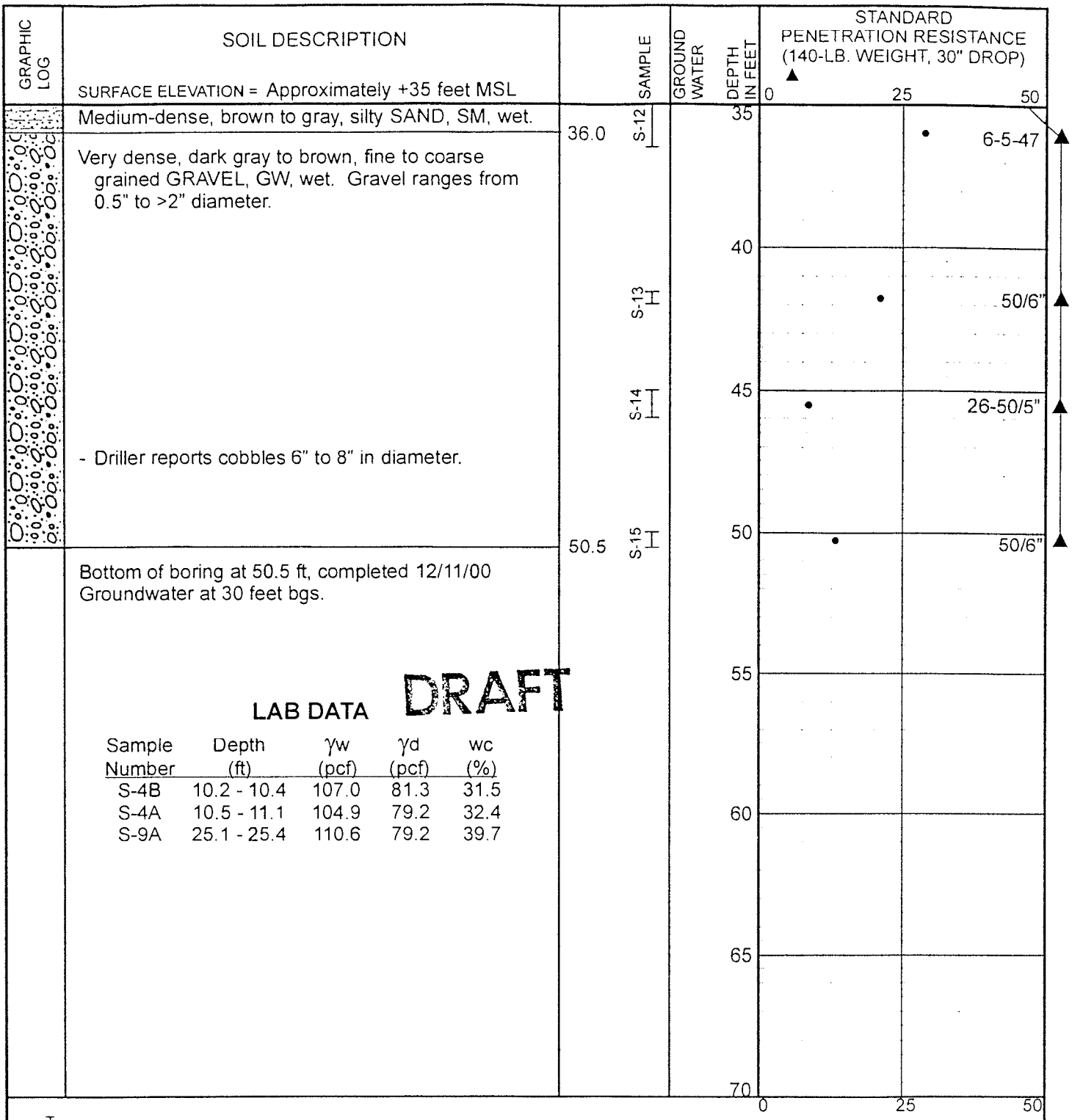
CDM

Log of Boring B-1

DEA/OR City/Amtrak Station
Oregon City, Oregon

FIGURE
A-2a

DRAWING NAME	CLIENT NO	PROJECT NO	TASK	DRAWN	DATE	APPROVED
Boring cdr	20136	31297	INV FLD	BBP	05 Jan 00	



DRAFT

LAB DATA

Sample Number	Depth (ft)	γw (pcf)	γd (pcf)	wc (%)
S-4B	10.2 - 10.4	107.0	81.3	31.5
S-4A	10.5 - 11.1	104.9	79.2	32.4
S-9A	25.1 - 25.4	110.6	79.2	39.7

2.0" O.D. SPLIT SPOON SAMPLE
3.25" O.D. SPLIT SPOON SAMPLE
3.0" O.D. THIN WALL SAMPLE
CORE RUN SAMPLE
P SAMPLE PUSHED
* SAMPLE NOT RECOVERED
ATTERBERG LIMITS
LIQUID LIMIT
NATURAL WATER CONTENT
PLASTIC LIMIT
IMPERVIOUS SEAL
WATER LEVEL
OBSERVATION WELL TIP
• WATER CONTENT IN PERCENT

1. SOIL DESCRIPTIONS AND INTERFACES ARE INTERPRETIVE, ACTUAL CHANGES MAY BE GRADUAL.
2. WATER LEVEL IS FOR DATE SHOWN AND MAY VARY WITH TIME OF YEAR

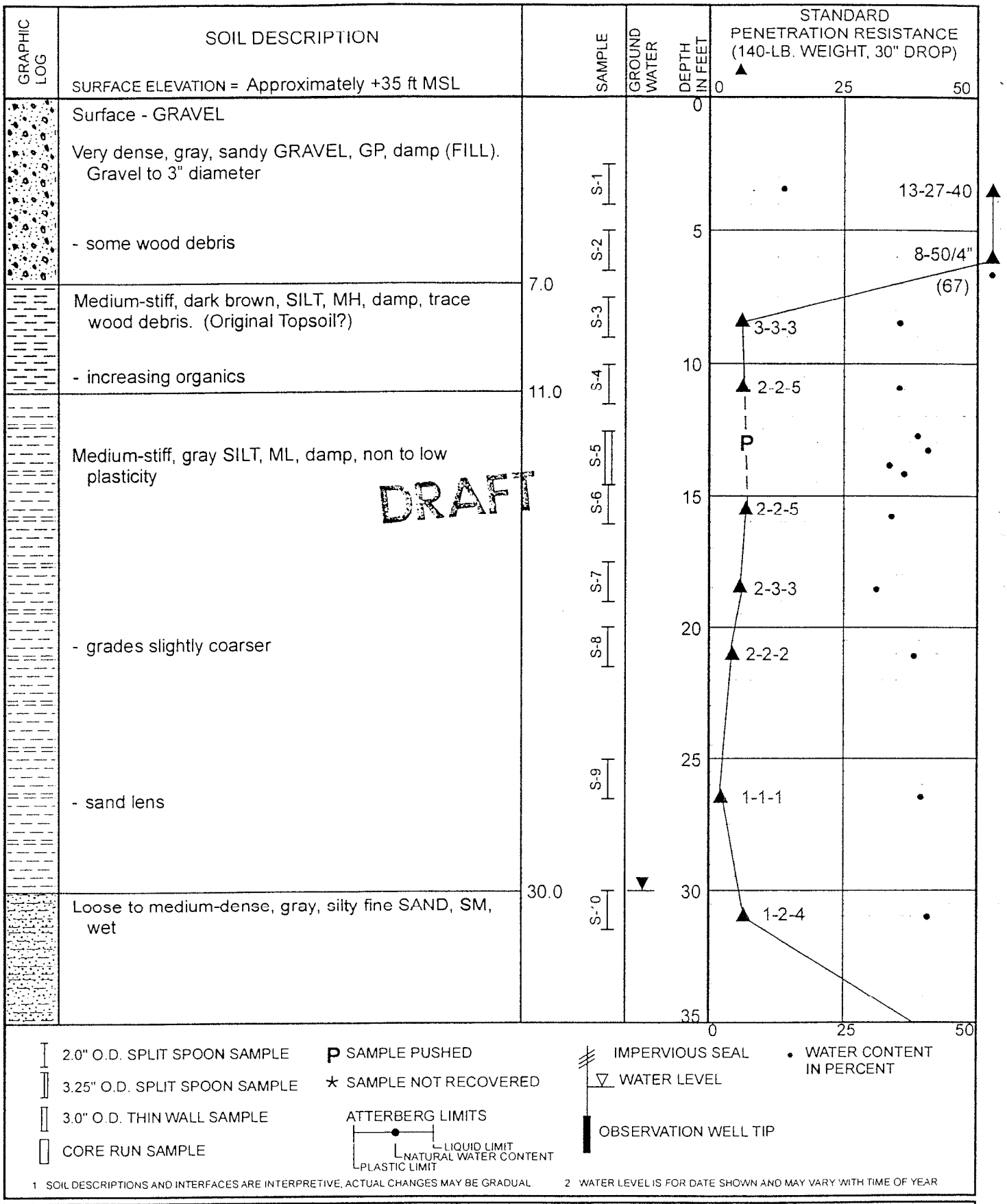
CDM

Log of Boring B-1

DEA/OR City/Amtrak Station
Oregon City, Oregon

FIGURE
A-2b

DRAWING NAME	CLIENT NO	PROJECT NO	TASK	DRAWN	DATE	APPROVED
Boring.cdr	20136	31297	INV FLD	BBP	05 Jan 00	



1 SOIL DESCRIPTIONS AND INTERFACES ARE INTERPRETIVE, ACTUAL CHANGES MAY BE GRADUAL

2 WATER LEVEL IS FOR DATE SHOWN AND MAY VARY WITH TIME OF YEAR

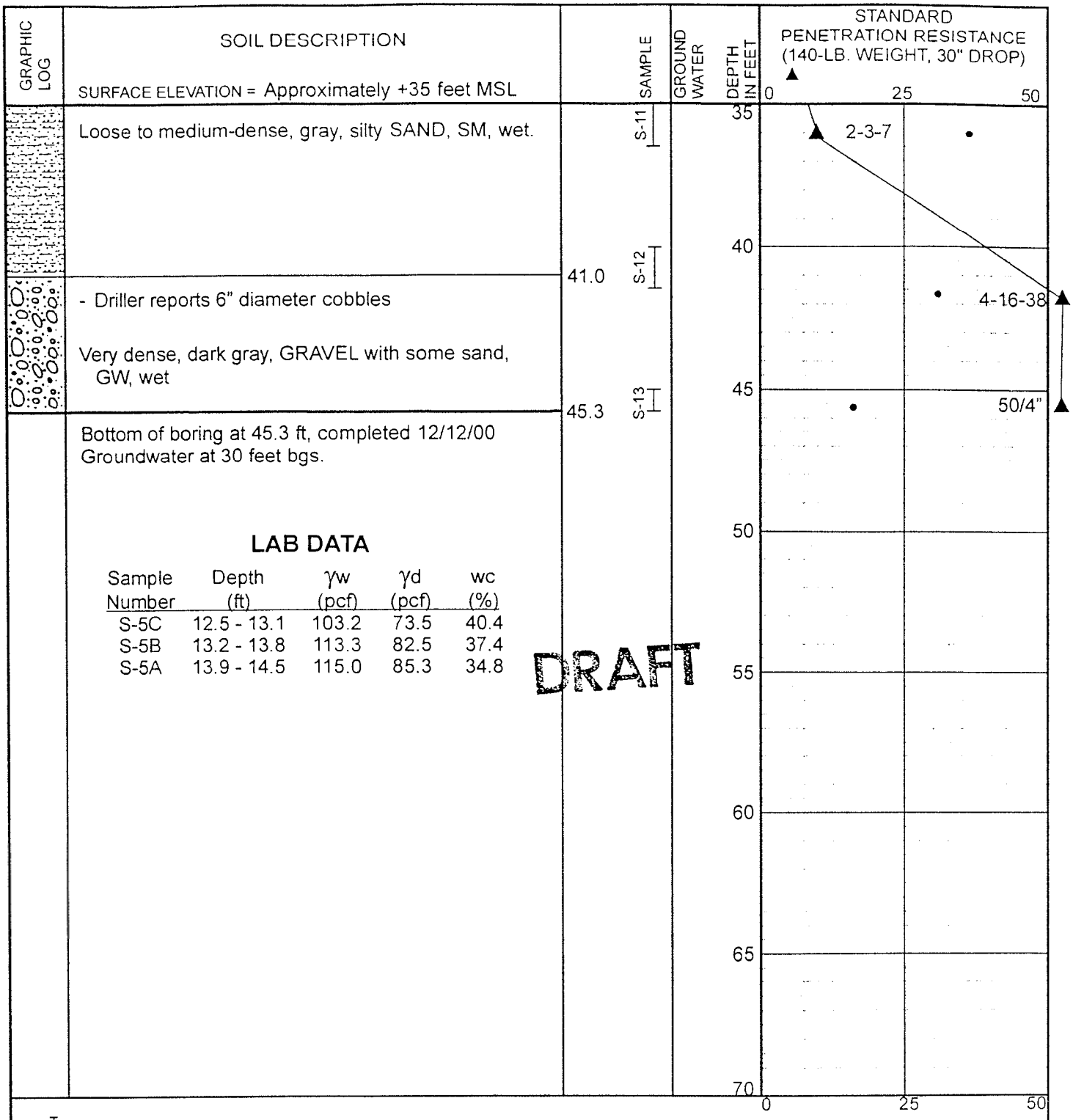
CDM

Log of Boring B-2

DEA/OR City/Amtrak Station
Oregon City, Oregon

FIGURE
A-3a

DRAWING NAME	CLIENT NO	PROJECT NO	TASK	DRAWN	DATE	APPROVED
Boring cdr	20136	31297	INV FLD	BBP	05 Jan 00	



LAB DATA

Sample Number	Depth (ft)	γw (pcf)	γd (pcf)	wc (%)
S-5C	12.5 - 13.1	103.2	73.5	40.4
S-5B	13.2 - 13.8	113.3	82.5	37.4
S-5A	13.9 - 14.5	115.0	85.3	34.8

DRAFT

- 2.0" O.D. SPLIT SPOON SAMPLE
- 3.25" O.D. SPLIT SPOON SAMPLE
- 3.0" O.D. THIN WALL SAMPLE
- CORE RUN SAMPLE
- P SAMPLE PUSHED
- * SAMPLE NOT RECOVERED
- ATTERBERG LIMITS (LIQUID LIMIT, NATURAL WATER CONTENT, PLASTIC LIMIT)
- IMPERVIOUS SEAL
- WATER LEVEL
- OBSERVATION WELL TIP
- • WATER CONTENT IN PERCENT

1 SOIL DESCRIPTIONS AND INTERFACES ARE INTERPRETIVE, ACTUAL CHANGES MAY BE GRADUAL

2 WATER LEVEL IS FOR DATE SHOWN AND MAY VARY WITH TIME OF YEAR

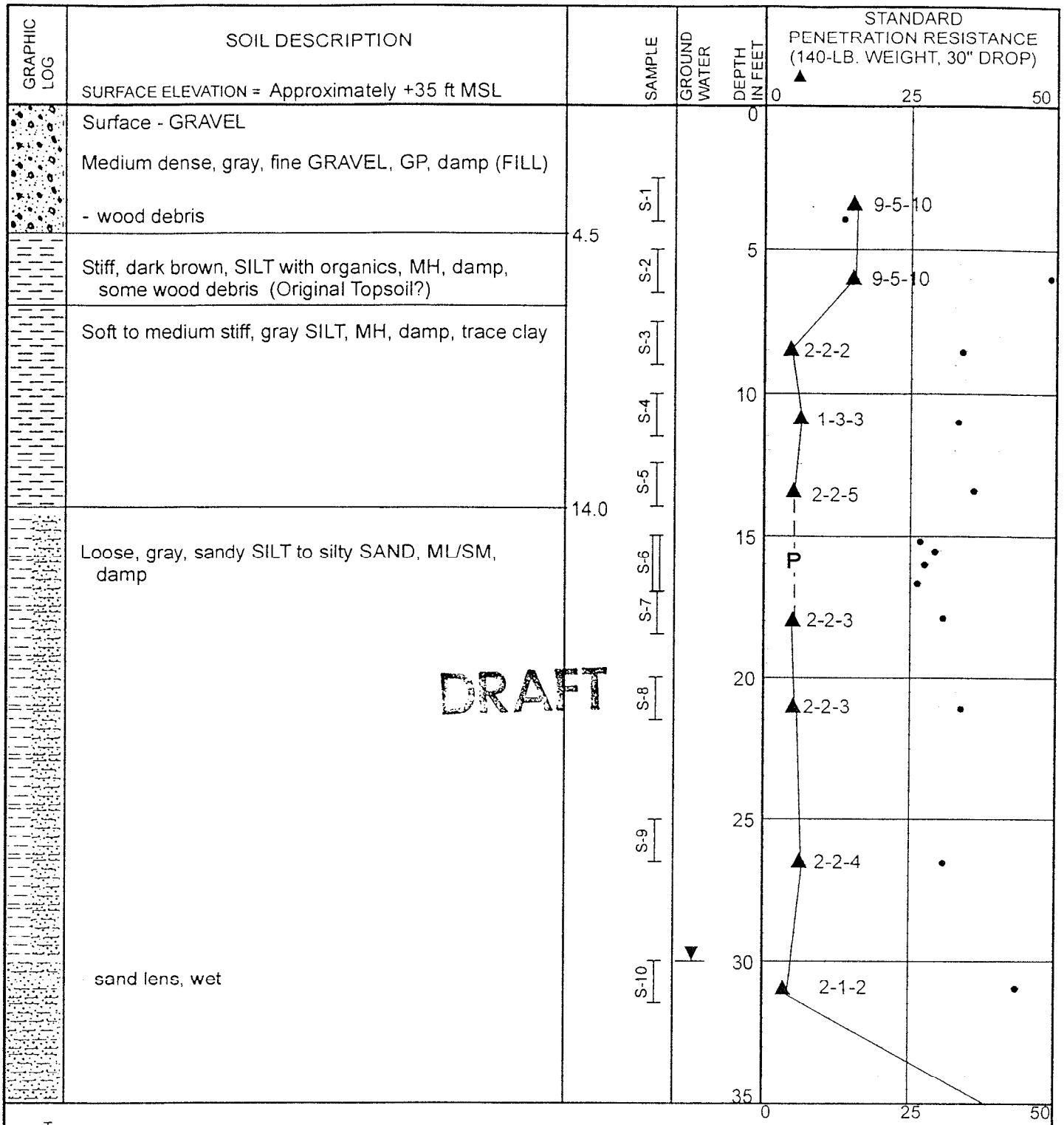
CDM

Log of Boring B-2

DEA/OR City/Amtrak Station
Oregon City, Oregon

FIGURE
A-3b

DRAWING NAME	CLIENT NO	PROJECT NO	TASK	DRAWN	DATE	APPROVED
Boring cdr	20136	31297	INV FLD	BBP	05 Jan 00	



1 SOIL DESCRIPTIONS AND INTERFACES ARE INTERPRETIVE. ACTUAL CHANGES MAY BE GRADUAL

2 WATER LEVEL IS FOR DATE SHOWN AND MAY VARY WITH TIME OF YEAR

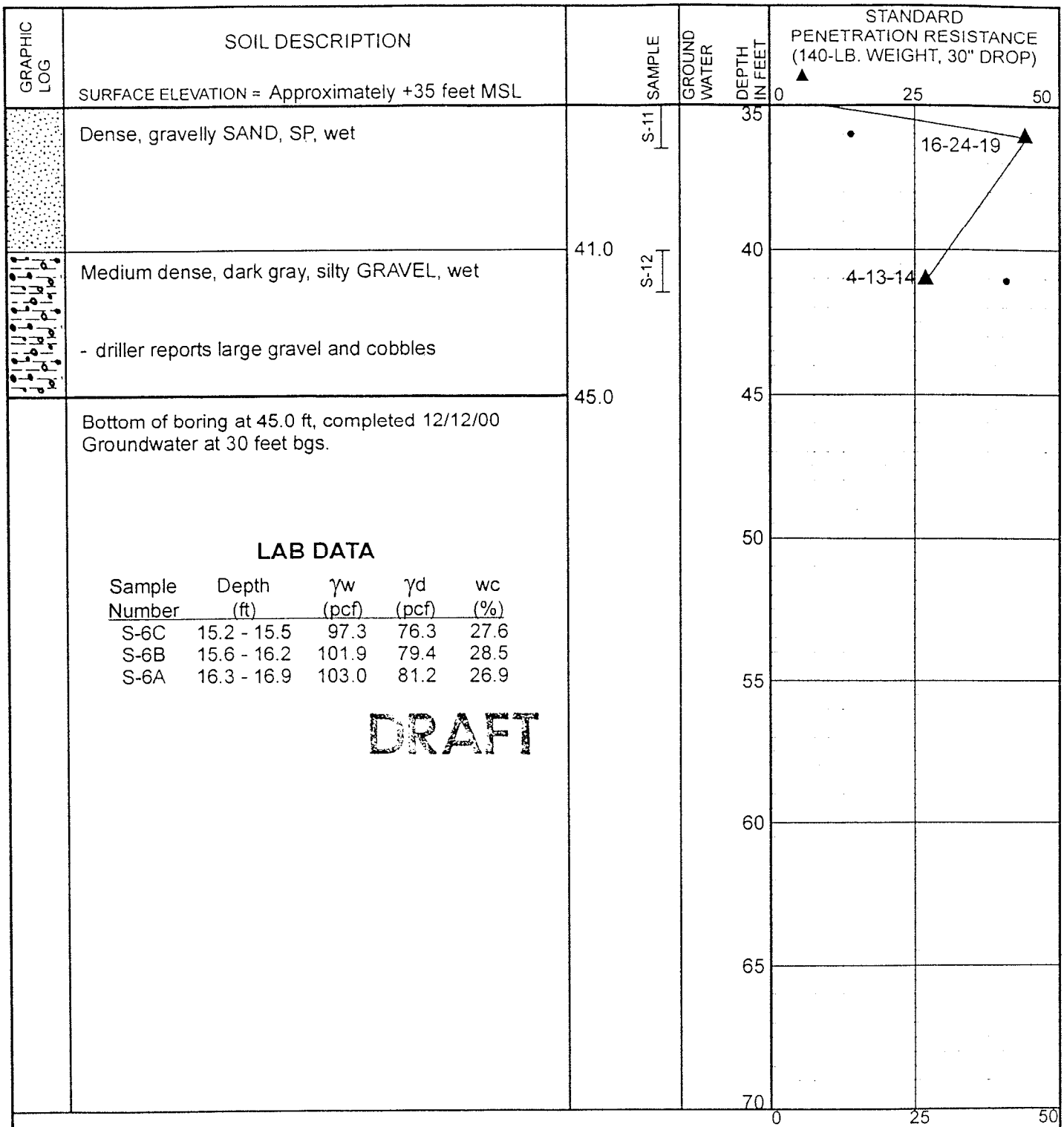
CDM

Log of Boring B-3

DEA/OR City/Amtrak Station
Oregon City, Oregon

FIGURE
A-4a

DRAWING NAME	CLIENT NO	PROJECT NO	TASK	DRAWN	DATE	APPROVED
Boring.cdr	20136	31297	INV.FLD	LJR	05 Jan 00	



LAB DATA

Sample Number	Depth (ft)	γw (pcf)	γd (pcf)	wc (%)
S-6C	15.2 - 15.5	97.3	76.3	27.6
S-6B	15.6 - 16.2	101.9	79.4	28.5
S-6A	16.3 - 16.9	103.0	81.2	26.9

DRAFT

- 2.0" O.D. SPLIT SPOON SAMPLE
- 3.25" O.D. SPLIT SPOON SAMPLE
- 3.0" O.D. THIN WALL SAMPLE
- CORE RUN SAMPLE
- P SAMPLE PUSHED
- * SAMPLE NOT RECOVERED
- ATTERBERG LIMITS: LIQUID LIMIT, NATURAL WATER CONTENT, PLASTIC LIMIT
- IMPERVIOUS SEAL
- WATER LEVEL
- OBSERVATION WELL TIP
- • WATER CONTENT IN PERCENT

1 SOIL DESCRIPTIONS AND INTERFACES ARE INTERPRETIVE. ACTUAL CHANGES MAY BE GRADUAL

2 WATER LEVEL IS FOR DATE SHOWN AND MAY VARY WITH TIME OF YEAR

CDM

Log of Boring B-3

DEA/OR City/Amtrak Station
Oregon City, Oregon

FIGURE
A-4b

DRAWING NAME	CLIENT NO	PROJECT NO	TASK	DRAWN	DATE	APPROVED
Boring cdr	20136	31297	INV FLD	LJR	05 Jan 00	

GRAPHIC LOG	SOIL DESCRIPTION SURFACE ELEVATION = Approximately +35 ft MSL	SAMPLE	GROUND WATER	DEPTH IN FEET	STANDARD PENETRATION RESISTANCE (140-LB. WEIGHT, 30" DROP) ▲ 0 25 50
	Surface - Asphalt Loose sandy GRAVEL	2.5		0	
	Wood Chips	4.0			
	sandy SILT			5	
				10	
				15	
				20	
				25	
				30	
				35	
					0 25 50

DRAFT

- 2.0" O.D. SPLIT SPOON SAMPLE
- 3.25" O.D. SPLIT SPOON SAMPLE
- 3.0" O.D. THIN WALL SAMPLE
- CORE RUN SAMPLE
- P SAMPLE PUSHED
- ✶ SAMPLE NOT RECOVERED
- ATTERBERG LIMITS: LIQUID LIMIT, NATURAL WATER CONTENT, PLASTIC LIMIT
- IMPERVIOUS SEAL
- ▽ WATER LEVEL
- OBSERVATION WELL TIP
- • WATER CONTENT IN PERCENT

1 SOIL DESCRIPTIONS AND INTERFACES ARE INTERPRETIVE. ACTUAL CHANGES MAY BE GRADUAL. 2. WATER LEVEL IS FOR DATE SHOWN AND MAY VARY WITH TIME OF YEAR

CDM

Log of Boring PT-1

DEA/OR City/Amtrak Station
Oregon City, Oregon

FIGURE
A-5

DRAWING NAME	CLIENT NO	PROJECT NO	TASK	DRAWN	DATE	APPROVED
Boring cdr	20136	31297	INV FLD	BBP	05 Jan 00	

GRAPHIC LOG	SOIL DESCRIPTION SURFACE ELEVATION = Approximately +35 ft MSL		SAMPLE	GROUND WATER
	Surface - Asphalt Loose sandy GRAVEL	2.5		
	Wood Chips	4.0	S-1	
	sandy SILT	5.5		
	Bottom of boring at 5.5 feet. Completed 12/13/00.			

DRAFT

DEPTH IN FEET

STANDARD PENETRATION RESISTANCE (140-LB. WEIGHT, 30" DROP)

0 25 50

0
5
10
15
20
25
30
35

0 25 50

- 2.0" O.D. SPLIT SPOON SAMPLE
- 3.25" O.D. SPLIT SPOON SAMPLE
- 3.0" O.D. THIN WALL SAMPLE
- CORE RUN SAMPLE
- P SAMPLE PUSHED
- * SAMPLE NOT RECOVERED
- ATTERBERG LIMITS (LIQUID LIMIT, NATURAL WATER CONTENT, PLASTIC LIMIT)
- IMPERVIOUS SEAL
- WATER LEVEL
- OBSERVATION WELL TIP
- • WATER CONTENT IN PERCENT

1 SOIL DESCRIPTIONS AND INTERFACES ARE INTERPRETIVE. ACTUAL CHANGES MAY BE GRADUAL

2 WATER LEVEL IS FOR DATE SHOWN AND MAY VARY WITH TIME OF YEAR

CDM

Log of Boring PT-2

DEA/OR City/Amtrak Station
Oregon City, Oregon

FIGURE
A-6

DRAWING NAME	CLIENT NO	PROJECT NO	TASK	DRAWN	DATE	APPROVED
Boring cdr	20136	31297	INV FLD	BBP	05 Jan 00	

Appendix B
Laboratory Testing

David Evans & Associates / Amtrak Station
Oregon City, Oregon

Natural Water Contents

All jar samples were visually classified to refine, when necessary, the field soil classification. In additions, natural moisture contents were taken on all samples in accordance with ASTM D 2216. The moisture contents are expressed as a percentage of free water lost by evaporation compared to the dry weight of the soil. These results are presented graphically on the boring logs (**Figures A-2** and **A-4**).

Undisturbed Tube Samples

All thin-walled, steel tube samples and Dames & Moore ring samples were extruded, classified, tested for relative strength with a Torvane and/or Pocket Penetrometer device, and tested for natural moisture content and unit weight. The unit weight determinations are tabulated on the respective logs.

DRAFT

Atterberg Limits

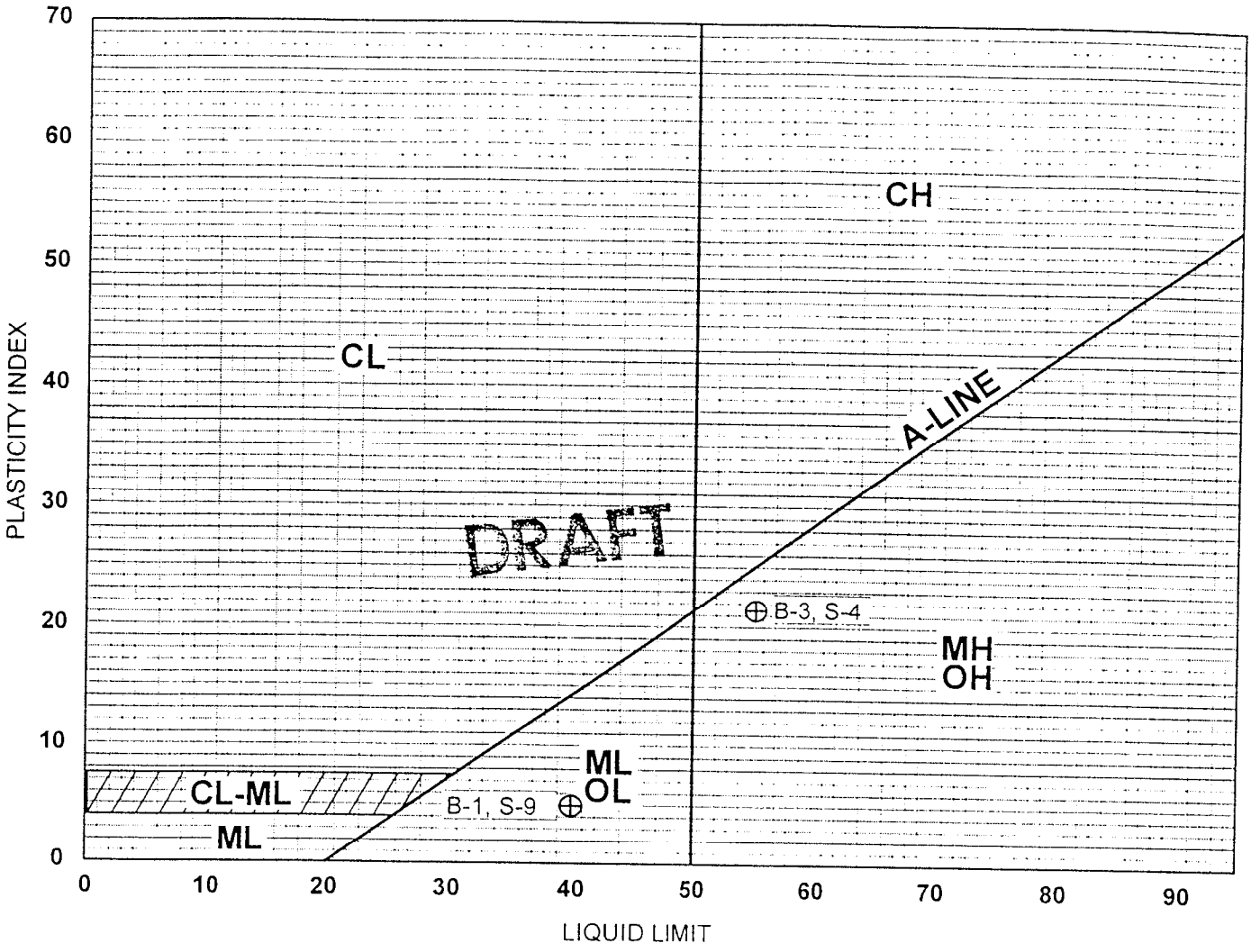
Atterberg Limits (ASTM D 423 for the liquid limit and ASTM D 424 for the plastic limit) were performed on six samples to evaluate the relative plasticity and assist in the classification of the fine-grained soils. Atterberg Limits are a quick index test that provides and indication of relative swell potential. The results are plotted on the Plasticity Charts, **Figure B-1**.

Sieve Analysis

Grain size analyses were performed on a sample from PT-2. The sample was analyzed in general accordance with the mechanical sieve analysis method, ASTM D 421. In general, the sieve method consists of shaking a washed and oven-dried sample through a set of varied sieve sizes. The material retained on each sieve is recorded as a percent of total sample weight and a graphic plot of the weight percent versus grain-size is generated. The results of this test are presented on **Figure B-2**.

Consolidation Test

Consolidation tests were performed on two sample from boring B-1. Consolidation tests result in a plot of strain response versus the logarithm of applied normal stress. The test is performed by adding increasing stress increments to a 1-inch thick specimen and allowing sufficient time for primary consolidation to occur. The final plot represents the total strain under each load increment and is used to estimate settlement of soils under structural or embankment loads. The final logarithm of stress versus strain plot for the consolidation tests are presented on **Figure B-3** and **B-4**.



B-/TP-NUMBER	SAMPLE NUMBER	U.S.C.	WATER CONTENT IN PERCENT	LIQUID LIMIT IN PERCENT	PLASTIC LIMIT IN PERCENT	PLASTICITY INDEX
B-2	S-9	ML	39.0	40.0	35.0	5.0
B-3	S-4	MH	32.9	55.3	33.7	21.6

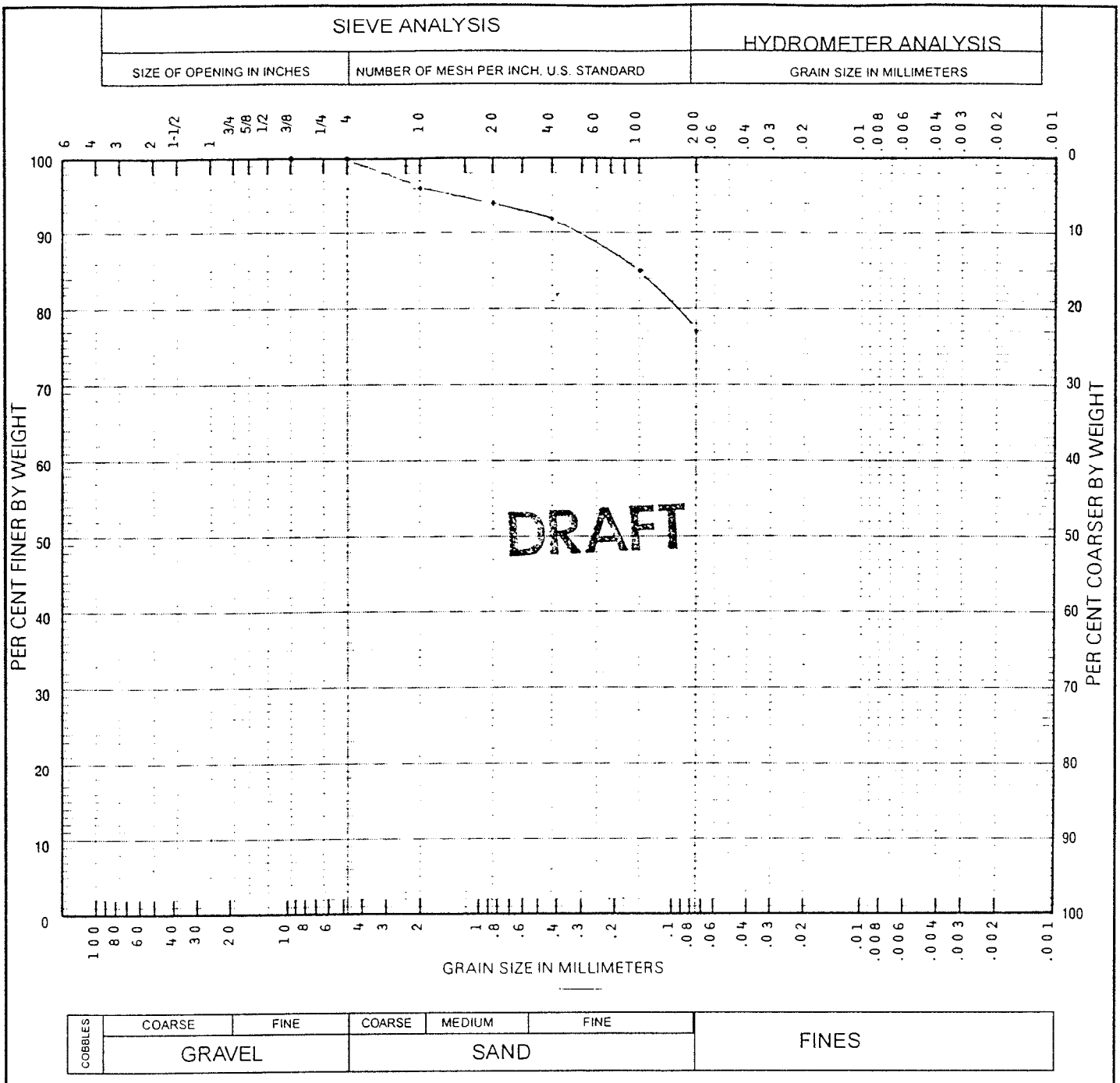
Sample Descriptions:
B-1, S-9: Gray mottled rust, SILT, ML; damp, low plasticity
B-3, S-4: Gray SILT, MH; damp, trace clay, medium to high plasticity

CDM

Atterberg Limits
DEA/ OR City/ Amtrak Station
Oregon City, Oregon

FIGURE
B-1

DRAWING NAME	CLIENT NO	PROJECT NO	TASK	DRAWN	DATE	APPROVED
Boring cdr	20136	31297	--	LJR	24 Jan 01	



SAMPLE NUMBER	DEPTH IN FEET	USC/ AASHTO	CLASSIFICATION	NATURAL WATER CONTENT IN PERCENT	LL	PL	PI
PT-2,	4.0	ML	Sandy SILT	39.1			

CDM

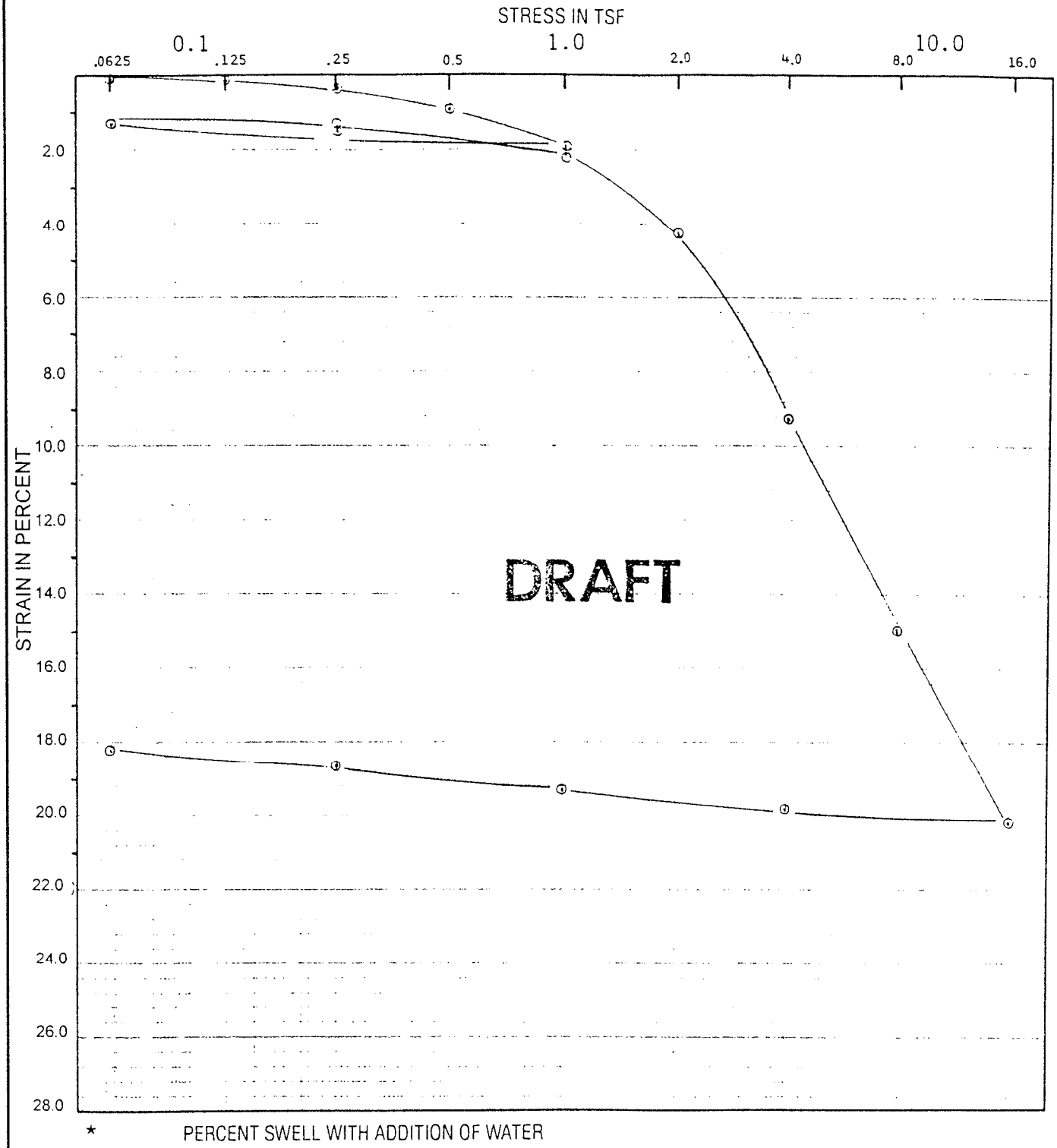
Grain Size Analysis

DEA/ OR City/ Amtrak Station
Oregon City, Oregon

FIGURE
B-2

PROJECT NO	DRAWN	DATE	APPROVED	REVISED	DATE
31297	LJR	23 Jan 01			

Grain Size Analysis.cdr



★ PERCENT SWELL WITH ADDITION OF WATER

BORING NUMBER	SAMPLE NUMBER	DEPTH	WATER CONTENT IN PERCENT		INITIAL UNIT WEIGHT IN PCF		CLASSIFICATION
			NATURAL	FINAL	WET	DRY	
B-1	S-4	10.0-12.0	33.3	30.1	102.2	76.7	Med. stiff, dark brown, mottled, SILT, damp, trace fine sand, low plasticity.

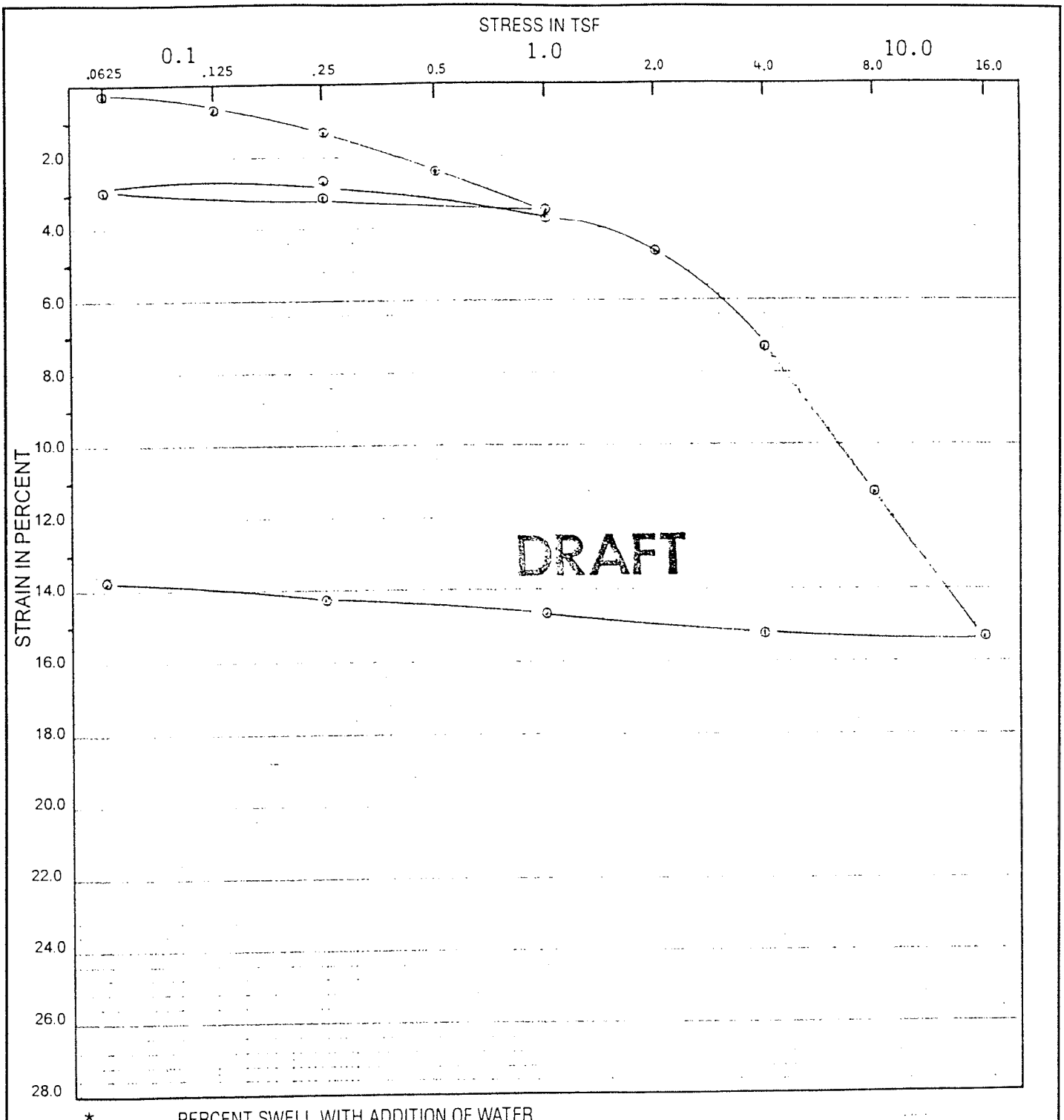
CDM

Consolidation Test: B-1, S-4

DEA/ OR City/ Amtrak Station
Oregon City, Oregon

FIGURE
B-3

DRAWING NAME	PROJECT NO	DRAWN	DATE	APPROVED
Consol.cdr	31297	LJR	23 Jan 01	



* PERCENT SWELL WITH ADDITION OF WATER

BORING NUMBER	SAMPLE NUMBER	DEPTH	WATER CONTENT IN PERCENT		INITIAL UNIT WEIGHT IN PCF		CLASSIFICATION
			NATURAL	FINAL	WET	DRY	
B-1	S-9	25.0-27.0	41.4	31.1	113.6	80.3	Med. stiff, dark brown, mottled gray, SILT, damp, trace clay and fine sand, low plasticity.

CDM

Consolidation Test: B-1, S-9

DEA/ OR City/ Amtrak Station
Oregon City, Oregon

FIGURE
B-4

DRAWING NAME	PROJECT NO	DRAWN	DATE	APPROVED
Consol cdr	31297	LJR	23 Jan 01	

ACRONYMS AND ABBREVIATIONS

ACRONYMS AND ABBREVIATIONS

AC	asphalt concrete
ACP	Asphalt Concrete Pavement
ASTM	American Society for Testing and Materials
BGS	below ground surface
CLSM	controlled low strength material
FEMA	Federal Emergency Management Agency
g	gravitational acceleration (32.2 feet/second^2)
H:V	horizontal to vertical
IBC	International Building Code
MCE	maximum considered earthquake
NAVD	North American Vertical Datum
OSSC	Oregon Standard Specifications for Construction (2015)
pcf	pounds per cubic foot
pci	pounds per cubic inch
PG	performance grade
psf	pounds per square foot
psi	pounds per square inch
RFP	Request for Proposal
ROW	right-of-way
SOSSC	State of Oregon Structural Specialty Code
SPT	standard penetration test

The Confederated Tribes of the Grand Ronde Community of Oregon

Historic Preservation Department
Phone (503) 879-2185
1-800 422-0232
Fax (503) 879-2126

8720 Grand Ronde Rd
Grand Ronde, OR 97347

February 27, 2017

Diliana Vassileva
Assistant Planner, Planning Division
City of Oregon City
PO Box 3040
221 Molalla Avenue, Suite 200
Oregon City, Oregon 97045

RE: Development Review in Oregon City -- Multiple Properties

Greetings Dilianna,

The Confederated Tribes of Grand Ronde have reviewed Oregon City Projects PA 16-61, PA 16-62, PA 16-63, PA 16-64, PA 17-01, and PA 17-02. We have concerns about the probability of cultural resources being located at these project locations. We recommend that subsurface archaeological investigations be done at each location prior to any construction.

Should you have any questions, please contact me at (503) 879-1675.

Respectfully,

Christopher Bailey
Cultural Protection Specialist
Cultural Protection
Historic Preservation
Confederated Tribes of the Grand Ronde Community of Oregon

chris.bailey@grandronde.org
503-879-1665

Oregon
Kate Brown, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St NE Ste C
Salem, OR 97301-1266
Phone (503) 986-0690
Fax (503) 986-0793
www.oregonheritage.org

July 14, 2016

Ms. Diliana Vassileva
City of Oregon City Planning
221 Molalla Ave
Ste 200
Oregon City, OR 97045

RE: SHPO Case No. 16-0405
City of Oregon City, PA-16-05, PA 16-30
4 story hotel
415 17th Street (2S 2E 29), Oregon City, Clackamas County

Dear Ms. Vassileva:

Our office recently received a request to review your amended application for the project referenced above. In checking our statewide archaeological database, it appears that there have been no previous surveys completed near the proposed project area. However, the project area lies within an area generally perceived to have a high probability for possessing archaeological sites and/or buried human remains. In the absence of sufficient knowledge to predict the location of cultural resources within the project area, extreme caution is recommended during project related ground disturbing activities. Under state law (ORS 358.905 and ORS 97.74) archaeological sites, objects and human remains are protected on both state public and private lands in Oregon. If archaeological objects or sites are discovered during construction, all activities should cease immediately until a professional archaeologist can evaluate the discovery. If you have not already done so, be sure to consult with all appropriate Indian tribes regarding your proposed project. If the project has a federal nexus (i.e., federal funding, permitting, or oversight) please coordinate with the appropriate lead federal agency representative regarding compliance with Section 106 of the National Historic Preservation Act (NHPA). If you have any questions about the above comments or would like additional information, please feel free to contact our office at your convenience. In order to help us track your project accurately, please reference the SHPO case number above in all correspondence.This letter refers to archaeological resources only. Comments pursuant to a review for above-ground historic resources will be sent separately.

Sincerely,

Dennis Griffin, Ph.D., RPA
State Archaeologist
(503) 986-0674
dennis.griffin@oregon.gov

From:	Lloyd Hill
To:	Laura Terway; Pete Walter
Cc:	Robin Chard; Anders Otterlei; Dan Salvey; 15708 Oregon City Hampton Inn & Suites; 13647 Abernethy Place; Dan Fowler (danf@abernethycenter.com); Mark Foley; Alkesh Patel (alkesh@trupadi.com)
Subject:	Oregon City Hampton Inn and Suites - Washington Street Elevation
Date:	Wednesday, April 12, 2017 7:00:05 PM
Attachments:	image001.jpg Washington St. Views small.pdf Washington St. Entry with awning lights.jpg Copy of 15708 - Summary of Exterior Elevation Features and Finishes 2017....pdf 15708 - Comparison of Percentage of Materials by Elevation 2017-04-12.pdf

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Laura, Pete,

I am forwarding PDF copies of the previous draft renderings which we reviewed last month showing the Washington Street Elevation for the Oregon City Hampton Inn and Suites project as well a new draft 3-D model view from Washington Street showing a modified design which we believe more fully addresses the intent of the Washington Street elevation design standard. I am also attaching a spreadsheet summarizing the features and material on each of the building elevations, and a second spreadsheet comparing the percentage of each material on each elevation. It is our hope that with these modifications to the design, we will be deemed to be in compliance with the design standards related to the Washington Street elevation summarized below:

> *17.62.055 D2 The Front most architecturally significant façade shall be oriented toward the street and shall be accessed from a public sidewalk. Primary building entrances shall be clearly defined and recessed or framed by a sheltering element such as an awning , arcade or portico in order to provide shelter from the summer sun and winter weather.*

During our recent meeting we were advised that you liked the new "Lantern" design concept and that we are "very close" to complying with the design standard, but need to tweak just a little more to make sure that this elevation meets the standard requiring it to ve the "most architecturally significant façade". We have reviewed this issue and studied a number of approaches, and believe that we have come up with an approach that clearly addresses this design standard. Please note that the "Most Architecturally Significant Elevation" is not necessarily the largest elevation, or the one with the most of SF of any particular material, but rather the elevation with the most architecturally significant features and elements.

We have extended the cantilevered Awning at the Entrance and Stair Tower Lantern to increase the depth of this feature cantilevering the awning out over the Sidewalk and the upper landing at the top of the ceremonial stair. We have also added accent lights over the Washington Street building entrance to call more attention to this entrance, particularly in the evening and at night.

When viewed from the Street, the most prominent features of this façade will be the native stone base and landscaping, the ceremonial grand stair providing access up to the entrance, the entrance doors, the Hampton Inn and Suites sign, the floor to ceiling glazing at the lantern stair element and the meeting rooms, and the enlarged cantilevered awning which provides shelter and provides vertical articulation to help provide a comfortable human scale at the street level. When viewed from a distance the most prominent feature will be the signature stair tower "Lantern" which will be even more dramatic when glowing at night. The extensive glazing at the street level will also be a prominent feature when viewed from a distance. With these changes, we believe that the Washington Street Elevation as experienced both from the street and sidewalk adjacent to the building as well as when viewed from further away now clearly feels like the "most architecturally significant façade".

The attached spreadsheet summarizes the features and materials on each of the four building elevations.

Please note that the Washington Street Elevation includes nearly all of the significant features outlined including the signature "Lantern" element, glazed double door entrance, direct access from the public street sidewalk, ceremonial grand stair up to the building entrance

outdoor view terrace, cantilevered horizontal awning, entrance accent lighting, and ground level signage (which will be visible from the street and sidewalk adjacent to the hotel). The only significant features that the Washington Street elevation does not include are the upper level signage which is viewed from a distance, and the Port Cochere which cannot be located at Washington Street elevation due to the 100 year flood elevation.

In addition to the features summarized above, we have calculated the sq. ft. and percentage of each type of material on each of the elevations. The analysis of finishes shows that the front, Washington Street elevation has by far the highest percentage of the premium finishes such as floor to ceiling glazing, and wood accents, and the lowest percentages of lower cost finishes such as plaster siding, and aluminum punched windows. In comparison, all of the other elevations including the side, Interior elevation with the Port Cochere have lower percentages of the premium finishes such as floor to ceiling glazing and wood accents, and higher percentages of the lower cost finishes such as plaster siding and aluminum punched windows. The following table summarizes the difference in percentages for each of these materials on each of the four elevations.

	Building Elevation			
	Front	Side	Side	Rear

	Washington Street		Internal		17th Street		Rail Road	
	Sq. ft.	%	Sq. ft.	%	Sq. ft.	%	Sq. ft.	%
Stone Base	400	-	471	-	559	-	-	-
Ground Level Finishes	**608**	**100%**	**2,850**	**100%**	**2,875**	**100%**	**592**	**100%**
Wood Finish Siding	167	27%	154	4%	137	5%	-	-
Floor to Ceiling Storefront Glazing	356	60%	1,475	52%	407	14%	284	48%
Upper Level Finishes	**2,151**	**100%**	**10,657**	**100%**	**10,766**	**100%**	**2,123**	**100%**
Wood Finish Siding	717	33%	2,198	21%	2,093	19%	126	6%
Plaster Siding	731	34%	5,903	55%	5,897	54%	1,673	79%
Floor to Ceiling Storefront Glazing	560	26%	255	3%	728	7%	253	12%
Punched Aluminum Windows - Louvers	84	4%	1860	17%	1677	16%	-	-
Total Building Finishes	**3,159**	**100%**	**13,978**	**100%**	**14,200**	**100%**	**2,715**	**100%**
Native Stone	400	13%	1,021	8%	2,110	15%	232	9%
Wood Finish Siding	884	28%	2,352	17%	2,230	16%	126	4%
Plaster Siding	731	23%	5,903	42%	5,897	42%	1,673	62%
Floor to Ceiling Storefront Glazing	916	29%	1,730	12%	1,135	7%	537	20%
Punched Aluminum Windows - Louvers	84	3%	1,860	13%	1,999	14%	-	-

Based on the above, we believe that the these change to the design of the Washington Street facade which have added the glazed stair tower “Lantern”, and enlarged the cantilevered accent band awning clearly differentiates this as the most architecturally significant elevation.

We are finalizing the land use application with a goal of submitting it later this week, and this is one of the last unresolved issues. Please review the attached documents and confirm that this will adequately addresses the “Most Architecturally Significant Façade” issue.

Best Regards,

Lloyd W. Hill AIA

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cid:image001.jpg@01D1EE61.82247200

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Hampton
Inn & Suites



Hampton Inn & Suites by Hilton

OREGON CITY • OREGON

Hackett Hospitality Group

Hill Architects

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We have extended the cantilevered Awning at the Entrance and Stair Tower Lantern to increase the depth of this feature cantilevering the awning out over the Sidewalk and the upper landing at the top of the ceremonial stair. We have also added accent lights over the Washington Street building entrance to call more attention to this entrance, particularly in the evening and at night.

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In addition to the features summarized above, we have calculated the sq. ft. and percentage of each type of material on each of the elevations. The analysis of finishes shows that the front, Washington Street elevation has by far the highest percentage of the premium finishes such as floor to ceiling glazing, and wood accents, and the lowest percentages of lower cost finishes such as plaster siding, and aluminum punched windows. In comparison, all of the other elevations including the side, Interior elevation with the Port Cochere have lower percentages of the premium finishes such as floor to ceiling glazing and wood accents, and higher percentages of the lower cost finishes such as plaster siding and aluminum punched windows. The following table summarizes the difference in percentages for each of these materials on each of the four elevations.

	Building Elevation									
	Front	Side	Side	Rear						
	Washington Street		Internal	17th Street		Rail Road				
	Sq. ft.	%	Sq. ft.	%	Sq. ft.	%	Sq. ft.	%		
Stone Base	400	-	471	-	559	-	-	-		
Ground Level Finishes	608	100%	2,850	100%	2,875	100%	592	100%		
Wood Finish Siding	167	27%	154	4%	137	5%	-	-		
Floor to Ceiling Storefront Glazing	356	60%	1,475	52%	407	14%	284	48%		
Upper Level Finishes	2,151	100%	10,657	100%	10,766	100%	2,123	100%		
Wood Finish Siding	717	33%	2,198	21%	2,093	19%	126	6%		
Plaster Siding	731	34%	5,903	55%	5,897	54%	1,673	79%		
Floor to Ceiling Storefront Glazing	560	26%	255	3%	728	7%	253	12%		
Punched Aluminum Windows - Louvers	84	4%	1860	17%	1677	16%	-	-		
Total Building Finishes	3,159	100%	13,978	100%	14,200	100%	2,715	100%		
Native Stone	400	13%	1,021	8%	2,110	15%	232	9%		

Wood Finish Siding	**884**	**28%**	**2,352**	**17%**	**2,230**	**16%**	**126**	**4%**		
Plaster Siding	**731**	**23%**	**5,903**	**42%**	**5,897**	**42%**	**1,673**	**62%**		
Floor to Ceiling Storefront Glazing	**916**	**29%**	**1,730**	**12%**	**1,135**	**7%**	**537**	**20%**		
Punched Aluminum Windows - Louvers	**84**	**3%**	**1,860**	**13%**	**1,999**	**14%**	**-**		**-**	

Based on the above, we believe that these change to the design of the Washington Street facade which have added the glazed stair tower "Lantern", and enlarged the cantilevered accent band awning clearly differentiates this as the most architecturally significant elevation.

Abernethy Hotel

Comparison of Percentage of Materials by Elevation

4/12/2017

	Building Elevation							
	Front		Side		Side		Rear	
	Washington Street		Internal		17th Street		Rail Road	
	SF	%	SF	%	SF	%	SF	%
Stone Base	400	-	471	-	559	-	-	-
Ground Level Finishes	**608**	**100%**	**2850**	**100%**	**2875**	**100%**	**592**	**100%**
Wood Finish Siding	167	27%	154	4%	137	5%	-	-
Floor to Ceiling Storefront Glazing	356	60%	1475	52%	407	14%	284	48%
Upper Level Finishes	**2151**	**100%**	**10657**	**100%**	**10766**	**100%**	**2123**	**100%**
Wood Finish Siding	717	33%	2198	21%	2093	19%	126	6%
Plaster Siding	731	34%	5903	55%	5897	54%	1673	79%
Floor to Ceiling Storefront Glazing	560	26%	255	3%	728	7%	253	12%
Punched Aluminum Windows - Louvers	84	4%	1860	17%	1677	16%	-	-
Total Building Finishes	**3159**	**100%**	**13978**	**100%**	**14200**	**100%**	**2715**	**100%**
Native Stone	400	13%	1021	8%	2110	15%	232	9%
Wood Finish Siding	884	28%	2352	17%	2230	16%	126	4%
Plaster Siding	731	23%	5903	42%	5897	42%	1673	62%
Floor to Ceiling Storefront Glazing	916	29%	1730	12%	1135	7%	537	20%
Punched Aluminum Windows - Louvers	84	3%	1860	13%	1999	14%	-	-

2 TYP.

7

6

4

5 TYP.

110.47

Hampton
Inn & Suites

45.03 F.G. @ BOT OF WALL.

AVE GRADE. 44.40

43.75 F.G. @ SIDEWALK

4 TYP.

7

4

8

1

BUILDING HT. = 110.47 - 44.4 = 66.07 | 66'-1" | BLDG. HEIGHT

SYNTHETIC PLASTER

PAINTED METAL

7 METAL FLASHING & SMOOTH FINISH SYNTHETIC PLASTER

8 NATURAL STONE VENEER SITE WALL

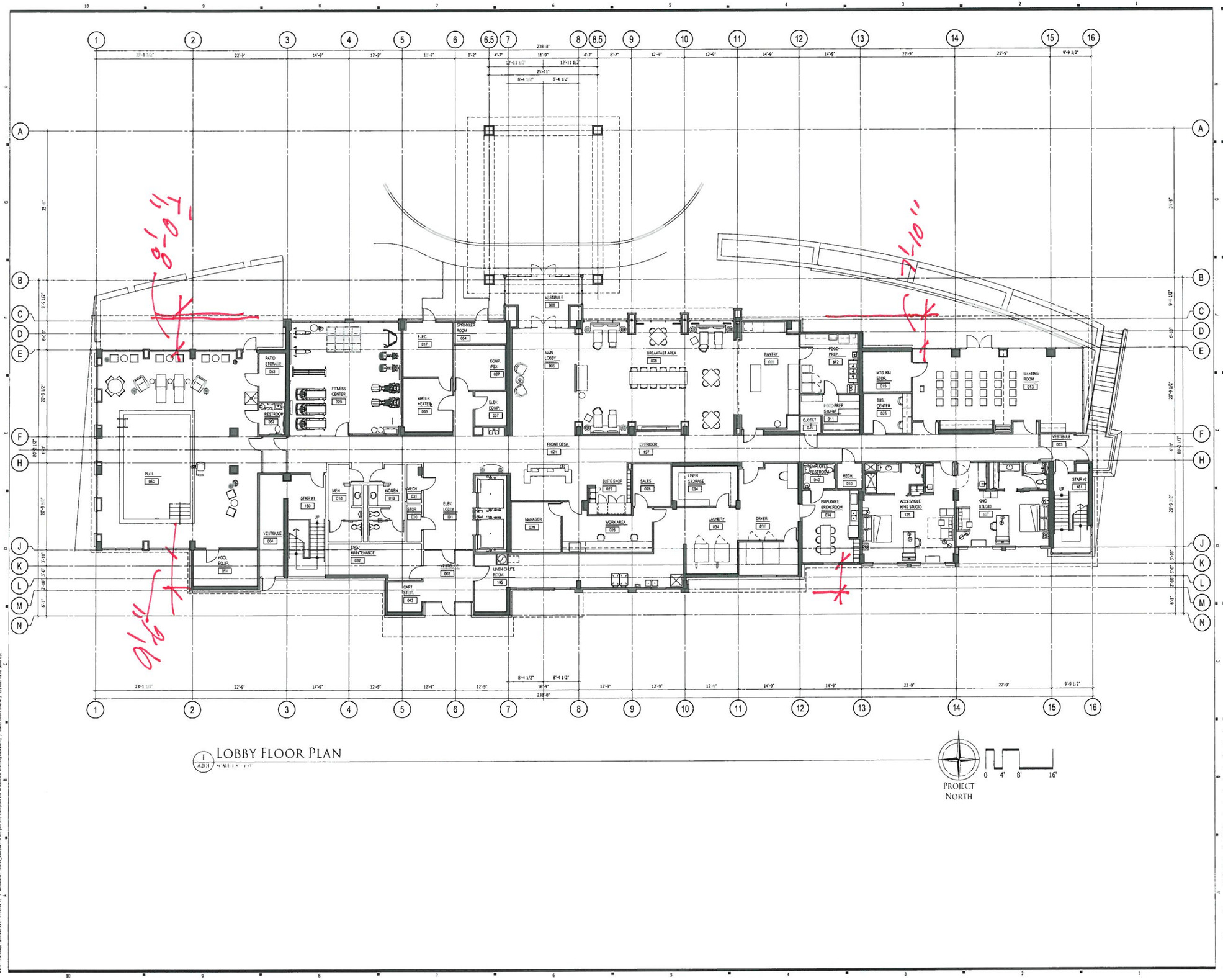
9 HACKETT HC

10 EXISTING AU

BUILDING HEIGHT.

1/8"=1'-0" · 15708 · 07.14.2017

SK-017



1 A201 LOBBY FLOOR PLAN
SCALE: 1/8" = 1'-0"

PROJECT NORTH

0 4' 8' 16'

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
PH 503 305 8000 FX 503 305 2094

REGISTERED ARCHITECT
HILL
LINN OREGON
EXPIRES: 12/31/2017

Preliminary
NOT FOR CONSTRUCTION

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE 1
OREGON CITY, OREGON
[illegible], NAME

THIS WIDTH SHOULD BE 3"

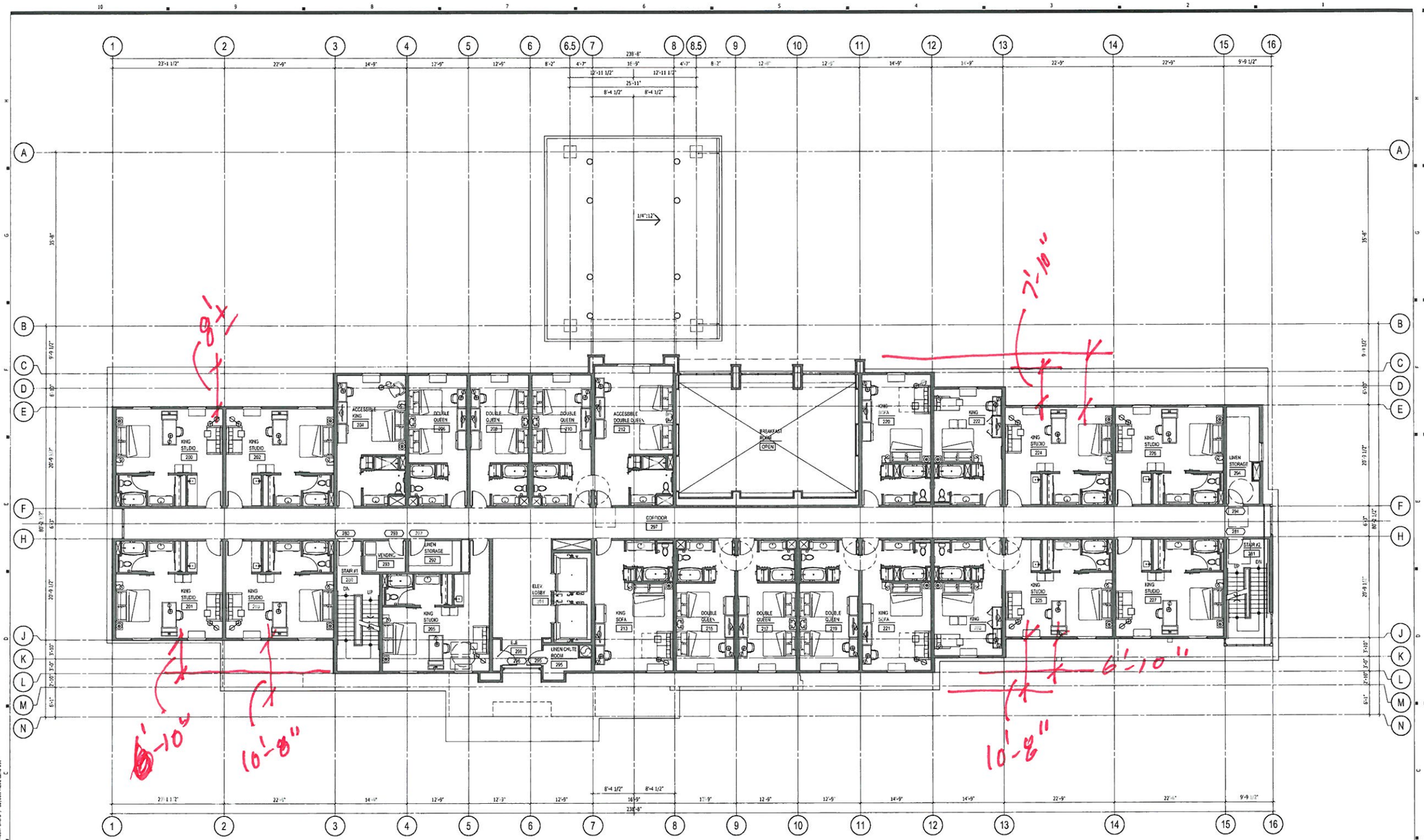
2017-04-14 LAND USE SUBMITTAL

13947/15703

LOBBY FLOOR PLAN

A201

Date: Thursday, April 20, 2017 - 1:46:31 PM / Location: F:\2015_Q3\15-129 Oregon City Abernethy Inn & Suites\8 Drawings\A201.pln / User: Robin Chand / Layout: A201 Land Use



1 A202 SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

PROJECT NORTH

0 4' 8' 16'

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
TEL 503.305.8050 FAX 503.305.8054

REGISTERED ARCHITECT HILL WEST LINN, OREGON EXPIRES: 12/31/2018

Preliminary NOT FOR CONSTRUCTION

ABERNETHY PLACE
DDP
DETAILED DEVELOPMENT PLAN
PHASE 1
OREGON CITY, OREGON
TAX LOT 11E, NAME

THIS WIDTH SHOULD BE 3"

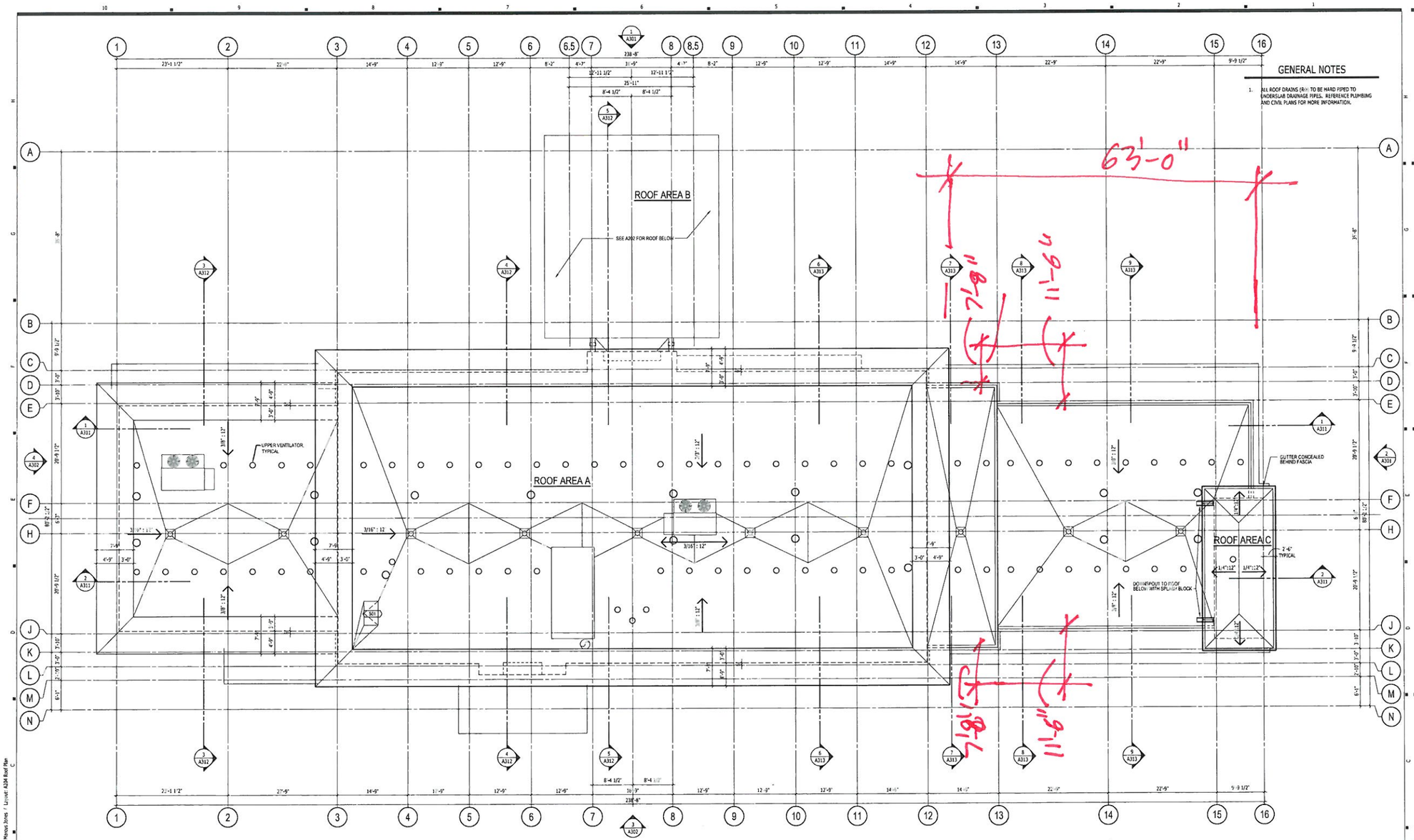
2018-04-14 LAND USE SUBMITTAL

13843/25708 RE

SECOND FLOOR PLAN

A202

Date: Thursday, April 26, 2018 4:31:36 PM / Location: P:\2015\15-057\0 Oregon City Numptos Inv & Sales\8 Drawing\A202.dwg / User: Robin Chard / Layout: A202 Land Use



1 A204 ROOF PLAN SCALE: 1/16" = 1'-0"

PROJECT NORTH

0 4' 8' 16'

GENERAL NOTES

1. ALL ROOF DRAINS (RD) TO BE HARD PIPED TO UNDERSLAB DRAINAGE PIPES. REFERENCE PLUMBING AND CIVIL PLANS FOR MORE INFORMATION.

ROOF ATTIC SPACE VENTILATION

PER OSSC 1202.2 ATTIC SPACES. EXCEPTION 1. THE NET FREE CROSS-VENTILATING AREA SHALL PERMITTED TO BE REDUCED TO 1: 300 PROVIDED THAT NOT LESS THAN 50% AND NOT MORE THAN 80% OF THE REQUIRED VENTILATING AREA PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE....WITH THE BALANCE OF REQUIRED VENTILATION PROVIDED BY EAVE OR CORNICE VENTS.

ROOF AREA A - THE ROOF IS 12,699SF SO 12,699 / 300 = 42.33SF (144SQ.IN. = 6,096SQ.IN.) OF VENTILATION IS REQUIRED.
(1) ROOF VENTILATOR PROVIDES 144 SQ.IN. OF NET FREE AREA.
SOFFIT VENT IS 5 SQ.IN. PER LINEAL FOOT.

HIGH - 78% (10,080 / 144 = 70 VENTS)
LOW - 22% (2,619 / 5 = 524 LF)

ROOF AREA B - THE ROOF IS 1,536SF SO 1,536 / 300 = 5.12SF (144SQ.IN. = 720SQ.IN.) OF VENTILATION IS REQUIRED.
(1) ROOF VENTILATOR PROVIDES 144 SQ.IN. OF NET FREE AREA.
SOFFIT VENT IS 5 SQ.IN. PER LINEAL FOOT.

HIGH - 78% (576 / 144 = 4 VENTS)
LOW - 22% (144 / 5 = 33 LF)

ROOF AREA C -
NO ATTIC - UNVENTED ROOF WITH CONTINUOUS RIGID INSULATION

HILL
ARCHITECTS
1750 BLANKENSHIP ROAD
SUITE 400
WEST LINN, OREGON 97068
503.305.3000 FAX 503.305.3034

REGISTERED ARCHITECT
OREGON
JULY 10, 2001
JAMES C. HILL
Preliminary
NOT FOR CONSTRUCTION
FOR OPTION

HAMPTON INN & SUITES
OREGON CITY, OREGON

THIS WIDTH SHOULD BE 3"

08.30.17 FINAL DESIGN

JOB NO.	DRAWN BY	CHECKED BY
15705	AO	RC

ROOF PLAN

A204

Date: Friday, June 9, 2017 4:32:21 PM / Location: P:\2015_JOJ - 15705 Oregon City Hampton Inn & Suites\8 Drawings\A204.dwg / User: Marcus Jones / Layout: A204 Roof Plan

From:	Lloyd Hill
To:	Pete Walter
Cc:	Dan Fowler (danf@abernethycenter.com); Robin Chard; Anders Otterlei; 13647 Abernethy Place; 15708 Oregon City Hampton Inn & Suites
Subject:	Two Rivers Neighborhood Association - Letter regarding Neighborhood Meeting January 25, 2017
Date:	Monday, July 31, 2017 11:52:25 AM
Attachments:	20170424151541-signed.pdf

Pete,

Per your request, here is a letter from Bryon Boyce, the chair of the Two Rivers Neighborhood Association.

Best Regards,

Lloyd W. Hill AIA

From: Dan Fowler [mailto:DanF@abernethycenter.com]
Sent: Tuesday, July 11, 2017 2:17 PM
To: Lloyd Hill; Robin Chard
Cc: Alkesh Patel; 'Michael C. Robinson (mrobinson@perkinscoie.com)'
Subject: FW: Hotel Approval

Attached is the letter of support from the neighborhood association we are located.

Dan

From: Bryon Boyce [mailto:bryony@birdlink.net]
Sent: Friday, May 19, 2017 4:17 PM
To: Mark Foley <Markf@fandfstructures.com>
Subject: Re: Hotel Approval

Bryon Boyce
503-655-4457

Oregon
Kate Brown, Governor

Department of Transportation
Region 1 Headquarters
123 NW Flanders Street
Portland, Oregon 97209
(503) 731.8200
FAX (503) 731.8259

7/14/17 ODOT #7238

ODOT Response

Project Name: Abernethy Place - 415 17th Street	**Applicant:** Al Patel
Jurisdiction: City of Oregon City	**Jurisdiction Case #:** CP-17-0002/DP-17-0003/NR-17-0004
Site Address: 415 17th St, Oregon City, OR	**Legal Description:** 02S 02E 29CA **Tax Lot(s):** 00601
State Highway: I 205	**Mileposts:** 9.28

The site of this proposed land use action is in the vicinity of I-205/99E/OR-213. ODOT has permitting authority for this facility and an interest in ensuring that this proposed land use is compatible with its safe and efficient operation. **Please direct the applicant to the District Contact indicated below to determine permit requirements and obtain application information.**

RAIL COMMENTS

In 2003, per Order No. 50165, the 17th Street public crossing (No. C-756.30) was permanently closed prior to commencing passenger rail service at a stop in the City of Oregon City. The concrete crossing surface has been removed and is no longer a private crossing at 17th Street for the railroad. Access is not allowed for public use, including pedestrian connections, trails, and/or city use. There is an alternative, public route on 15th Street to cross under the tracks to access Main St as well as 14th Street and 12th Street. ODOT Rail and Public Transit Division cannot agree to making 17th Street crossing a public crossing due to Order No. 50165. 17th Street needs to be curbed to emphasize that it is not a thru street to prevent vehicles from accidently driving straight onto the tracks and potentially getting high centered (see attached image). Please change the plans and resubmit for review.

Property Location Adjacent to Rail Tracks

☒ The applicant shall install fencing along the property line fronting the rail tracks to ensure the safe operation of trains by preventing illegal trespassing of pedestrians across the tracks.

TRAFFIC COMMENTS

The Traffic Impact Analysis (TIA) provided by the applicant states:

"The intersections operating under ODOT jurisdiction are also projected to meet ODOT's respective performance standards, with the exception of OR 99-E at the I-205 ramp terminals. However, these intersections are specifically exempted from operational standards pursuant to OCMC 12.04.205(D)"

While ODOT agrees with this statement, with the added site traffic the I-205/99E Southbound ramp intersection degrades from a 0.98 to 0.99 v/c ratio in the PM peak and the Northbound ramp intersection degrades from a 0.90 – 0.91 v/c ratio in the AM peak. The standard for ODOT ramp terminals is a 0.85 v/c ratio and anything above this causes safety concern due to the possibility of vehicles queuing back into the mainline. Additionally, the Oregon City TSP identifies two widening projects for these ramps (Projects D75, D76). Therefore, ODOT recommends that the City require the applicant to contribute a proportionate share to these TSP projects. While they are identified as long term projects, it is in the best interest of the City and the applicant to begin collecting funds towards these projects to ensure safe and efficient operations at the interchange so people can access their goods and services in the future.

Also, the TIA presents two alternatives for mitigation at 14th Street and Main. ODOT supports the alternative that converts 14th and 15th to one-way (Project D7, Option 1 and Project D8). Therefore, ODOT recommends that the City also collect a proportionate share towards those projects as well.

ADVISORY INFORMATION

Noise

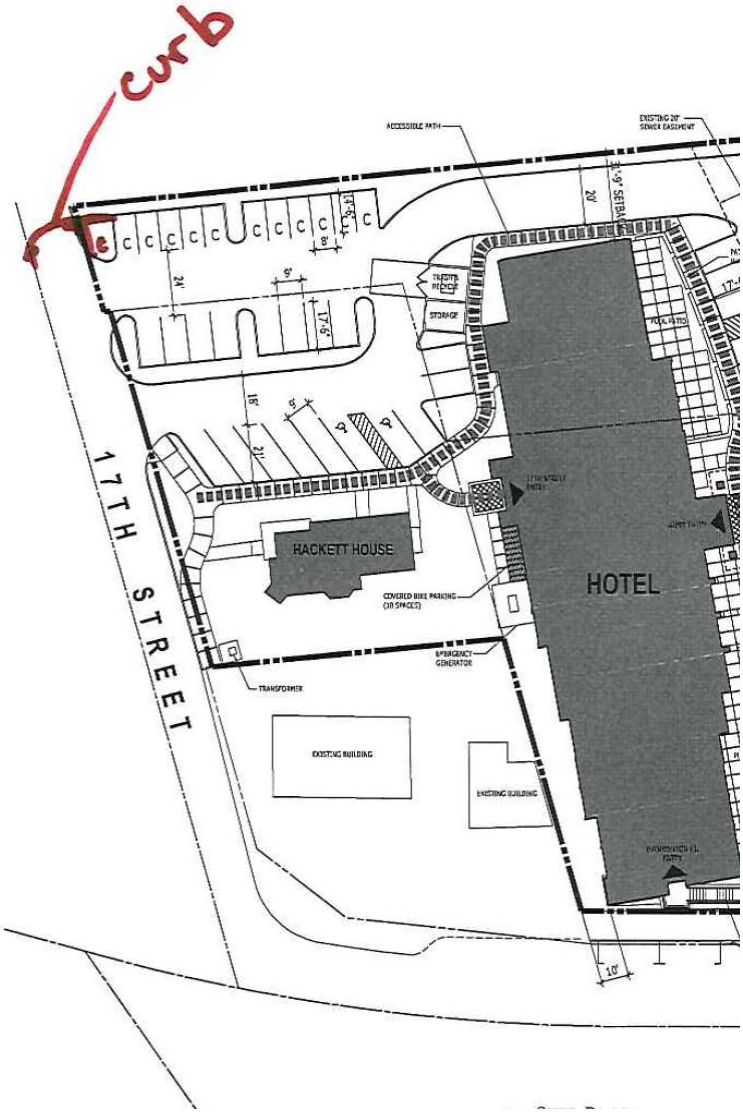
☒ The applicant is advised that development on the proposed site may be exposed to noise from heavy rail freight trains, passenger trains or transit vehicles. It is generally not the State's responsibility to provide mitigation for receptors that are built after the noise source is in place. Builders should take appropriate measures to mitigate the noise impacts.

Please send a copy of the Notice of Decision including conditions of approval to:

ODOT Region 1 Planning
Development Review
123 NW Flanders St
Portland, OR 97209

Region1_DEVREV_Applications@odot.state.or.us

Development Review Planner: Seth Brumley	503.731.8234, Seth.A.Brumley@odot.state.or.us
Traffic Contact: Avi Tayar, P.E.	503.731.8221



17th Street Curb

HISTORIC OREGON CITY

Oregon City Planning Commission
625 Center Street
Oregon City, OR 97045

RE: Recommendation of the Board of Directors of Clackamas Heritage Partners concerning General and Specific Development Plans of Hackett Hospitality Group LLC and Historic Properties, LLC real property located adjacent to the End of the Oregon Trail Site

Dear Commissioners:

The Board of Directors of Clackamas Heritage Partners (CHP), operators and stewards of the End of the Oregon Trail (EOT) development, has carefully reviewed the proposed General and Specific Development Plans of the Hackett Hospitality Group LLC and Historic Properties, LLC and respectfully recommends that you approve both Plans.

We base this recommendation upon our findings that these developments are in the best interests of CHP and EOT. Board member and President Dan Fowler did not participate in this Board action because of his interest in the property. Board Member, Nancy Ide recused herself because of her position as an Oregon City Commissioner. The Executive Committee of CHP has concluded that there is no conflict of interest in the submission of this letter and we concur.

Specifically, we adopt the following findings of fact:

1. Features of the hotel development consisting of wood and native stone, classical architectural style, and historical references to EOT and the Oregon Trail will be fully compatible with the EOT site.

2. The hotel will provide attractive and comfortable lodging for EOT visitors as well as for visitors to the River Walk Project at Willamette Falls. The hotel will encourage visitation by patrons to both sites.

1726 Washington Street, Oregon City, OR 97045
503.557.1151 ext. 101 • Fax 503.557.8590 • www.HistoricOregonCity.org

A project of Clackamas Heritage Partners

3. Visibility of the Hoops from I-205 will be retained. The siting of the hotel perpendicular to EOT will create a pleasing view corridor.

4. Approval will enhance the overall development pattern of the surrounding area and encourage similar developments in the future. It is also consistent with the ongoing revitalization of downtown Oregon City.

On July 6, 2017 this motion was passed unanimously by vote of the CHP board with a quorum being present of the following Board Members: Freda Beal, Lowell Miles, Wade Byers, Jack Hammond, Scott Guptil and Marilyn Morrissey. Dan Fowler and Nancy Ide were recused. Members Joyce Cohen, Rocky Smith Jr., and Jon George were not present.

Thank you for your consideration.

Respectfully submitted,

Freda L Beal

Clackamas Heritage Partners Board of Directors

Dan Fowler, Chair [recused]
Freda Beal
Lowell Miles
Wade Byers
Joyce Cohen
Scott Guptill
Jack Hammond
Marilyn Morrissey
Rocky Smith, Jr.
Nancy Ide [recused]
Jon George

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole–foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 10. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC–3, #9202
1315 East–West Highway
Silver Spring, MD 20910–3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713–3242,** or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was derived from multiple sources. High resolution color orthophotos produced by Merrick & Co., Pixxures, Inc., and Clean Water Services covered portions of the county. USGS Digital Quadrangles at a scale of 1:12000 or less dated 6/20/94 covered the remainder of the county.

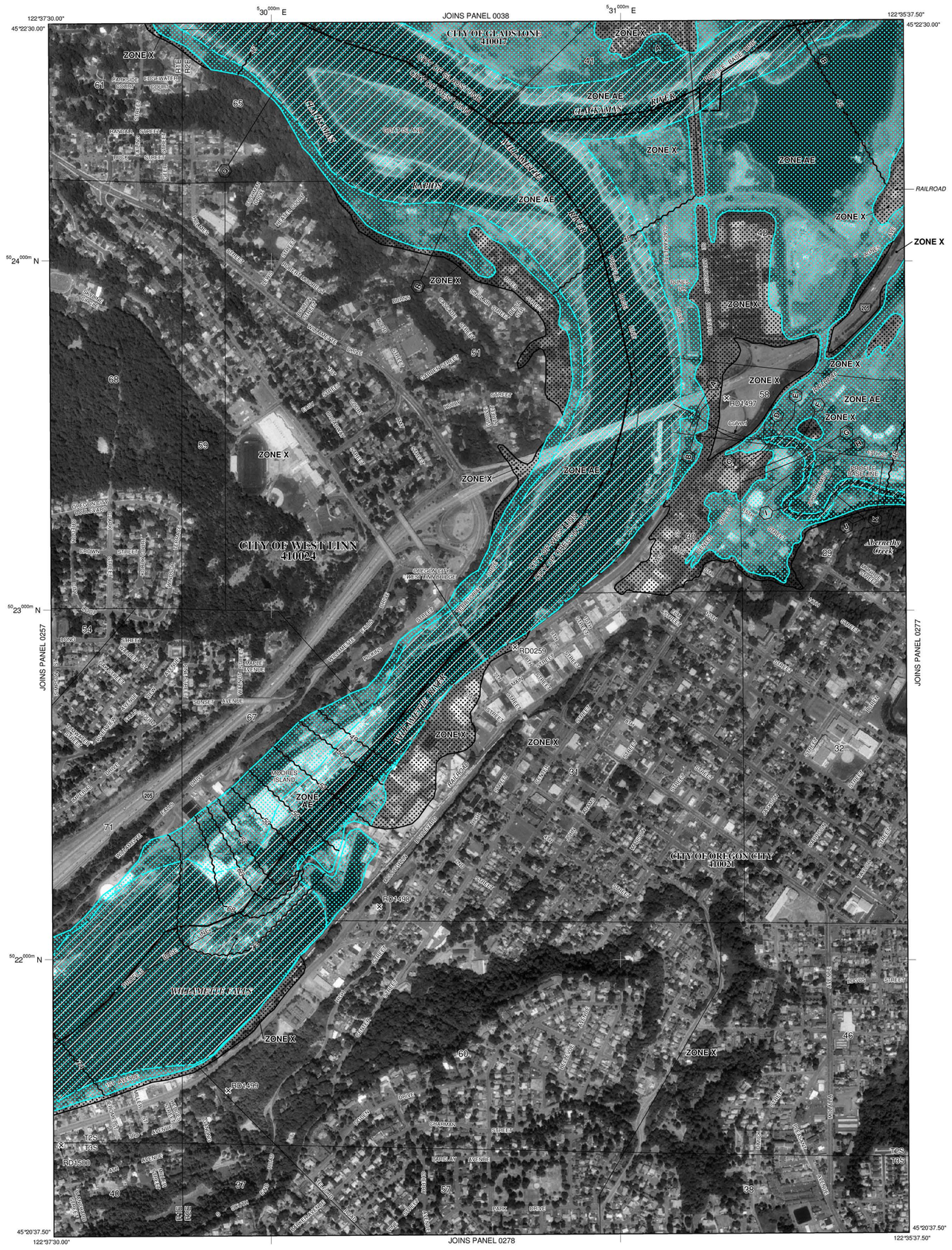
This map reflects more detailed and up–to–date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables *in the Flood Insurance Study report* (*which contains authoritative hydraulic data*) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de–annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1–800–358–9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, *a Flood Insurance Study report,* and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1–800–358–9620 and its website at http://www.msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1–877–FEMA MAP** (1–877–336–2627) or visit the FEMA website at http://www.fema.gov/.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4275000mN — 1000-meter Universal Transverse Mercator grid ticks, zone 10
- 6000000 M — 5000-foot grid ticks: Oregon State Plane coordinate system, north zone (FIPSZONE 3601), Lambert Conformal Conic
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
June 17, 2008
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1–800–638–6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0276D

FIRM
FLOOD INSURANCE RATE MAP
CLACKAMAS COUNTY, OREGON
AND INCORPORATED AREAS

PANEL 276 OF 1175
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GLADSTONE, CITY OF	410017	0276	D
OREGON CITY, CITY OF	410021	0276	D
WEST LINN, CITY OF	410024	0276	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
41005C0276D

EFFECTIVE DATE
JUNE 17, 2008

Federal Emergency Management Agency

City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Agenda Summary - Draft

Historic Review Board

Monday, April 24, 2017 | **6:00 PM** | **Commission Chambers**

1. Call to Order

2. Public Comments

3. Public Hearing

3a. PC 17-044 HR 17-02: Historic Review Board review of a request to reduce the designation of an individually designated historic property outside of a historic district and construct minor pedestrian and vehicular improvements.

3b. PC 17-045 HR 17-01: A new single-family home in the Canemah Historic District at the intersection of Ganong St. and 4th Ave.

4. Communications

5. Adjournment

City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Staff Report

File Number: PC 17-044

Agenda Date: 4/24/2017

Status: Agenda Ready

To: Historic Review Board

Agenda #: 3a.

From: Planner Trevor Martin

File Type: Planning Item

SUBJECT:
HR 17-02: Historic Review Board review of a request to reduce the designation of an individually designated historic property outside of a historic district and construct minor pedestrian and vehicular improvements.

RECOMMENDED ACTION (Motion): Staff recommends the Historic Review Board approve Planning file HR 17-02 with conditions.

BACKGROUND:
The subject site is an individually designated landmark outside of a historic district, known as the Erwin Charles Hackett House. The site is developed with an office building and an associated parking lot within the Mixed Use Downtown District. The applicant is not proposing any changes to the existing building itself, but rather to the site on which the building is located. The changes include expanding and upgrading the parking lot and providing vehicular and pedestrian connection to a proposed adjacent development which includes a 5 story hotel. Future development will be reviewed by the Planning Division in a separate process. Staff has recommended reducing the size of the individually designated landmark to the structure and the adjacent landscaped area which extends to the property boundary as well as the adjacent parking lot. In addition, this analysis includes a recommendation that the Historic Review Board approve the proposed pedestrian and vehicular changes on the reduced landmark. The applicant has proposed to mitigate the reduction of the landmark with installation of additional screening measures to soften the impact of any proposed development.
The Erwin Charles Hackett House, commonly referred to as the Hackett House, was listed to the Oregon City Local register of Historic Places in 1985. According to the nomination Statement of Significance “Erwin C. Hackett was the son of early Oregon pioneers, and who became an individual of local political prominence, serving as chief deputy of Clackamas County Sheriff's Office in 1915, and as mayor of Oregon City between 1916 and 1919; he later served as Clackamas County Recorder. The house was built by Indiana-born George Gray and his wife Dora (Smith) on land they purchased in 1893. Gray was a local teacher. The house was sold in 1908, and purchased by Erwin C. Hackett. The house is significant for its association with Erwin Hackett, a prominent local citizen and politician, and for its unusual tower".

BUDGET IMPACT:

Amount:
FY(s):
Funding Source:

City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Staff Report

File Number: PC 17-044

Agenda Date: 4/24/2017

Status: Draft

To: Historic Review Board

Agenda #: 3a.

From: Planner Trevor Martin

File Type: Planning Item

SUBJECT:
HR 17-02: Historic Review Board review of a request to reduce the designation of an individually designated historic property outside of a historic district and construct minor pedestrian and vehicular improvements.

RECOMMENDED ACTION (Motion): Staff recommends the Historic Review Board approve Planning file HR 17-02 with conditions.

BACKGROUND:
The subject site is an individually designated landmark outside of a historic district, known as the Erwin Charles Hackett House. The site is developed with an office building and an associated parking lot within the Mixed Use Downtown District. The applicant is not proposing any changes to the existing building itself, but rather to the site on which the building is located. The changes include expanding and upgrading the parking lot and providing vehicular and pedestrian connection to a proposed adjacent development which includes a 5 story hotel. Future development will be reviewed by the Planning Division in a separate process. Staff has recommended reducing the size of the individually designated landmark to the structure and the adjacent landscaped area which extends to the property boundary as well as the adjacent parking lot. In addition, this analysis includes a recommendation that the Historic Review Board approve the proposed pedestrian and vehicular changes on the reduced landmark. The applicant has proposed to mitigate the reduction of the landmark with installation of additional screening measures to soften the impact of any proposed development.
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BUDGET IMPACT:

Amount:
FY(s):
Funding Source:

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

April 24, 2017

FILE NO.:	HR 17-02: Historic Review Board Review
HEARING DATE:	March 24, 2017 6:00 p.m. – City Hall 625 Center Street Oregon, City, Oregon 97045
APPLICANT:	Hill Architects 1750 Blankenship Rd. Suite 400 West Linn, OR 97068
OWNER:	Hackett Hospitality Group LLC. 1419 W. Main St. Suite 100 Battleground, WA
LOCATION:	415 17th St., Oregon City, OR, 97045 Clackamas County Map 25-2E-29CA, Tax Lots 1301
REQUEST:	Historic Review Board review of a request to reduce the designation of an individually designated historic property outside of a historic district and construct minor pedestrian and vehicular improvements.
REVIEWER:	Trevor Martin, Planner
RECOMMENDATION:	Approval with Conditions
CRITERIA:	Administration and Procedures are set forth in Chapter 17.50, Chapter 17.40, Historic Overlay District in Chapter 17.40, and "MUD" Mixed-Use Downtown District in Chapter 17.34 of the Oregon City Municipal Code. The City Code Book is available on-line at www.orcity.org.

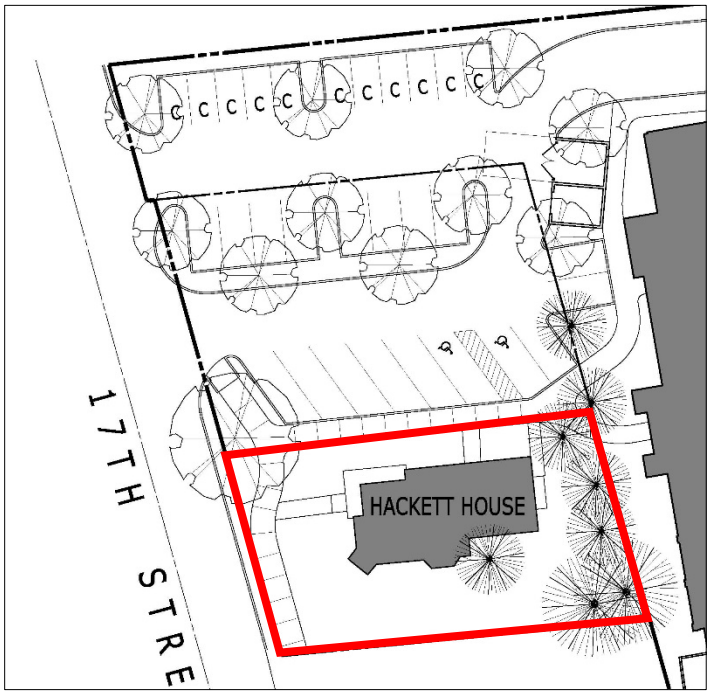
Please be advised that any issue that is intended to provide a basis for appeal must be raised before the close of the hearing, in person or by letter, with sufficient specificity to afford the Historic Review Board and the parties an opportunity to respond to the issue. Failure to raise an issue with sufficient specificity will preclude any appeal on that issue. The decision of the Historic Review Board may be appealed to the City Commission by parties with standing within fourteen (14) calendar days of the notice of decision. Any appeal will be based on the record. The procedures that govern the hearing will be posted at the hearing and are found in OCMC Chapter 17.50 and ORS 197.763. A city-recognized neighborhood association requesting an appeal fee waiver pursuant to OCMC 17.50.290(C) must officially approve the

request through a vote of its general membership or board at a duly announced meeting prior to the filing of an appeal.

Recommended Conditions of Approval

(P) = Verify that condition of approval has been met with the Planning Division.

1. No physical change shall occur to the Hackett House structure. All exterior modifications to the landmark shall receive Planning Division approval. (P)
2. The applicant shall obtain all necessary permits including but not limited to compliance with a Detailed Development Plan/Site Plan and Design Review and applicable overlay districts. (P)
3. The site of the historic designation shall be reduced to only apply to the backside of any parking and walking structures. Effectively reducing the Historic site down to the physical Hackett House, the lawn and landscaping around the physical Hackett House as identified below. (P)



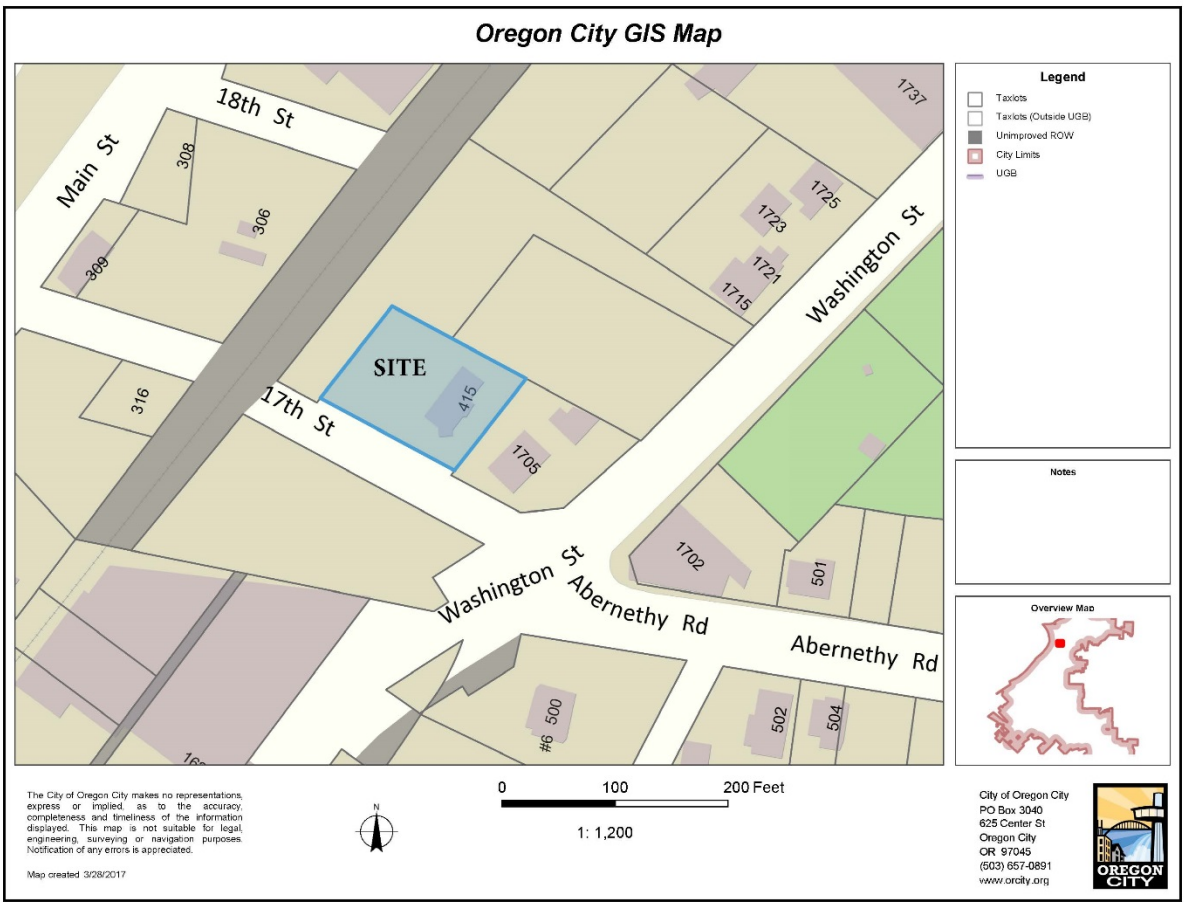
Recommended New Designation Location

4. The installation of the proposed pedestrian accessways and construction as identified in the proposed development is approved on the individual landmark.
5. The reduced landmark would retain all of the landscaping onsite.
6. The applicant shall install a minimum 2-inch caliper trees as identified on the site plan proposed between the Hackett House and the adjacent property prior to completion of any a Site Plan and Design Review or Detailed Development Plan involving alterations on the subject site. Installation of trees between the parking lot and the structure as required by any future development may be relocated onsite.

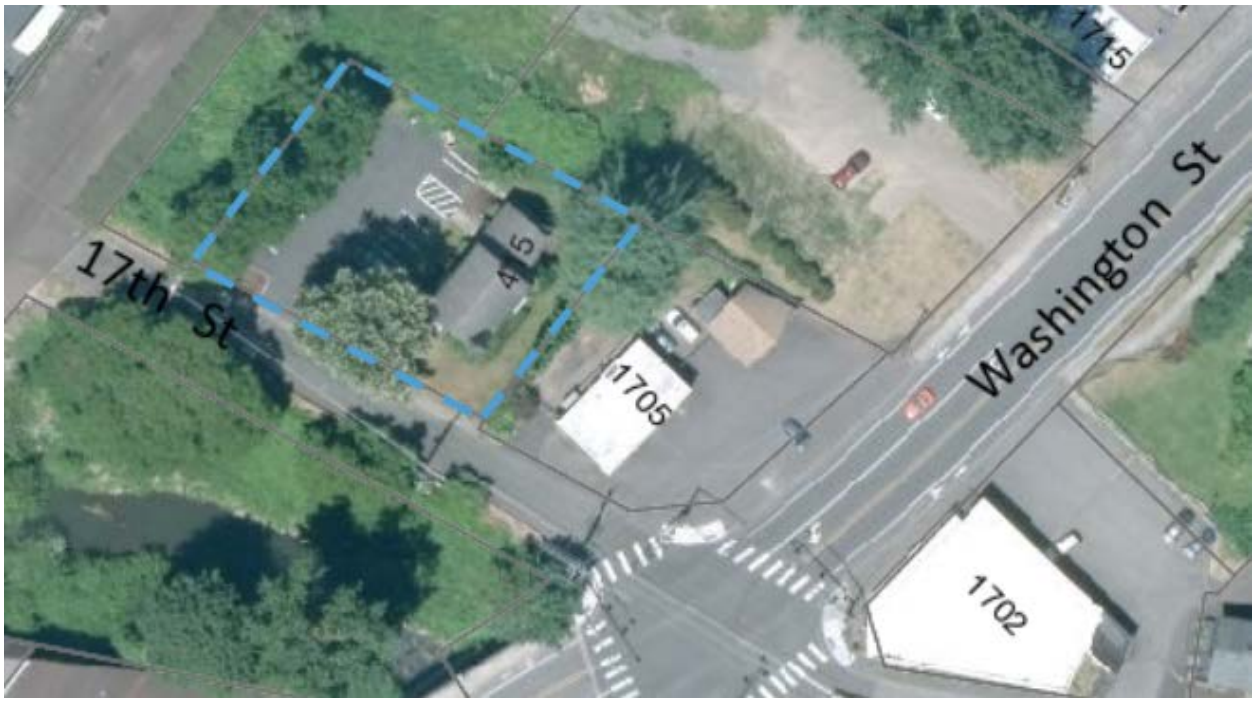
I. BACKGROUND

Site and Context

The Erwin Charles Hackett House, commonly referred to as the Hackett House, was listed to the Oregon City Local register of Historic Places in 1985. According to the nomination Statement of Significance "Erwin C. Hackett was the son of early Oregon pioneers, and who became an individual of local political prominence, serving as chief deputy of Clackamas County Sheriff's Office in 1915, and as mayor of Oregon City between 1916 and 1919; he later served as Clackamas County Recorder. The house was built by Indiana-born George Gray and his wife Dora (Smith) on land they purchased in 1893. Gray was a local teacher. The house was sold in 1908, and purchased by Erwin C. Hackett. The house is significant for its association with Erwin Hackett, a prominent local citizen and politician, and for its unusual tower."



Vicinity Map



Aerial Photo (2016)



Aerial Photo (2012)



Photo from 17th Street Looking North



Photo from 17th Street Looking East

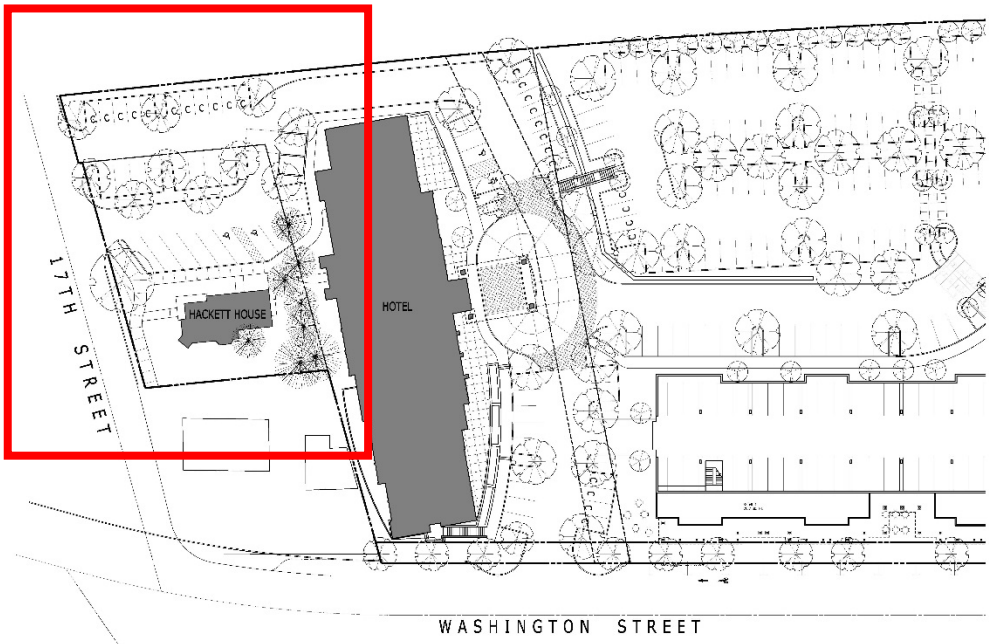


Photo from 17th Street Looking North

II. PROJECT SUMMARY

The subject site is an individually designated landmark outside of a historic district, known as the Erwin Charles Hackett House. The site is developed with an office building and an associated parking lot within the Mixed Use Downtown District. The applicant has not proposed any changes to the existing building itself, but rather to the site on which the building is located. The changes include expanding and upgrading the parking lot and providing vehicular and pedestrian connection to a proposed adjacent development which includes a 5 story, 99 room, hotel. The applicant owns both the subject site as well as the adjacent land and has proposed to highlight the historic structure and preserve its integrity with coniferous trees to provide a natural backdrop to screen the future hotel. Future development of the parking lot and adjacent development will be reviewed by the Planning Division in a separate process.

Staff has recommended reducing the size of the individually designated landmark to the structure and the adjacent landscaped area which extends to the property boundary as well as the adjacent parking lot. In addition, this analysis includes a recommendation that the Historic Review Board approve the proposed pedestrian and vehicular changes on the reduced landmark. The applicant has proposed to mitigate the reduction of the landmark with installation of additional screening measures to soften the impact of any proposed development.



ABERNETHY PLACE
OREGON CITY, OREGON
HILL ARCHITECTS
SITE PLAN 1.1
FEBRUARY 28, 2017
1750 BLANKENSHIP ROAD • SUITE 400 • WEST LINN • OREGON 97068

Site Plan



Future Development



Subject Site

Background:

Hackett house is an historic house built in 1893, and on the National Register of Historic Places for Clackamas County.

1. Existing Conditions

a. *House and grounds were restored in 1984-85.*

2. Project Description
    a. *Project is to landscape the grounds to provide a natural background and screen a proposed hotel on the property to the Northeast, and to repair and renovate the existing parking lot to provide access to the future hotel to the Northwest.*
3. Basic Facts
    a. *The Hackett House is an historic artifact that provides a connection to Oregon City's past.*
4. Proposed Areas
    a. *See attached Site Plan.*
5. Drawings and Site Plan
    a. *See attached Survey, Site Plan, Elevation with house, landscaping, and proposed future development*.
6. Building Elevations, Materials and Designs

III. Review Criteria

Oregon City Municipal Code. The applicant needs to meet OCMC 17.40.010 and the Adopted Design Guidelines for Addition and Alterations.

Regarding Criterion (1) - The purpose of the historic conservation district as set forth in Section 17.40.010;

A. Effect and accomplish the protection, enhancement and perpetuation of such improvements and of districts which represent or reflect elements of the city's cultural, social, economic, political and architectural history;
B. Safeguard the city's historic, aesthetic and cultural heritage as embodied and reflected in such improvements and districts;
C. Complement any National Register Historic districts designated in the city;
D. Stabilize and improve property values in such districts;
E. Foster civic pride in the beauty and noble accomplishments of the past;
F. Protect and enhance the city's attractions to tourists and visitors and the support and stimulus to business and industry thereby provided;
G. Strengthen the economy of the city;
H. Promote the use of historic districts and landmarks for the education, pleasure, energy conservation, housing and public welfare of the city; and
I. Carry out the provisions of LCDC Goal 5.

Finding: Complies as Proposed: The Hackett House is an individually listed property located outside of a historic district. The applicant indicated that the proposed landscaping and changes to the parking lot would "provide a functional improvement to the historic asset, the greater community, and to the future, adjacent development". Additional parking lot landscaping will help to mitigate from the existing structure from any proposed adjacent development, and increasing the overall size of the parking lot to include a vehicular and pedestrian connection to the adjacent development will allow for cross traffic to observe the Hackett House as well as provide safe access to the adjacent street while retaining a clear vision of the structure. The Hackett House should remain visible for visitors and passersby and the reduction of the landmark to include the adjacent lawn will assure a proper buffer from adjacent development. Over mitigating for any proposed adjacent development may create a separation and deter cross traffic, business, and visitors the site.

Regarding Criterion (2) -The provisions of the city comprehensive plan;

Section 5
Open Spaces, Scenic and Historic Areas, and Natural Resources

Policy 5.3.8
Preserve and accentuate historic resources as part of an urban environment that is being reshaped by new development projects.
Finding: Complies with Condition: The property owner of the Hackett House also owns parcels adjacent to the subject site and has expressed interest in incorporating the House into any proposed adjacent development, such as turning the Hackett House into a meeting space for a hotel. They indicated that "by improving the look and function of the Hackett house, the future development of the area will be a more desirable destination and community experience". The proposal would integrate the home with adjacent properties by providing additional pedestrian and vehicular access and would increase adjacent parking opportunities.
Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

Regarding Criterion (3) -The economic effect of the new proposed structure on the historic value of the district or historic site.
Finding: Not Applicable: No new structures have been proposed**.**

Regarding Criterion (4) The effect of the proposed new structure on the historic value of the district or historic site;
Finding: Not Applicable: No new structures have been proposed**.**

Regarding Criterion (5) - Design Compatibility: The general compatibility of exterior design, arrangement, proportion, detail, scale, color, texture and materials proposed to be used with the historic site;
Finding: Complies as Proposed: The proposed parking lot and pedestrian accessway modifications complement the use and the longevity of the Hackett House, which is within a Mixed Use Downtown commercial zoning district. Creating an appropriately scaled landscaping plan can cohesively integrate the Hackett House into an adjacent development. There should be a degree of separation for the Hackett House, but the Hackett House should not be completely separated from the Adjacent Development. The submitted landscaping plan illustrates the proposed landscaping that will be installed on the site, which appear to be appropriate. The reduced landmark would retain all of the landscaping onsite. When the parking lot is developed, the development review will likely require additional trees on the side of the Hackett House adjacent the parking lot, this obstructs the view to the Hackett House and may be relocated onsite.

Regarding Criteria (6) -Economic, social, environmental and energy consequences
Finding: Complies as Proposed: The property owner of the Hackett House also owns parcels adjacent to the subject site and has expressed interest in incorporating the House into any proposed adjacent development, such as turning the Hackett House into a meeting space for a hotel. Creating an appropriately scaled landscaping plan can cohesively integrate the Hackett House into an adjacent development. The proposed parking lot and pedestrian accessway modifications complement the use and the longevity of the Hackett House, which is within a Mixed Use Downtown commercial zoning district.

Design Guidelines: Alterations – Additions

A. Site

1. *In addition to the zoning requirements, the relationship of new additions to the street and to the open space between buildings shall be compatible with adjacent historic buildings and with the historic character of the District.*

Finding: Complies with Condition: The Hackett House is an individually listed property located outside of a historic district. Additional trees will help to mitigate from the existing structure from any proposed adjacent development, and increasing the overall size of the parking lot will allow for cross traffic to observe the Hackett House. The Hackett House should remain visible for visitors and passersby. Over mitigating for any proposed adjacent development may create a separation and deter cross traffic, business, and visitors the site. The only location in which the Hackett House is being reduced is to the northwest of the structure where the parking lot is located. No reduction is proposed between the structure and the future hotel. The proposed development retains the open space between the building and the adjacent properties.
Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

2. *New additions shall be sited so that the impact to the primary facade(s) is kept to a minimum. Additions shall generally be located at the rear portions of the property or in such locations where they have the least visual impact from public ways.*

Finding: Not Applicable: No new additions have been proposed**.**

B. Landscape

1. *Traditional landscape elements evident in the District (grass, trees, shrubs, picket fences, etc.) should be preserved, and are encouraged in site redevelopment.*

Finding: Complies with Condition: The Hackett House is an individually listed property located outside of a historic district. Additional trees will help to mitigate from the existing structure from any proposed adjacent development, and increasing the overall size of the parking lot will allow for cross traffic to observe the Hackett House. The Hackett House should remain visible for visitors and passersby. Over mitigating for any proposed adjacent development may create a separation and deter cross traffic, business, and visitors the site. The applicant indicated "the new landscaping will be primarily along the back of the property. Any historic plant material will be preserved and a period look and palette will be maintained"**.** The reduced landmark would retain all of the landscaping onsite. The reduced landmark would retain all of the landscaping onsite. When the parking lot is developed, the development review will likely require additional trees on the side of the Hackett House adjacent the parking lot, this obstructs the view to the Hackett House. Any trees required in this location may be relocated onsite.
Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

2. *Inappropriate landscape treatments such as berms and extensive ground cover are discouraged.*

Finding: Complies with Condition: The Hackett House should remain visible for visitors and passersby. Over mitigating for any proposed adjacent development may create a separation and deter cross traffic, business, and visitors the site. When the parking lot is developed, the development review will likely require additional trees on the side of the Hackett House adjacent the parking lot, this obstructs the view to the Hackett House. Any trees required in this location may be relocated onsite.

Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

C. Building Height

1. In addition to the zoning requirements, the height of new additions shall not exceed the height of the historic building, or of historic buildings in the surrounding area.

Finding: Not Applicable: No new additions have been proposed**.**

D. Building Bulk

1. New additions smaller than the historic building or the historic buildings in the surrounding area are encouraged.
    a. Where new additions must be larger, the new addition shall be articulated in such a manner that no single element is visually larger than the historic building or surrounding historic buildings.

Finding: Not Applicable: No new additions have been proposed**.**

E. Proportion and Scale

1. The relationship of height to width of new additions and their sub-elements such as windows and doors and of alterations shall be compatible with related elements of the historic building, and with the historic character of the District.

Finding: Not Applicable: No new additions have been proposed**.**

2. The relationship of solids to voids (wall to window) shall be compatible with related elements on the historic building, and with the historic character of the District.

Finding: Not Applicable: No changes to the existing building have been proposed.

F. Exterior Features

1. General

a. To the extent practicable, original historic architectural elements and materials shall be preserved.

b. Architectural elements and materials for new additions shall be compatible with related elements of the historic building and with the historic character of the District.

c. The preservation, cleaning, repair and other treatment of original materials shall be in accord with the Secretary of Interior's Standards of Rehabilitation and Guidelines for Rehabilitating Historic Buildings.

Finding: Not Applicable: No changes to the existing building have been proposed.

<u>Secretary of Interior's Standards for Rehabilitation.</u>

In 2001, the Historic Review Board adopted the Secretary of Interior's Standards for Rehabilitation as part of their Guidelines for Alterations and Additions.

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

Finding: Complies with Condition: The applicant indicated that " the new landscaping and revision to the parking area will have no change to the use or purpose of the Hackett house". The Hackett House should remain visible for visitors and passersby. Over mitigating for any proposed adjacent development may create a separation and deter cross traffic, business, and visitors the site. Staff believes the

appropriate number of trees has been proposed. The proposed parking lot as well as vehicular and pedestrian connections will allow the commercial structure to be well utilized within the Mixed Use Downtown District.
Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

2. *The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.*

Finding: Complies with Condition: The Hackett House should remain visible for visitors and passersby. Over mitigating for any proposed adjacent development may create a separation and deter cross traffic, business, and visitors the site. Staff believes the appropriate number of trees has been proposed. The proposed parking lot as well as vehicular and pedestrian connections will allow the commercial structure to be well utilized within the Mixed Use Downtown District.
Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

3. *Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.*

Finding: Complies with Condition: The Hackett House should remain visible for visitors and passersby. Over mitigating for any proposed adjacent development may create a separation and deter cross traffic, business, and visitors the site. Staff believes the appropriate number of trees has been proposed.
Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.

4. *Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.*

Finding: Not Applicable: No changes to the existing building have been proposed.

5. *Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.*

Finding: Not Applicable: No changes to the existing building have been proposed.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

Finding: Not Applicable: No changes to the existing building have been proposed.

7. *Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.*

Finding: Not Applicable: No changes to the existing building have been proposed.

8. *Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.*

Finding: Complies as Proposed: No changes to the existing building have been proposed. Any future development on adjacent sites will be noticed and mitigation measures will be pursued.

9. *New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.*

Finding: Not Applicable: No changes to the existing building have been proposed.

10. *New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*

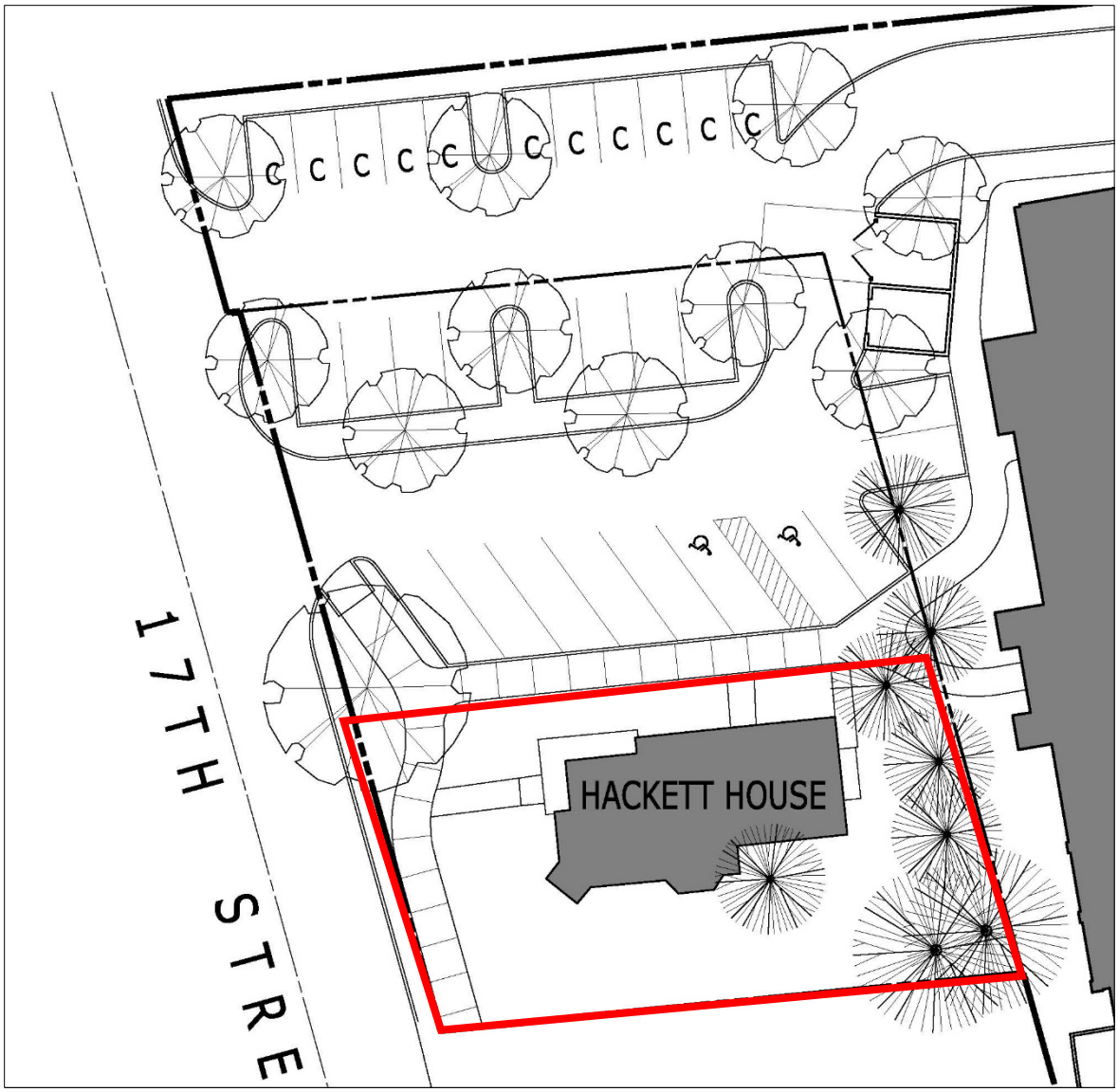
Finding: Not Applicable: No changes to the existing building have been proposed.

IV. PUBLIC NOTICE

A public notice was sent to neighbors within 300 feet of the subject property, posted on the City's website, emailed to a variety of stakeholers, a sign was posted onsite, and notice was posted in the paper. No written comments were received.

V. CONCLUSION AND RECOMMENDATION

The proposed action is requesting an alteration the parcel on which the Hackett House resides, there are no proposed changes to the Hackett House itself. The request for the alteration has to do with a reduction of the landmark and installation of pedestrian and vehicular circulation for a proposed development expected to occur adjacent to the north and west side of the subject site. Staff recommends approving the proposed development and reducing the site of the Hackett House so the designation pertains only to the site south of the backside of any parking and walking structures.



Reconfiguring the site would allow for alterations to the parking around the structure without Historic Review Board approval, while protecting the Hackett House with a landscaped buffer. The reconfiguration would also create enough space for the applicant/property owner to install appropriate landscaping to appropriately mitigate for any proposed development adjacent to the Hackett House. Any physical changes proposed to the Hackett House would still have to be forwarded through the Historic Review Board.

VI. EXHIBITS

1. Vicinity Map
2. Applicant's Submittal

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

TYPE III –HISTORIC REVIEW BOARD SUBMITTAL
15 March 2017

APPLICANT: **Name** **Hill Architects**
Address **1750 Blankenship Road, Suite 400, West Linn, OR 97068**

OWNER : **Name** **Hackett Hospitality Group LLC**
1419 W. Main St., Suite 100, Battleground, WA

Address
REQUEST: **Description of project**
Hackett House Landscape Renovation

LOCATION: **Address**
415 17th St., Oregon City, Oregon
Map and tax lot number
25-2E-29CA Tax Lot 1301

BACKGROUND:

Hackett house is an historic house built in 1893, and on the National Register of Historic Places for Clackamas County.

1. **Existing Conditions**
   a. ***House and grounds were restored in 1984-85.***

2. **Project Description**
   Project is to landscape the grounds to provide a natural background and screen a proposed hotel on the property to the Northeast, and to repair and renovate the existing parking lot to provide access to the future hotel to the Northwest.
3. **Basic Facts**
   a. ***The Hackett House is an historic artifact that provides a connection to Oregon City's past.***

4. **Proposed Areas**
   a. ***See attached Site Plan.***

5. **Drawings and Site Plan**
   a. ***See attached Survey, Site Plan, Elevation with house, landscaping, and proposed future development.***

6. **Building Elevations, Materials and Designs**

BASIC FACTS:

Site and Context

Response: ***The existing historic house will not be touched. Landscape material will be an indigenous plant palette, with indigenous coniferous trees (e.g. spruce & cedar) used to provide year-round landscape structure and screening of the future planned development to the northwest (see Narrative below). The new landscaping will provide a natural background to the historic house and create continuity with the larger community.***

Narrative of Future Development on Property to the Northeast – Abernethy Place Master Plan – A master plan for the area shows the proposed future hotel will become part of the context of the Hackett House, with the house providing an historic foreground and it's landscaping providing a natural backdrop to screen the future hotel. Several hotel development alternatives were studied. One was a 4 story option that wrapped around the Hackett House, another option involved moving the Hackett House to Washington Street, and then a 5 story option allowing the Hackett House to remain in its original and historic location. The hotel would consist of 99 rooms behind the Hackett House, with a natural landscaping screen, which received compliments by the Historic Review Board.

ANALYSIS AND FINDINGS: The applicant needs to meet OCMC 17.40.010 and the Adopted Design Guidelines for Addition and Alterations.

Regarding Criterion (1) - The purpose of the historic conservation district as set forth in Section 17.40.010;

A. Effect and accomplish the protection, enhancement and perpetuation of such improvements and of districts which represent or reflect elements of the city's cultural, social, economic, political and architectural history;
B. Safeguard the city's historic, aesthetic and cultural heritage as embodied and reflected in such improvements and districts;
C. Complement any National Register Historic districts designated in the city;
D. Stabilize and improve property values in such districts;
E. Foster civic pride in the beauty and noble accomplishments of the past;
F. Protect and enhance the city's attractions to tourists and visitors and the support and stimulus to business and industry thereby provided;
G. Strengthen the economy of the city;
H. Promote the use of historic districts and landmarks for the education, pleasure, energy conservation, housing and public welfare of the city; and
I. Carry out the provisions of LCDC Goal 5.

Response: ***The new landscaping and parking revision will provide visual and functional improvement to the historic asset, the greater community, and to the future, adjacent development.***

Regarding Criterion (2) -The provisions of the city comprehensive plan;

Section 5
Open Spaces, Scenic and Historic Areas, and Natural Resources

Policy 5.3.8
Preserve and accentuate historic resources as part of an urban environment that is being reshaped by new development projects.

Response: ***By improving the look and function of the Hackett house, the future development of the area will be a more desirable destination and community experience.***

Regarding Criterion (3) -The economic effect of the new proposed structure on the historic value of the district or historic site.

Response: ***Not Applicable.***

Regarding Criterion (4) The effect of the proposed new structure on the historic value of the district or historic site;

Response: ***Not Applicable.***

Regarding Criterion (5) - Design Compatibility: The general compatibility of exterior design, arrangement, proportion, detail, scale, color, texture and materials proposed to be used with the historic site;

Response: ***The landscaping will be at a scale that provides a backdrop to the Hackett house, the design will complement the period and indigenous plant material of the area.***

Regarding Criteria (6) -Economic, social, environmental and energy consequences

Response: ***By improving the look and function of the Hackett house, the future development of the area will be a more desirable destination and community experience.***

Design Guidelines: Alterations – Additions

A. Site

1. In addition to the zoning requirements, the relationship of new additions to the street and to the open space between buildings shall be compatible with adjacent historic buildings and with the historic character of the District.

Response: ***The new landscaping will compliment and the visual effect of the Hackett house's massing.***

2. New additions shall be sited so that the impact to the primary facade(s) is kept to a minimum. Additions shall generally be located at the rear portions of the property or in such locations where they have the least visual impact from public ways.

Response: ***Not Applicable.***

B. Landscape

1. Traditional landscape elements evident in the District (grass, trees, shrubs, picket fences, etc.) should be preserved, and are encouraged in site redevelopment.

Response: ***The new landscaping will be primarily along the back of the property. Any historic plant material will be preserved and a period look and palette will be maintained.***

2. Inappropriate landscape treatments such as berms and extensive ground cover are discouraged.

Response:

C. Building Height

1. In addition to the zoning requirements, the height of new additions shall not exceed the height of the historic building, or of historic buildings in the surrounding area.

Response: ***Not Applicable.***

D. Building Bulk

1. New additions smaller than the historic building or the historic buildings in the surrounding area are encouraged.

a. Where new additions must be larger, the new addition shall be articulated in such a manner that no single element is visually larger than the historic building or surrounding historic buildings.

Response: ***Not Applicable.***

E. Proportion and Scale

1. The relationship of height to width of new additions and their sub-elements such as windows and doors and of alterations shall be compatible with related elements of the historic building, and with the historic character of the District.

Response: ***Not Applicable.***

2. The relationship of solids to voids (wall to window) shall be compatible with related elements on the historic building, and with the historic character of the District.

Response: ***Not Applicable.***

F. Exterior Features

1. General

a. To the extent practicable, original historic architectural elements and materials shall be preserved.

b. Architectural elements and materials for new additions shall be compatible with related elements of the historic building and with the historic character of the District.

c. The preservation, cleaning, repair and other treatment of original materials shall be in accord with the Secretary of Interior's Standards of Rehabilitation and Guidelines for Rehabilitating Historic Buildings.

Response: ***Not Applicable.***

<u>Secretary of Interior's Standards for Rehabilitation.</u>

In 2001, the Historic Review Board adopted the Secretary of Interior's Standards for Rehabilitation as part of their Guidelines for Alterations and Additions.

1. **A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.**

   Response: ***The new landscaping and revision to the parking area will have no change to the use or purpose of the Hackett house.***

2. **The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.**

   Response: ***Landscape material that is deemed of a historic value will be preserved***.

3. **Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.**

   Response: ***The proposed, indigenous landscaping backdrop, will give a natural look.***

4. **Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.**

   Response: ***Not Applicable.***

   Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.

   Response: ***Not Applicable.***

5. **Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.**

   Finding: ***Not Applicable.***

6. **Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.**

   Finding: ***Not Applicable.***

7. **Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.**

   Finding: Archaeological monitoring was recently performed during soil borings of the future development to the north. A report will be pending.

8. **New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.**

   Finding: ***Not Applicable.***

9. **New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.**

   Finding: ***Not Applicable as new construction on the adjacent property will be permanent.***

EXHIBITS ***Existing survey, proposed site plan with anticipated development of adjacent property.***



1 NATURAL STONE VENEER

2 WOOD RAINSCREEN SYSTEM

3 WOOD CLADDING SYSTEM

4 INSULATED GLAZING WITH PAINTED ALUMINUM MULLION
GL1 - CLEAR
GL2 - OBSCURE
GL3 - STOREFRONT

5 SYNTHETIC PLASTER

6 PAINTED METAL

7 NATURAL STONE VENNER SITE WALL

8 ELEVATOR EQUIPMENT/MECHANICAL SPACE

SOUTH ELEVATION

0 5' 10' 20'

HAMPTON INN & SUITES BY HILTON

OREGON CITY, OREGON

ILLUSTRATIVE VIEW **3.4**

FEBRUARY 28, 2017

HILL ARCHITECTS

1750 BLAKENSHIP ROAD SUITE 400 WEST LINN OREGON 97068

#15721

© 2016



HACKETT HOUSE PERSPECTIVE

HAMPTON INN & SUITES BY HILTON

OREGON CITY, OREGON

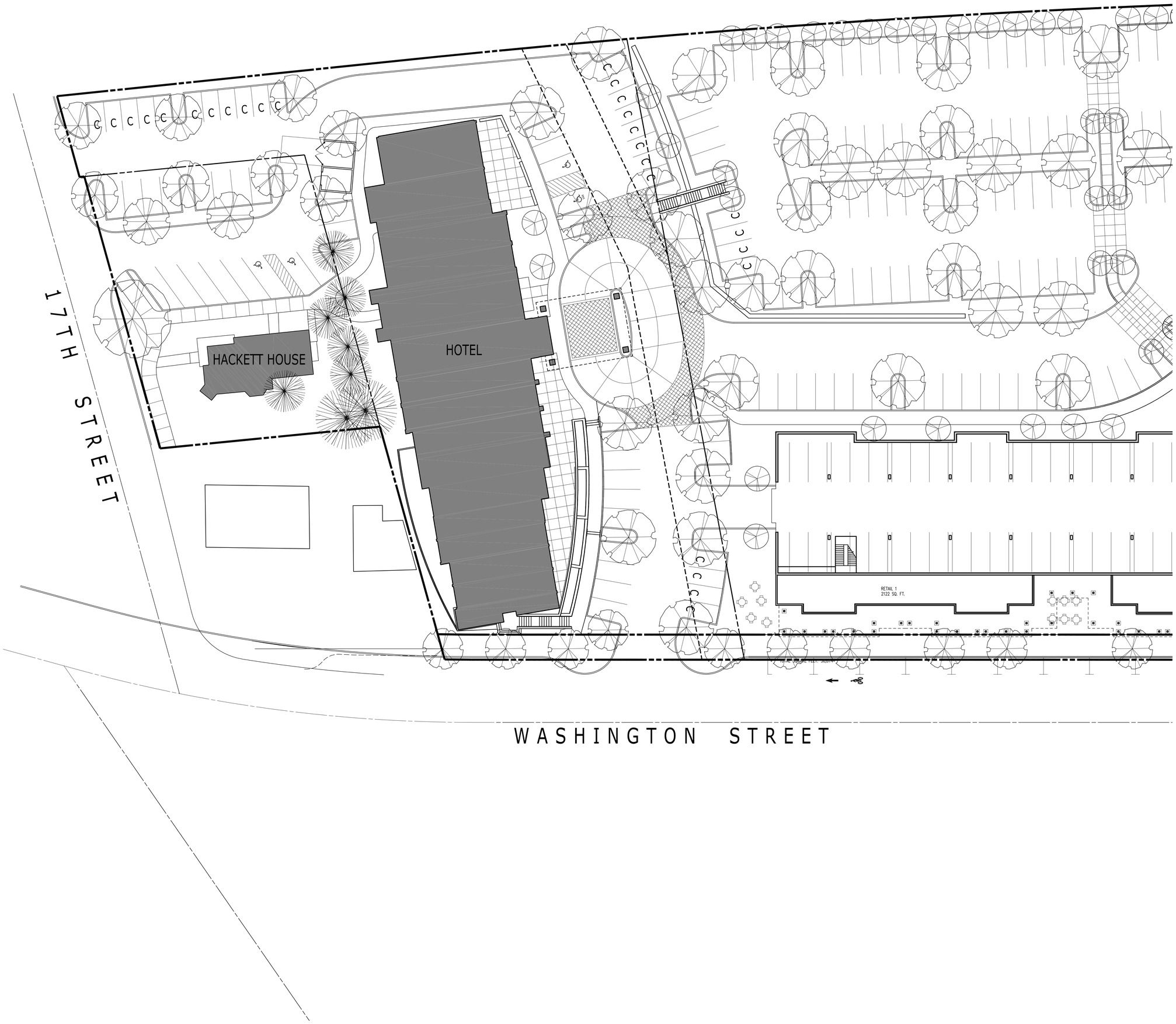
FEBRUARY 28, 2017

HILL ARCHITECTS

1750 BLAKENSHIP ROAD SUITE 400 WEST LINN OREGON 97068

#15708

© 2017



0 10' 20' 40'

ABERNETHY PLACE

OREGON CITY, OREGON

HILL ARCHITECTS

SITE PLAN 1.1

FEBRUARY 28, 2017

1750 BLANKENSHIP ROAD • SUITE 400 • WEST LINN • OREGON 97068

#13647

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tyler TECHNOLOGIES

City of Oregon City
Permit Receipt
RECEIPT NUMBER 00035398

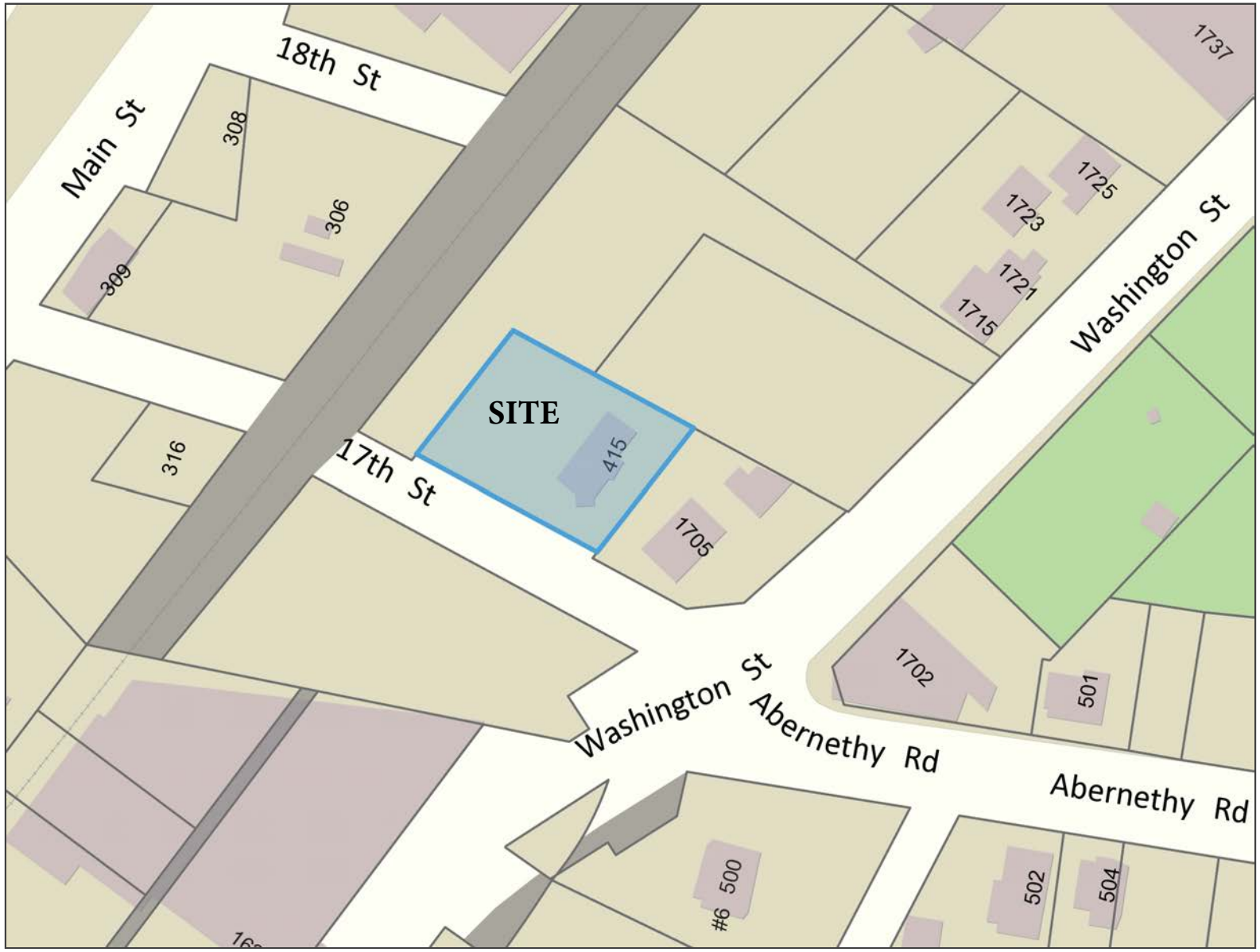
Account Number: 019061 **Date:** 3/17/2017

Applicant: HILL ARCHITECTS

Type: charge # 2

Permit Number	Fee Description	Amount
HR-17-0002	4332 Historic Review Board	50.00
	Total:	$50.00

Oregon City GIS Map



Legend

- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- City Limits
- UGB

Notes

Overview Map



0 100 200 Feet

1: 1,200

The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.

Map created 3/28/2017

City of Oregon City
PO Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
www.orcity.org

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

Trevor Marin, Planner
City of Oregon City
Planning Division
221 Molalla Ave., Suite 200
Oregon City, OR 97045

July 12, 2017

Hackett Hospitality Group LLC.
C/o Dan Fowler
1419 W. Main St., Suite 100
Battleground, WA 98604

Dear Mr. Fowler,

On April 24, 2017, the Oregon City Historic Review Board approved by a vote of 3-0-0 to approve the reduction to the size of the listing to the Hackett House property. Instead of recognizing the entire site as a Historical Landmark, the Hackett house and the green space directly surrounding the house are now only recognized as a Historical Landmark, and not the parking area on the site. This change primarily enables the property owner to make alterations to the western portion of the property without seeking Historic Review Board approval.

I have attached a copy of the Historic Review Board Decision.

Please let me know if you have any questions.

Sincerely,

Trevor Martin

En: HR 17-02 Notice of Decision

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

NOTICE OF HISTORIC REVIEW BOARD DECISION
DATE OF MAIL OF NOTICE OF DECISION: April 28, 2017

FILE NO.:	HR 17-02: Historic Review Board Review
APPLICANT:	Hill Architects 1750 Blankenship Rd. Suite 400 West Linn, OR 97068
OWNER:	Hackett Hospitality Group LLC. 1419 W. Main St. Suite 100 Battleground, WA
LOCATION:	415 17th St., Oregon City, OR, 97045 Clackamas County Map 25-2E-29CA, Tax Lots 1301
REQUEST:	Historic Review Board review of a request to reduce the designation of an individually designated historic property outside of a historic district and construct minor pedestrian and vehicular improvements.
REVIEWER:	Trevor Martin, Planner
RECOMMENDATION:	Approval with Conditions

Please be advised that any issue that is intended to provide a basis for appeal must be raised before the close of the hearing, in person or by letter, with sufficient specificity to afford the Historic Review Board and the parties an opportunity to respond to the issue. Failure to raise an issue with sufficient specificity will preclude any appeal on that issue. The decision of the Historic Review Board may be appealed to the City Commission by parties with standing within fourteen (14) calendar days of the notice of decision. Any appeal will be based on the record. The procedures that govern the hearing will be posted at the hearing and are found in OCMC Chapter 17.50 and ORS 197.763. A city-recognized neighborhood association requesting an appeal fee waiver pursuant to OCMC 17.50.290(C) must officially approve the request through a vote of its general membership or board at a duly announced meeting prior to the filing of an appeal.

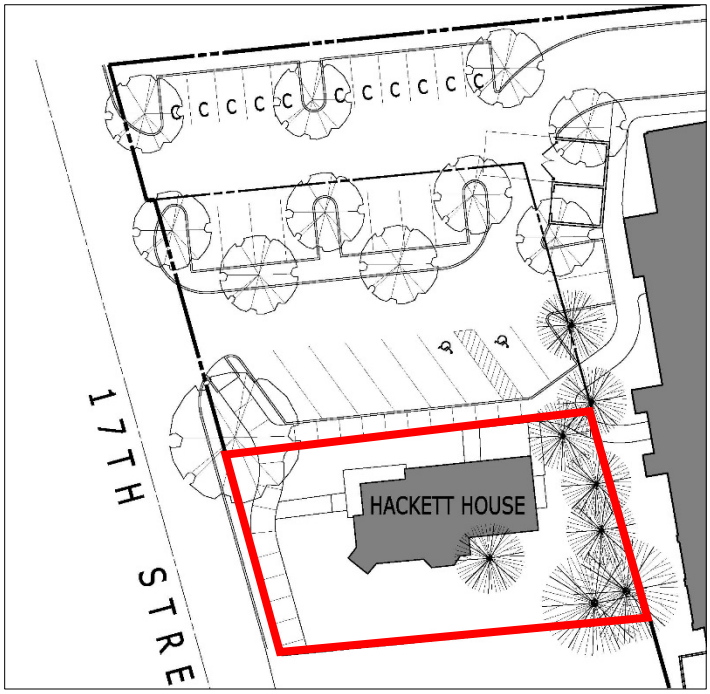
Decision: On April 24, 2017, after reviewing all of the evidence in the record and considering all of the arguments made by the applicant, opposing and interested parties, the Oregon City Historic Review Board voted 3-0-0 to approve with conditions the requested modification to reduce the size of a site listed on the Local Register of Historic Places. The complete record for the Historic Review Board decision is on-file at the Planning Division.

PROCESS: Type III decisions involve the greatest amount of discretion and evaluation of subjective approval standards, yet are not required to be heard by the city commission, except upon appeal. Applications evaluated through this process include conditional use permits, preliminary planned unit development plans, variances, code interpretations, similar use determinations and those rezonings upon annexation under Section 17.06.050 for which discretion is provided. In the event that any decision is not classified, it shall be treated as a Type III decision. The process for these land use decisions is controlled by ORS 197.763. Notice of the application and the planning commission or the historic review board hearing is published and mailed to the applicant, recognized neighborhood association and property owners within three hundred feet. Notice must be issued at least twenty days pre-hearing, and the staff report must be available at least seven days pre-hearing. At the evidentiary hearing held before the planning commission or the historic review board, all issues are addressed. The decision of the planning commission or historic review board is appealable to the city commission, on the record. A city-recognized neighborhood association requesting an appeal fee waiver pursuant to 17.50.290(c) must officially approve the request through a vote of its general membership or board at a duly announced meeting prior to the filing of an appeal. The city commission decision on appeal from the historic review board or the planning commission is the city's final decision and is appealable to LUBA within twenty-one days of when it becomes final.

Recommended Conditions of Approval

(P) = Verify that condition of approval has been met with the Planning Division.

1. No physical change shall occur to the Hackett House structure. All exterior modifications to the landmark shall receive Planning Division approval. (P)
2. The applicant shall obtain all necessary permits including but not limited to compliance with a Detailed Development Plan/Site Plan and Design Review and applicable overlay districts. (P)
3. The site of the historic designation shall be reduced to only apply to the backside of any parking and walking structures. Effectively reducing the Historic site down to the physical Hackett House, the lawn and landscaping around the physical Hackett House as identified below. (P)



Recommended New Designation Location

4. The installation of the proposed pedestrian accessways and construction as identified in the proposed development is approved on the individual landmark.
5. The reduced landmark would retain all of the landscaping onsite.
6. The applicant shall install a minimum 2-inch caliper trees as identified on the site plan proposed between the Hackett House and the adjacent property prior to completion of any a Site Plan and Design Review or Detailed Development Plan involving alterations on the subject site. Installation of trees between the parking lot and the structure as required by any future development may be relocated onsite.

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 2/14/17

Item Number From Agenda CITIZENS COMMENTS

NAME: PAUL EDGAR

ADDRESS: **Street:** _____

City, State, Zip: OREGON CITY

PHONE NUMBER: _____

E-MAIL ADDRESS: _____

SIGNATURE: _____

PUBLIC COMMENT

COMMENT FORM

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- Give to the Clerk in Chambers ***prior*** to the meeting.

OREGON CITY

Date of Meeting 8/14/17

Item Number From Agenda ____

NAME: LLOYD HILL

ADDRESS: **Street:** 1750 BLANKENSHIP RD

City, State, Zip: WEST LINN OR

PHONE NUMBER: 503-305-9073

E-MAIL ADDRESS: LLOYD.HILL@HILLARCHITECTS.COM

SIGNATURE:

3A - Applicant

COMMENT FORM



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- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 8.14.17

Item Number From Agenda ____

NAME: MICHAEL C ROBINSON

ADDRESS: **Street:** 1120 NW COUCH ST, TENTH FLOOR

City, State, Zip: PORTLAND, OR 97209-4128

PHONE NUMBER: (503) 727-2269

E-MAIL ADDRESS: MROBINSON@PERKINSCOIE.COM

SIGNATURE: MC Robinson

COMMENT FORM

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- Give to the Clerk in Chambers ***prior*** to the meeting.

OREGON CITY

Date of Meeting 8/14/17

Item Number From Agenda 3a

NAME: Mark Foley

ADDRESS: **Street:** 1300 John Adams St.

City, State, Zip: O.C.

PHONE NUMBER: 503-816-1277

E-MAIL ADDRESS: mark-f@fandfstructures

SIGNATURE: Mark Foley

3A - Applicant

COMMENT FORM

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- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

OREGON CITY

Date of Meeting 8/14/17

Item Number From Agenda 3a

NAME: Dan Fowler

ADDRESS: **Street:** 1300 John Adams St.

City, State, Zip: O.C., OR

PHONE NUMBER: 503-655-1455

E-MAIL ADDRESS: danf@abernethycenter.com

SIGNATURE: Dan Fowler

3A - Applicant -

COMMENT FORM

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- Give to the Clerk in Chambers ***prior*** to the meeting.

OREGON CITY

Date of Meeting August 14

Item Number From Agenda 3A

NAME: Scott Guptill

ADDRESS: **Street:** 19320 Howell St.

City, State, Zip: Gladstone, Ore. 97027

PHONE NUMBER: 503-657-9674

E-MAIL ADDRESS: hscott.guptill@gmail.com

SIGNATURE: Scott Guptill

COMMENT FORM

OREGON CITY

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- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 8/14/17

Item Number From Agenda 3-PC 17-024

NAME: Danielle Cowan - Clack Co Tourism

ADDRESS: **Street:** 150 Beavercreek Rd #245

City, State, Zip: Oregon City, OR 97045

PHONE NUMBER: 503-655-8490

E-MAIL ADDRESS: danielle@mthoodterritory.com

SIGNATURE:

COMMENT FORM

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- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

OREGON CITY

Date of Meeting 8/14/2017

Item Number From Agenda ____

NAME: RON THOM

ADDRESS: **Street:** 509 HIGH

City, State, Zip: OC 97045

PHONE NUMBER: 503-312-1231

E-MAIL ADDRESS: ron thom@msn.com

SIGNATURE:

3A-2

COMMENT FORM

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- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

OREGON CITY

Date of Meeting Aug 14

Item Number From Agenda # 1

NAME: Jack Hammond - ODOT

ADDRESS: **Street:** 32032 S Barlow Rd

City, State, Zip: Canby, OR 97013

PHONE NUMBER: 503-651-3224

E-MAIL ADDRESS: jshammond@canbycom

SIGNATURE:

3A-3

COMMENT FORM

OREGON CITY

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- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 8/14

Item Number From Agenda A3

NAME: JAY PEARCE

ADDRESS: **Street:** 1214 WASHINGTON

City, State, Zip: OC

PHONE NUMBER: 503 804 0469

E-MAIL ADDRESS:

SIGNATURE:

COMMENT FORM

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- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

OREGON CITY

Date of Meeting 8/14/17

Item Number From Agenda ~~CP-17-0002~~ 3A

NAME: KENT ZIEGLER

ADDRESS: **Street:** 2142 MARYLWOOD COURT

City, State, Zip: WEST LINN, OR 97068

PHONE NUMBER: (503) 701-9716

E-MAIL ADDRESS: KNTZIG01@AOL.COM

SIGNATURE: Kent Ziegler

3A - 4

COMMENT FORM

OREGON CITY

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- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 8-14-17

Item Number From Agenda 3g

NAME: James Nicita

ADDRESS: **Street:** 302 Bluff St.

City, State, Zip: Oregon City, OR 97045

PHONE NUMBER:

E-MAIL ADDRESS:

SIGNATURE:

COMMENT FORM

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- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

OREGON CITY

Date of Meeting 8/14/17

Item Number From Agenda 3a

NAME: Jonathan Stone

ADDRESS: **Street:** 16303 Wayne Dr.

City, State, Zip: 97045

PHONE NUMBER: 417-642-4007

E-MAIL ADDRESS: JON@DOWNTOWNOREGONCITY.ORG

SIGNATURE:

COMMENT FORM

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- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

OREGON CITY

Date of Meeting _____

Item Number From Agenda _____

NAME: Craig Thorrow

ADDRESS: **Street:** 704 Summit St.

City, State, Zip: Oregon City

PHONE NUMBER: 503-201-5091

E-MAIL ADDRESS: rtm0714@gmail.com

SIGNATURE: [signature]

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

OREGON CITY PLANNING COMMISSION

Tally of Votes

Planning Commission Hearing Date: 8/14/2017

Board Members Present	Staff Present
Geil, Mabee, Henkin	P. Walter - Planner
Espe, Mahoney, Johnson	L. Tarway - Director
McGriff	C. Richter - Atty.

Agenda Item: 3A. CP17-02/DP17-03/NR-17-04

Decision: Approve with Conditions / Approve / Deny (Continue to) Sept. 11, 2017

	Motion:	Second:	Aye:	Nay:	Abstain:	Comments:
Commissioner Geil			✓			
Commissioner Mabee			✓			
Commissioner Henkin		2	✓			
Commissioner Espe			✓			
Commissioner Mahoney	1		✓			
Commissioner Johnson			✓			
Chair McGriff			✓			

Agenda Item: _____

Decision: Approve with Conditions Approve Deny Continue to

	Motion:	Second:	Aye:	Nay:	Abstain:	Comments:
Commissioner Geil						
Commissioner Mabee						
Commissioner Henkin						
Commissioner Espe						
Commissioner Mahoney						
Commissioner Johnson						
Chair McGriff						

EXHIBITS ENTERED INTO THE RECORD AT A HEARING

Community Development Department, 221 Molalla Avenue, Suite 200, P.O. Box 3040, Oregon City, OR 97045, (503) 722.3789
www.orcity.org

Hearing Date: 8/15/2017

File Number: CP 17-02 / DP 17-03 / NR 17-04

Exhibit Number:	Description of Exhibit:	Submitted By:
A	Email - Request for Continuance	James Nicita
B	Email - Introduce OC Comp. Plan & Downtown Community Pla	James Nicita
C	Email - re: Notice Issue	James Nicita
D	re: condition of Approval #41	Tom Sisul
E	Email - Mark Matheson	Mark Matheson
F	Letter from Clackamas County Tourism Development Council	Danielle Cowan
G	Letter from James Nicita.	James Nicita
H	PowerPoint Presentation	Applicant
I	Powerpoint Presentation	Staff
J	Oregon City Chit Chat String	Staff

From:	James Nicita
To:	Pete Walter
Subject:	August 14th Planning Commission hearing on CP 17-02, DP 17-03, and NR 17- 04
Date:	Saturday, August 12, 2017 12:50:14 PM

Hi Pete,

In reference to the above land use proceeding, I am respectfully requesting, pursuant to OCMC 17.50.120(E)(4) and (F), and ORS 197.763(6)(a), that the public hearing on this matter to be held on August 14th, 2017 be continued and the record kept open so that I might be able to present additional evidence, arguments or testimony regarding the application. I will be submitting some materials by Monday's hearing, but I will not be able to complete all of my submissions by that time.

Please kindly place this email into the record of this file.

Thanks,

James Nicita

Oregon City

From:	James Nicita
To:	Pete Walter
Subject:	2nd Comment: August 14th Planning Commission hearing on CP 17-02, DP 17-03, and NR 17- 04
Date:	Monday, August 14, 2017 10:15:57 AM
Attachments:	OC Comp Plan for Web 08-05_0-1.pdf downtown_community_plan1999.pdf

---

Pete,

Here is a second comment on the above referenced file.

Page 11 of the attached 2004 Oregon City Comprehensive Plan incorporates by reference the attached 1999 Oregon City Downtown Community Plan. I respectfully request that these two documents be placed into the record of this file.

P. 45 of the Downtown Community Plan, in turn, incorporates by reference the 1991 End of the Oregon Trail District Guidelines.

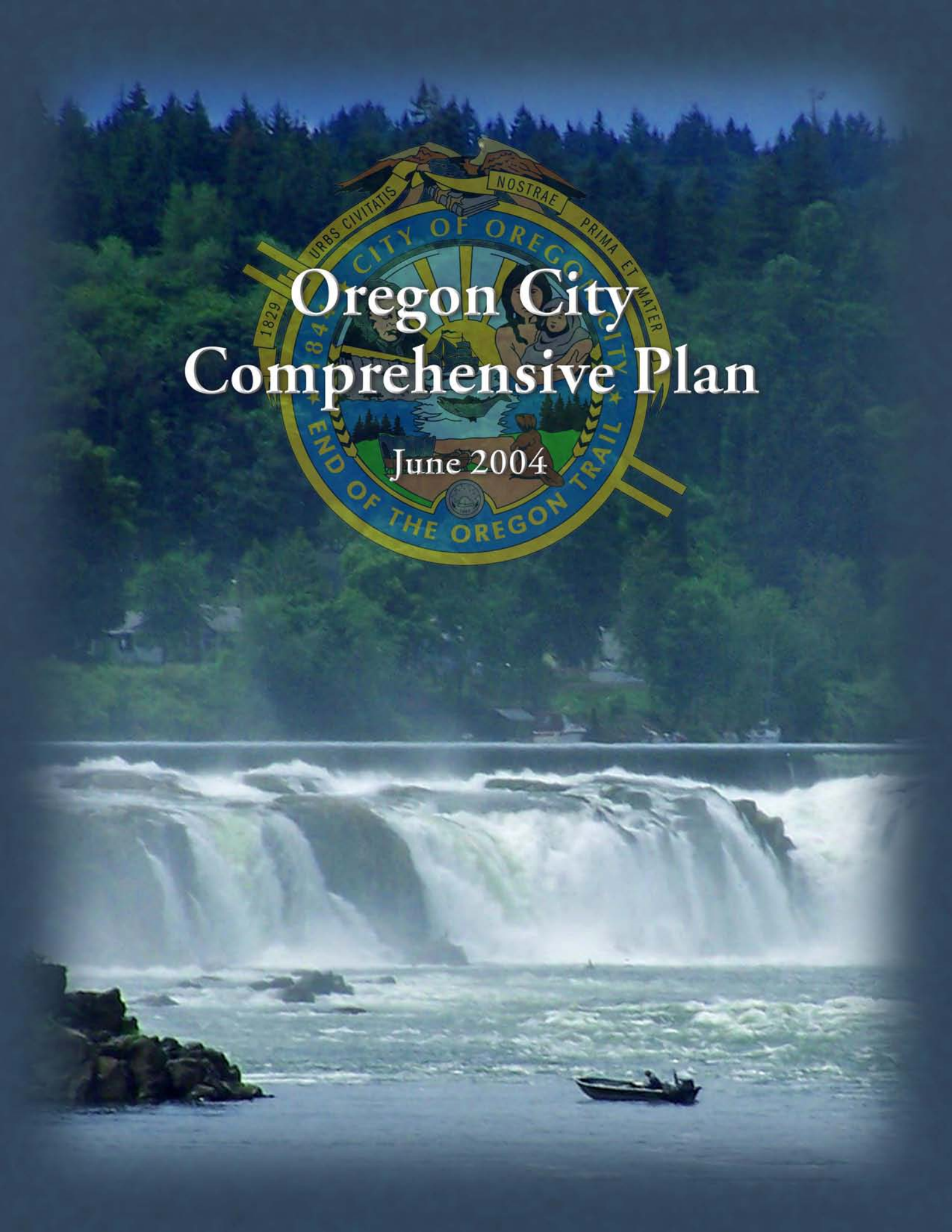
Neither the applicant's narrative nor the staff report address the 1991 End of the Oregon Trail District Guidelines. I have not been able to find a copy of this latter document on the City's website.

I respectfully request under the Oregon Public Records Act a digital copy of the 1991 End of the Oregon Trail District Guidelines. I also request that a copy of these guidelines be entered into the record as part of this proceeding.

Thanks, Pete.

James Nicita

Oregon City



Oregon City Comprehensive Plan

June 2004

City Boards and Staff Acknowledgements

City Commission
Alice Norris, Mayor
Tom Lemons, Commission President
Doug Neeley, Commissioner
Bob Bailey, Commissioner
Gary Hewitt, Commissioner

Planning Commission
Linda Carter, Chair
Dan Lajoie, Vice Chair
Renate Mengelberg
Lynda Orzen, First City
Tim Powell, Citizens Involvement Committee Council

Citizens Involvement Committee Council
Julie Hollister
Rick Winterhalter (Former Chair)

Planning Staff
Dan Drentlaw, Community Development Director
Tony Konkol, Senior Planner
Sean Cook, Associate Planner
Christina Robertson-Gardiner, Associate Planner
David Knoll, GIS
Chris Dunlop, GIS
William Kabeiseman, Assistant City Attorney

Consultant Team
Gillian Zacharias, David Evans and Associates, Inc.
Chris Cocker, David Evans and Associates, Inc.
Laura Hudson, David Evans and Associates, Inc.
Alex Dupey, David Evans and Associates, Inc.
Richard Friday, David Evans and Associates, Inc.
Aaron Turecek, David Evans and Associates, Inc.
Ed Murphy, Ed Murphy & Associates

Citizen Technical Advisory Committee
Tim Powell, Citizen Involvement Committee Council (CICC)
Rick Winterhalter, Citizen Involvement Committee Council (CICC)
Linda Carter, Planning Commission
Renate Mengelberg, Planning Commission
Lynda Orzen, Planning Commission/First City
Jerry Herrmann, Environmental Interests
Brenda Bernards, Metro – Land Use
John Kluken, Commerce/Industry
Bill Taubman, Commerce/Industry
Gloria Lewton, Low Income Housing
Betty Schaafsma, Transportation Advisory Committee
Adam Kendall, Youth/Oregon City High School Student
Roberta Herndon, Oregon City School District
Les Smelser, Private Developer

Oregon City Comprehensive Plan

June 2004

City of Oregon City Planning Department
P.O. Box 3040
320 Warner-Milne Road
Oregon City, Oregon 97045
503-657-0891
Fax: 503-722-3880
Web site: http://www.orcity.org/

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Introduction

This document represents the first major revision of the 1982 *Oregon City Comprehensive Plan*. From 2002 to 2004, many, many citizens dedicated hundreds of hours assisting the City Commission, Planning Commission, and City staff revise the plan and the City Development Code (Title 17 of the *City of Oregon City Municipal Code*). The effort included several open houses, many work sessions, and several well-attended public hearings. The plan reflects the comments, suggestions, and vision of Oregon City residents and expresses that vision in its land-use policies, regulations, and map designations.

Oregon City's Comprehensive Plan and implementation ordinances must comply with applicable Statewide Planning Goals adopted by the Land Conservation and Development Commission as the result of a 1973 state law. The plan must also comply with the relevant portions of Metro's 1998 *Urban Growth Management Functional Plan*.

The plan is intended to do more than simply meet the requirements of the law, however. The City Commission firmly believes that the plan is necessary to protect and maintain the quality of life and social and economic vitality of the community. The City Commission understands that good planning is necessary to ensure that land resources are thoughtfully and efficiently used, that public services are cost-effective and adequate, that natural and historic resources that help define the city's character are protected and preserved, and that citizens will have continuing influence on the on-going decisions about the growth and development of their community.

Statements of Principle

Oregon City's Comprehensive Plan is founded on a number of principles, which shape the City Commission's vision for the future growth and development of the city. The principles help determine the scope of issues, concerns,

and actions that will guide development, and they are reflected in the plan's goals and policies.Statements of these principles, listed below, are not legally binding. They are instead intended to help citizens understand the kind of city this plan will help to achieve.

Promote sustainability and sustainable development. Images of the Earth taken from space in the late 1960s helped awaken people to the fact that the Earth's resources are finite. The City Commission agrees with citizens who believe it is incumbent on the City of Oregon City to use its land, water, and air resources in a sustainable manner, which means meeting the city's social, environmental and economic needs in a way that benefits all citizens but does not undermine the ability of future generations to meet their needs. This is the essence of sustainable development. Taken together, the policies in the Oregon City Comprehensive Plan will enhance the likelihood of a sustainable community but cannot guarantee it. Land-use decisions will be made with the concept of sustainability in mind to ensure that development enhances the long-term quality of life in Oregon City.

Contain urban development. Accommodating population growth while controlling the spread of development into surrounding rural resource lands is one the city's greatest challenges. The effects of suburban sprawl cause or contribute to a wide variety of economic and social losses, dislocations, environmental degradation, and ultimately, loss of civic identity. The City Commission strongly supports containing urban sprawl within a defined geographic extent of the city as it is in the best long-term interest of the citizens of Oregon City. Containment will promote redevelopment within older areas of the city, promote transportation alternatives, conserve and protect the rural lands surrounding the city, and help promote the identity of the City of Oregon City. Specifically, the Commission declares that the future southern limits of the City of Oregon City should extend no farther south than the northern edge of the steep topography of the Beavercreek canyon drainage and that the area to the south should remain rural.

Promote redevelopment. Oregon City's history is important to the culture, economy, and civic identity of the community. Redevelopment and restoration of historic structures and neighborhoods are increasingly embraced as necessary and desirable to maintain these values. Redevelopment of older and underutilized areas within the city makes efficient use of land and existing public services, protects the city's historic character, avoids sprawl into surrounding rural areas, and facilitates economic development. The City Commission will promote redevelopment through land-use policies and by making public investments in deteriorated public facilities and underutilized areas of the city, using Urban Renewal funding and other mechanisms.

Protect natural resources. The City of Oregon City contains abundant, diverse, and unique natural resources that contribute to the quality of life, help define the city's identity, and provide great enjoyment for residents. The most obvious of these resources are the Willamette River and its thunderous falls, the Clackamas River, Newell Creek canyon, and the steep cliffs and bluffs over which the city is draped. However, many other resources are present: small streams, wetlands, wooded areas and oak savannahs, views of the Cascade Mountains, and abundant fish and wildlife, including salmon, sturgeon, deer, ospreys, and bald eagles. The City Commission strongly supports protecting these many natural resources and is committed to measures to ensure that these resources are secure even as development proceeds within the city.

Foster economic vitality. Oregon City was once an economically prosperous city built on abundant timber and agricultural resources, cheap energy from the Willamette Falls, and ready transportation by river and rail. Today, Oregon City lacks a strong manufacturing and commercial economic base, which could provide residents with local jobs, build investment in the community, and support a strong tax base for city services. The City Commission will use this land-use plan to encourage and support sustainable economic development and promote and enable job creation. The commission has identified several areas within the city and Urban Growth Boundary that are designated for job creation as a top priority.

Provide efficient and cost-effective services. Water, sewer, fire protection, police services, streets, storm drainage, and other public services are directly affected by land-use decisions. This plan ensures that land-development decisions are linked to master plans for specific services such as water or sewer and to capital improvement plans that affect budgets and require taxes to build. The City Commission believes that citizens are economically well-served through compact urban form, redevelopment of existing areas, and public investments (for example, street improvements) that are carefully tied to private investments when development occurs.

Ensure a sense of history and place. The historical character of Oregon City is one of its defining features while its pivotal role in the great westward movement of the United States is the city's most profound legacy. The city's geographic setting is powerful. These are values that long-time residents cherish and new residents feel. The commission is committed to protecting and enhancing the city's strong sense of history and defined sense of place. These values will be respected and accounted for in development and land-use decisions.

Plan Contents

The Oregon City Comprehensive Plan is divided into 15 sections. The number of the section is the same as the Land Conservation and Development Commission (LCDC) Statewide Planning Goal the section is intended to show compliance with. Each section begins with background information, followed by goals and policies. A glossary of key terms is at the end of the document.

Goals and policies are official statements from the City Commission that provide standards for applying land-use plan designations to real property and making decisions about specific development. Because this plan is by law and necessity a comprehensive land-use plan, there is no hierarchy implied in the order of the sections and none of the goals or policies has priority except as stated in particular policies. When used to make decisions, all relevant goals and policies must be accounted for and considered.

Implementing the Plan

The Oregon City Comprehensive Plan is implemented through City Codes, ancillary plans, concept plans, and master plans.

City Codes are enforceable, detailed regulations regarding land use, land development, protection of natural resources, building design, traffic management, etc. For land use, City Codes particularly emphasize the City Zoning Ordinance, which lists specific standards for uses of land in the city; Subdivision Ordinance, which provides standards and regulations for new subdivisions and other land development; and related ordinances for issues such as steep slopes, tree cover, historic review, and site design or architectural design standards. The City Commission is responsible for adopting all code.

Ancillary plans are adopted by the City Commission for such things as parks and recreation, transportation systems, water facilities, and sewer facilities. Usually prepared by City departments through a public process, ancillary plans are approved by the City Planning Commission and adopted by the City Commission to provide operational guidance to city departments in planning for and carrying out city services. These plans are updated more frequently than the comprehensive plan.

Concept plans are land-use plans for areas of the city that have just been included in the Urban Growth Area. Before these areas can be zoned or subdivided, a concept plan must be completed and adopted by the City Commission and accepted by Metro. Concept plans require a detailed assessment of the area to determine the most appropriate intensity and type of land use, and when completed, are adopted as part of the comprehensive plan.

Master plans are required for large, phased development proposals for institutional uses such as the health services district around Willamette Falls Hospital. Master plans are intended to accommodate a variety of land uses types and address community factors at a neighborhood scale.

Section 1

Citizen Involvement

I know no greater depository of the ultimate powers of society but the people themselves. And if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them, but to inform their indiscretion through education. That is the true corrective of abuses of constitutional power.

— Thomas Jefferson

This section is intended to show compliance with Land Conservation and Development Commission (LCDC) Statewide Planning Goal 1, Citizen Involvement, which requires local governments "to develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process." The Citizen Participation Goal in the 1976 *Land-Use Policies for Oregon City* is to "provide an active and systematic process for citizen and public agency involvement in the land use decision-making for Oregon City." The goal is based on the philosophy that a neighborhood program would provide the best means for citizens to become involved in the planning process.

Recognizing the importance of providing citizens with opportunities to be informed about, and involved in, the planning process, Oregon City established a Citizen Involvement Program in the 1980s. The program has two major components: neighborhood associations and a Citizen Involvement Committee (CIC). The CIC is the officially recognized citizen advisory committee to meet LCDC Statewide Planning Goal 1, and as required by Goal 1, is responsible for developing, implementing, and evaluating the Citizen Involvement Program. The CIC coordinates and communicates various aspects of citizen participation in the community and advises the City Commission, the Planning Commission and other planning and advisory bodies. The City Manager provides a City Liaison, and the Public Affairs Manager provides staff assistance. The overall goal of the CIC is to help improve the quality of life in Oregon City.

Prior to beginning the Comprehensive Plan update in the spring of 2002, the CIC revised the citizen involvement procedures for Oregon City. The CIC developed a five-year strategic plan (*Citizen Involvement Program Five-Year Strategic Plan*, 2002), which includes a mission statement, vision, values, roles and

responsibilities; wrote bylaws, approved by the membership on January 11, 2000; and wrote a Citizen Involvement Handbook. The documents were developed over three years by the entire CIC, which consisted of the elected leadership of the City-recognized neighborhood associations in Oregon City.

The five-year strategic plan and bylaws were written to comply with the intent of LCDC Statewide Planning Goal 1, which requires citizens to be involved in all aspects of land-use planning and other livability issues.

The CIC serves the area within the current legal city limits and all areas of impact within the current Urban Growth Boundary such as county islands within the neighborhood association boundaries; areas of the county adjacent to recognized neighborhood associations; and areas of the county not adjacent to a recognized neighborhood association but within the Urban Growth Boundary and not represented by a county-recognized neighborhood association (called Community Planning Organizations or CPOs).



In February 1999, the City sponsored a meeting to evaluate a proposal for a "visioning process" and how the city might benefit from the undertaking. At the meeting, it was concluded that the process could work if properly structured with realistic "visions" that could be accomplished by volunteers working with the community; government, medical community, educational leaders, and business organizations. From that meeting, the First City's Future Initiating Task Force was created.[1] The task force then developed a strategy to create a vision for Oregon City.

In November 2000, the task force held its first community-wide open house, which was attended by 125 community members and City staff. From that meeting, a vision statement emerged that brought forward shared common goals for the future of Oregon City (*First City's Future, Visioning Project, Phase 1 Report*, 2001). The visioning process is an ongoing project and needs to be updated periodically. A successful visioning process is a constant, dynamic process that must be initiated and maintained by the community. The First City's Future Initiating Task Force visioning effort represented a major citizen participation project.

Goal 1.1 Citizen Involvement Program

Implement a Citizen Involvement Program that will provide an active and systematic process for citizen participation in all phases of the land-use decision-making process to enable citizens to consider and act upon a broad range of

[1] "First City" is a reference to the fact that Oregon City was the first incorporated town west of the Rockies and the seat of the first provisional government of the Oregon Territory.

issues affecting the livability, community sustainability, and quality of neighborhoods and the community as a whole.

Policy 1.1.1
Utilize neighborhood associations as the vehicle for neighborhood-based input to meet the requirements of the Land Conservation and Development Commission (LCDC) Statewide Planning Goal 1, Citizen Involvement. The Citizen Involvement Committee (CIC) shall serve as the officially recognized citizen committee needed to meet LCDC Statewide Planning Goal 1.

Goal 1.2 Community and Comprehensive Planning

Ensure that citizens, neighborhood groups, and affected property owners are involved in all phases of the comprehensive planning program.

Policy 1.2.1
Encourage citizens to participate in appropriate government functions and land-use planning.

Policy 1.2.1
Encourage development and refinement of CIC and neighborhood association bylaws that will govern the groups' formation and operations.

Goal 1.3 Community Education

Provide education for individuals, groups, and communities to ensure effective participation in decision-making processes that affect the livability of neighborhoods.

Policy 1.3.1
Encourage training of volunteers involved with the CIC and neighborhood associations.

Goal 1.4 Community Involvement

Provide complete information for individuals, groups, and communities to participate in public policy planning and implementation of policies.

Policy 1.4.1
Notify citizens about community involvement opportunities when they occur.

Goal 1.5 Government/Community Relations

Provide a framework for facilitating open, two-way communication between City representatives and individuals, groups, and communities.

Policy 1.5.1
Support the CIC in initiating and planning events in cooperation with the City on issues of mutual interest. Topics may include such things as working with local schools regarding citizen involvement and stakeholders involved with Comprehensive Plan development and Urban Growth Boundary expansion.

Goal 1.6 CIC Continuous Development

Support the CIC's team spirit and dedication to community involvement to ensure continuous improvement.

Policy 1.6.1
Assist the CIC in finding funding for the Community Involvement Program's current and future development.

Policy 1.6.2
Support an Annual Leadership Development Conference for CIC members, to include updating the CIC strategic plan, if funding is available.

Goal 1.7 Neighborhood Plans

Adopt neighborhood plans that encompass a broad range of concerns for each neighborhood over a five- to ten-year period as refinements of the Oregon City Comprehensive Plan.

Policy 1.7.1
Ensure that neighborhood plans are consistent with the Comprehensive Plan.

Policy 1.7.2
Provide opportunities for property owners, residents, and businesses within the neighborhood to be involved in all phases of the preparation of a neighborhood plan.

Policy 1.7.3
Use the neighborhood plans to make recommendations to city boards, commissions, and agencies regarding public improvements and land-use decisions.

Goal 1.8 Advisory Committees

Establish and support citizen advisory committees and commissions.

Policy 1.8.1
Identify the areas of City government in which the counsel of a formal citizen advisory committee or commission is warranted if funding is available to provide appropriate staff support.

Policy 1.8.2
Solicit and support citizen participation on citizen advisory committees and commissions. Identify desirable expertise from the Portland metro area as needed to best serve the interests of Oregon City.

Section 2

Land Use

We abuse the land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect.

— Aldo Leopold, A Sand County Almanac, 1949

Land Conservation and Development Commission (LCDC) Statewide Planning Goal 2, Land Use Planning, establishes a land-use planning process and policy framework with which local Comprehensive Plans must comply. Another influence on local plans in the Portland metropolitan area is *Metro's 2040 Growth Concept* (1995), which defines regional growth and development, including a vision for Downtown Oregon City as a Regional Center.

This section of the Comprehensive Plan contains the City's land-use planning goals and policies, consistent with state and regional requirements. Oregon City's Comprehensive Plan Land-Use Map (Appendix A) shows the established land-use designations. Other relevant documents are the *Oregon City Waterfront Master Plan* (2002) and *Oregon City Downtown Community Plan* (1999), which will help revitalize the residential aspects of Downtown and the Clackamette Cove area and to implement the Regional Center vision for Downtown.

The Comprehensive Plan and Land-Use Map are used to guide land uses and development in the city. The map shows geographic areas that have been designated for general land uses in accordance with the Comprehensive Plan. The map also shows the general development pattern of the city and indicates which areas are best suited for residences, commercial, office, and industrial uses, and which areas should be left undeveloped.



State and Metro Requirements

Comprehensive plans in Oregon must comply with the land-use planning process and policy framework established by LCDC Statewide Planning Goal 2. The goal requires land-use plans to identify issues and problems, conduct inventories of land, create policies, and implement ordinances to achieve applicable statewide planning goals. A primary focus of statewide land-use planning has been to require the efficient use of existing urban land to protect against unnecessary urban encroachment into prime agricultural and forest land.

[The city planning process] should undertake to develop principles ... [that] should be constructed into policies that will ensure that the resources of the city, site, and artifacts, are recognized as values and determinants of form, both in planning and the execution of works. Rio differs from Kansas City, New York from Amsterdam, and Washington [D.C.] from all of them, for good and sufficient reasons. They lie, at base, in the geological history, climate, physiography, soils, plants and animals that constitute the history of the place and the basis of its intrinsic identity.

— Ian McHarg, Design with Nature, 1969

In the mid-1990s, Metro adopted the *Regional Urban Growth Goals and Objectives* (RUGGO), which is part of the *Regional Framework Plan* (1997) and includes *Metro's 2040 Growth Concept* (1995). RUGGO was developed to implement regional compliance with state goals for land use in a coordinated way and to ensure that housing and employment growth could be accommodated equitably across the region. The *Urban Growth Management Functional Plan* (1998), or UGMFP, implements RUGGO and contains several requirements for local implementation.

Metro's 2040 Growth Concept requires cities and counties to draw boundaries for each of the design types as defined in Title 1 of the UGMFP. The design types correspond to the general boundaries shown in *Metro's 2040 Growth Concept* map (Appendix B). Design types applicable to Oregon City are Regional Centers, Industrial Areas, Corridors, Inner Neighborhoods and Outer Neighborhoods. Design types are defined in the glossary and shown on Oregon City's Comprehensive Plan Land-Use Map (Appendix A).

Regional Centers serve large market areas outside the central city and have connections via high-capacity transit and highways. Metro has designated Oregon City as one of nine Regional Centers. Molalla Avenue, 7th Street, Beavercreek Road, and Highway 99 are identified as Corridors, which are intended to feature a high-quality pedestrian environment, convenient access to transit, and somewhat higher than current densities. A boundary between Inner and Outer Neighborhoods was drawn to distinguish residential areas with smaller lot sizes and more access to jobs and neighborhood businesses from residential areas with larger lot sizes that are farther from large employment centers. Industrial Areas are areas set aside primarily for industrial activities with limited supporting uses.

Oregon City's Comprehensive Plan

The Comprehensive Plan is the principal land-use planning ordinance and the City's controlling land-use document. It establishes the City's legal record of policy on land use and other development and conservation issues. As a land-use planning document, the Comprehensive Plan represents a future, desired vision of Oregon City.

All cities and counties in Oregon are required to prepare and adopt a fully developed Comprehensive Plan that addresses statewide goals. Oregon City must also comply with the relevant portions of Metro's *Urban Growth Management Functional Plan* (1998), or UGMFP. The UGMFP is a regional land-use plan that implements *Metro's 2040 Growth Concept* (1995). The previous Oregon City Comprehensive Plan was acknowledged by the state in 1982.

In 1999, the goals and policies from the *Oregon City Downtown Community Plan* (1999) were added to the 1982 Comprehensive Plan. The goals and policies have been incorporated in the Economic Development and Housing sections of this Comprehensive Plan (Sections 9 and 10, respectively). The *Downtown Community Plan* in its entirety (Phase 1) is considered ancillary to the Comprehensive Plan.

Efficient Use of Land

Mixed uses and promotion of infill and higher density redevelopment encourage more efficient land use. Regional Centers serve large market areas outside the central city and are connected to the city by high-capacity transit and highways.

Separating residential, commercial, and industrial activities was a major trend beginning in the early twentieth century; cities tried to prevent incompatible uses from creating problems for both citizens and businesses and to allow outward expansion without considering the cost in terms of loss of vibrancy in downtowns or loss of resource lands. The trend has now shifted to include more mixed uses and more intensive development where appropriate. For example, retail and residential uses in central business districts can greatly enhance the safety, livability, and vibrancy of an area.



Policies that comply with other UGMFP requirements, such as minimum density standards, residential and job capacities, and protection of employment areas, are addressed in this section, in Section 9, Economic Development, and in Section 10, Housing.

Downtown and Corridor Redevelopment

Metro's 2040 Growth Concept (1995), as discussed above, includes the Regional Center and Corridor design types for Oregon City. The *Oregon City Waterfront Master Plan* (2002), *7th Street Corridor Design Plan* (1996), *McLoughlin Boulevard Enhancement Plan* (in progress), and *Oregon City Downtown Community Plan* (1999) will help revitalize the residential aspects of Downtown and the Clackamette Cove area, and implement a vision of the Downtown area as a Regional

Center. New policies to implement the Downtown community and waterfront master plans have been developed and are listed at the end of this section.

Transit corridors are designated with the new Mixed Use Corridors (MUC) district to encourage somewhat more intensive and mixed-use development than exists, creating more efficient land-use and travel patterns. The MUC designation is intended to implement Metro's vision of the Corridor design type.

Residential Development

Because neighborhood livability depends largely on good design and the efficient use of land, policies and action items should call for evaluating development standards and for developing incentives to ensure that new development contributes to the city's livability.



The City recognizes neighborhoods as the essential building blocks of a livable city. Neighborhoods and specific places within them give people an orientation, sense of history, community, and "groundedness." A place may be a feature such as a large public clock Downtown where people meet before going to lunch or a bench near the edge of a bluff with a great view. Place-making adds to the quality of life for a community. As the city grows, existing places should be protected and opportunities for creating new, special places explored.

Commercial Land Use

Policies that encourage neighborhood commercial uses are presented in this section as part of the City's desire to create more efficient land-use and travel patterns. However, retail uses are discussed in more detail in Section 9, Economic Development. Because several areas of the city lack convenient, small-scale neighborhood commercial centers that would reduce the distances residents must travel to obtain essential goods and services, policies that allow and encourage such development have therefore been adopted and are part of this Comprehensive Plan.



Retail Business

Retail outlets and shopping areas are commonly classified by how much square footage they occupy, the types of private investment, the size of their market, and the type of commercial service provided. Classifications include Neighborhood Retail Centers, Community Retail Centers, and Regional Retail Centers. These classifications, described below, are critical for ensuring that the scale of commercial development and level of services are compatible with

their locations. For example, some neighborhoods are underserved by Neighborhood Retail Centers.

Neighborhood Retail Center. This provides convenience goods (foods, drugs and sundries) and personal services (laundry, dry cleaning, barbering, shoe repair) for the day-to-day needs of the immediate neighborhood. Size may range from 30,000 to 100,000 square feet.

Community Retail Center. This provides a wider range of facilities with a greater variety of merchandise. Many are built around a junior department store, variety store or discount department store as the major tenant. Others are built around multiple anchors in power centers or super community centers. Size may range from 100,000 to 300,000 (or more) square feet.

Regional Retail Center. This provides general merchandise, apparel, furniture and home furnishings in depth and variety, as well as a range of services and recreational facilities. It is built around one or two full-line department stores of generally not less than 75,000 square feet. Size may range from 250,000 to 900,000 square feet. A Regional Retail Center provides services typical of a business district but is not as extensive as the larger Super Regional Center, which may include aspects of big box development (industrial-style, stand-alone retail, typically with 20,000 to 200,000 square feet and 3 stories or height of 30 feet).

Industrial Land

There is often pressure to convert industrially zoned land to easily developable sites and other uses. The goals of the City are to protect existing industrial land from conversion, where appropriate, to annex industrial land and expand the Urban Growth Boundary to add urbanizable industrial land to the inventory, and to ensure that public facilities can serve future development.

Planned Land-Use Types

As the official long-range planning guide for land-use development in the city by type, density and location, the Oregon City Comprehensive Plan and Land -Use Map should be reviewed regularly. The land-use categories shown on the map (Appendix A) are:

- Low Density Residential (LR) — primarily single-family detached homes.
- Medium Density Residential (MR) — residential developments with dwelling unit types such as attached single-family units, rowhouses, and townhouses. Included in this classification is the McLoughlin Conditional Residential district, which is unique in that it allows existing residential uses, assuming they



were established legally, and new single-family homes on existing lots. More intensive new and redeveloped residential construction can be built at medium densities under certain circumstances.

- High Density Residential (HR) — typically high-density, multiple-dwelling residential. Permitted uses include apartments, condominiums, and single-family attached and rowhouse dwellings.
- Commercial (C) — commercial uses serving local, city-wide, and regional needs, such as retail and service commercial. Typically this classification is associated with newer, suburban development and located along arterial streets.
- Industrial (I) — uses related to manufacturing, processing and distribution of goods. Employment-based uses are encouraged. Intensive or heavy industrial uses are allowed in certain zones. Zones in the Comprehensive Plan Land-Use Map district are designed to comply with requirements of Title 4 of Metro's *Urban Growth Management Functional Plan* (1998).
- Mixed Use Corridor (MUC) — higher density mixed uses that are supportive of transit and conducive to pedestrian traffic. Urban density residential and commercial goods and services are typical uses. Zones in the Comprehensive Plan Land-Use Map district are intended to be compatible with Metro's Corridor design type.
- Mixed Use Employment (MUE) — employment-intensive uses such as offices, research and development, light manufacturing, and associated commercial uses.
- Mixed Use Downtown (MUD) — urban density, mixed uses that are conducive to pedestrian and transit uses. This category is intended to be used to implement the *Oregon City Downtown Community Plan* (1999), the *Oregon City Waterfront Master Plan* (2002), and Metro's Regional Center concept, particularly in terms of connecting the Downtown with the waterfront. A design overlay is included in this area and is intended to promote development consistent with Oregon City's traditional Downtown form.
- Public and Quasi-Public (QP) — publicly owned lands other than city parks, such as schools, cemeteries, undeveloped lands, open space, government buildings and public utility facilities, such as the sewage treatment plant and water reservoirs.
- Parks (P) — city parks.
- Future Urban Holding (FUH) — undesignated, pending development and approval of a "concept plan," a Metro requirement that cities plan land uses in areas being converted from rural to urban uses.

Comprehensive Plan Maintenance and Implementation

Maintaining the Comprehensive Plan simply means keeping it current. Changes in attitudes or needs may make some policies inapplicable. In addition, land-use information should be updated regularly and the Comprehensive Plan revised as required by the updated information.

The Comprehensive Plan and implementing ordinances should be reviewed for compliance with Metro's goals, objectives, and functional plans. In addition, land-use information should be kept current and changes made to the Comprehensive Plan periodically to reflect those changes.

In implementing the Comprehensive Plan, careful consideration should be given to the economic, environmental, social, and energy impacts of proposed programs and regulations. The Planning Commission is responsible for reviewing the Comprehensive Plan approximately every five years to determine if revisions or amendments to the goals and policies, Comprehensive Plan Land-Use Map, or implementing ordinances are needed. City staff is responsible for ensuring that the plan is consistent with current trends and complies with state and regional requirements.

Ancillary Plans. Since 1982, several documents have been adopted as ancillary to the 1982 Comprehensive Plan: the *Public Facilities Plan* (1990), *Oregon City Transportation System Plan* (2001), *Oregon City Downtown Community Plan* (1999), *Oregon City Waterfront Master Plan* (2002), *City of Oregon City Water Master Plan* (2003), *City of Oregon City Sanitary Sewer Master Plan* (2003), *Drainage Master Plan* (1988, updated in 1999 as the *City of Oregon City Public Works Stormwater and Grading Design Standards*), *Caufield Basin Master Plan* (1997), *South End Basin Master Plan* (1997), *Molalla Avenue Boulevard and Bikeway Improvements Plan* (2001), the *Oregon City Park and Recreation Master Plan* (1999), and the *Oregon City Trails Master Plan* (2004).

Two park-specific master plans for Jessie Court and Chapin Park were adopted as ancillary documents to the *Oregon City Park and Recreation Master Plan* (1999). This Comprehensive Plan references these documents but does not incorporate them as elements of, or as ancillary to, the plan because they contain details that are too specific for a Comprehensive Plan (for example, street standards). When those types of details need to be changed, an amendment to the Comprehensive Plan is therefore not necessary.

A new institutional and/or public facilities master planning process to accommodate the development of school, institutional, and government facilities has been developed. Plans that are developed during this planning process, if approved, can form the basis for Comprehensive Plan changes.

Zoning. Oregon City's zoning ordinance was adopted in 1954 and has been amended many times since. Most of the amendments to the 1982 Comprehensive Plan were changes to the zoning and subdivision ordinances. As a result of

piecemeal changes, there are inconsistencies and outdated concepts that should be corrected through a major code update.

Subdivision Regulations. Title 16 of the *City of Oregon City Municipal Code* (1991) governing subdivisions implement several provisions of the Comprehensive Plan.

Design Review. Site plan and design review provisions are intended to promote design integrity and neighborhood livability. New design guidelines were added to the zoning ordinance in 2001. It is expected that the guidelines will continue to be refined to strike the right balance of predictability for developers and neighborhood protection and livability. The City hopes to develop a design overlay for the Downtown.

Regular Review and Update. Periodically, technical review of the Comprehensive Plan should be conducted by City planning staff. Recommendations for updating the Comprehensive Plan should be presented to the Citizen Involvement Committee. The Planning Commission should make a recommendation to the City Commission for input and discussion. The technical review should consider:

- the plan implementation process
- adequacy of the plan to guide land-use actions, including an examination of trends
- whether the plan still reflects community needs, desires, attitudes and conditions, including changing demographic patterns and economics
- addition of updated information about the City by regional, state and federal governmental agencies

Goal 2.1 Efficient Use of Land

Ensure that property planned for residential, commercial, office, and industrial uses is used efficiently and that land is developed following principles of sustainable development.

Policy 2.1.1
Create incentives for new development to use land more efficiently, such as by having minimum floor area ratios and maximums for parking and setbacks.

Policy 2.1.2
Encourage the vertical and horizontal mixing of different land-use types in selected areas of the city where compatible uses can be designed to reduce the overall need for parking, create vibrant urban areas, reduce reliance on private automobiles, create more business opportunities and achieve better places to live.

Policy 2.1.3
Encourage sub-area master planning for larger developments or parcels, including re-development, where it may be feasible to develop more mixed uses, or campus-style industrial parks, with shared parking and landscaping areas. Allow developments to vary from prescriptive standards if planned and approved under this provision.

Policy 2.1.4
Use redevelopment programs such as urban renewal to help redevelop underutilized commercial and industrial land.

Goal 2.2 Downtown Oregon City

Develop the Downtown area, which includes the Historic Downtown Area, the "north end" of the Downtown, Clackamette Cove, and the End of the Oregon Trail area, as a quality place for shopping, living, working, cultural and recreational activities, and social interaction. Provide walkways for pedestrian and bicycle traffic, preserve views of Willamette Falls and the Willamette River, and preserve the natural amenities of the area.

Policy 2.2.1
Redefine the Metro Regional Center concept to recognize the unique character of Oregon City while being in accordance with *Metro's 2040 Growth Concept*.

Policy 2.2.2
Support multi-modal transportation options throughout the Regional Center and to other Regional and Town Centers.

Policy 2.2.3
Develop and promote a vision for the economic development and redevelopment of the Downtown area that solidifies the *Oregon City Downtown Community Plan* and *Oregon City Waterfront Master Plan*.

Policy 2.2.4
Target public infrastructure investments and create public/private partnerships to leverage maximum benefits from public investment and to help ensure that the Regional Center develops to its maximum capacity and realizes its full potential.

Policy 2.2.5
Encourage the development of a strong and healthy Historic Downtown retail, office, cultural, and residential center.

Policy 2.2.6
Working with major stakeholders, develop and implement a strategy to help the Historic Downtown Area enhance its position as a retail district. Such a strategy might include funding for a "Main Street" or similar program.

Policy 2.2.7
Explore options for improving Downtown vehicle circulation and parking in a manner that promotes revitalization.

Policy 2.2.8
Implement the *Oregon City Downtown Community Plan* and *Oregon City Waterfront Master Plan* with regulations and programs that support compatible and complementary mixed uses, including housing, hospitality services, restaurants, civic and institutional, offices, some types of industrial and retail uses in the Regional Center, all at a relatively concentrated density.

Policy 2.2.9
Improve connectivity for vehicles, bicycles, and pedestrians within the Oregon City Downtown community and waterfront master plan areas and improve links between residential areas and the community beyond.

Policy 2.2.10
Develop the Clackamette Cove area through the implementation of the *Oregon City Waterfront Master Plan* to achieve a balance between the natural and built environments, including wildlife habitat, multi-family residential development, office and retail, and family recreation.

Policy 2.2.11
Investigate an interpretive scheme that incorporates the End of the Oregon Trail Interpretive Center, the waterfront, and Downtown. Describe environmental, social, and historic aspects including the concept of a greenway along Abernethy Creek and nearby structures of historic significance.

Policy 2.2.12
Ensure a master plan is developed at the Blue Heron Paper Company site at such time as the property owner proposes a large-scale development, which addresses transitioning the overall site from industrial to non-industrial land uses.

Policy 2.2.13
Monitor the redevelopment within the Downtown Design District and investigate the need to require retail and service uses on the first floor and limit residential and office uses to the second floor and above.

Goal 2.3 Corridors

Focus transit-oriented, higher intensity, mixed-use development along selected transit corridors.

Policy 2.3.1
Ensure planning for transit corridors includes facilities and access management, aesthetics (including signage and building facade improvements), infill

and redevelopment opportunities, high-density residential development, and business assistance to existing businesses.

Policy 2.3.2
Work with Clackamas County, Gladstone, Milwaukie, and Metro to develop a plan for the redevelopment of the 99E corridor that connects the Oregon City Regional Center with the Milwaukie Town Center.

Goal 2.4 Neighborhood Livability

Provide a sense of place and identity for residents and visitors by protecting and maintaining neighborhoods as the basic unit of community life in Oregon City while implementing the goals and policies of the other sections of the Comprehensive Plan.

Policy 2.4.1
Develop local neighborhood plans to strengthen and protect residential neighborhoods and historic areas from infill development; such as development along linear commercial corridors.

Policy 2.4.2
Strive to establish facilities and land uses in every neighborhood that help give vibrancy, a sense of place, and a feeling of uniqueness; such as activity centers and points of interest.

Policy 2.4.3
Promote connectivity between neighborhoods and neighborhood commercial centers through a variety of transportation modes.

Policy 2.4.4
Where environmental constraints reduce the amount of buildable land, and/or where adjacent land differs in uses or density, implement Comprehensive Plan and zoning designations that encourage compatible transitional uses.

Policy 2.4.5
Ensure a process is developed to prevent barriers in the development of neighborhood schools, senior and childcare facilities, parks, and other uses that serve the needs of the immediate area and the residents of Oregon City.

Goal 2.5 Retail and Neighborhood Commercial

Encourage the provision of appropriately scaled services to neighborhoods.

Policy 2.5.1
Encourage the redevelopment of linear commercial corridors in ways that encourage expansion of existing businesses and infill development, and at the same time reduces conflicting traffic movements, improves the aesthetic character of these commercial areas, and encourages trips by transit, bicycling and walking.

Policy 2.5.2
Allow and encourage the development of small retail centers in residential neighborhoods that provide goods and services for local residents and workers. Generally, these centers should be located at the intersections of two or more streets that are classified as neighborhood collectors or higher.

Policy 2.5.3
Review design standards and the sign code to ensure compatibility with existing neighborhoods.

Policy 2.5.4
Encourage the development of successful commercial areas organized as centers surrounded by higher density housing and office uses, rather than as commercial strips adjacent to low-density housing.

Policy 2.5.5
Encourage commercial and industrial development that enhances livability of neighborhoods through the design of attractive LEED™-certified buildings and environmentally responsible landscaping that uses native vegetation wherever possible, and by ensuring that development is screened and buffered from adjoining residential neighborhoods and access is provided by a variety of transportation modes.

Policy 2.5.6
Develop a concept plan for South End that includes commercial designations in an amount sufficient to serve the needs of the South End neighborhood. The area designated as "Future Urban Holding" on South End Road lacks sufficient commercial services.

Goal 2.6 Industrial Land Development

Ensure an adequate supply of land for major industrial employers with family-wage jobs.

Policy 2.6.1
Work with Metro to ensure that there is enough land available within the Urban Growth Boundary to meet the need for industrial and/or commercial development. If there is not enough, identify areas outside the boundary that may be appropriate to annex. The selection of these areas will be based on market factors, protection of environmentally sensitive areas, compatibility with adjoining and nearby uses, public facilities and infrastructure, proximity to expressways and transit, site requirements of specific types of industries, and the desires of the property owners.

Policy 2.6.2
Ensure that land zoned or planned for industrial use is used for industrial purposes, and that exceptions are allowed only where some other use supports industrial development. New non-industrial uses should especially be restricted in already developed, active industrial sites.

Policy 2.6.3
Protect the city's supply of undeveloped and underdeveloped land zoned for industrial uses by limiting non-industrial community uses, such as schools, parks, and churches on such properties and by limiting larger commercial uses within those areas.

Policy 2.6.4
Protect existing and planned undeveloped and underdeveloped industrial lands from incompatible land uses, and minimize deterrents to desired industrial development.

Policy 2.6.5
Ensure that land-use patterns create opportunities for citizens to live closer to their workplace.

Policy 2.6.6
Identify industrial uses that could partner with Clackamas Community College as training centers and future employers of students graduating from CCC.

Policy 2.6.7
Establish priorities to ensure that adequate public facilities are available to support the desired industrial development.

Policy 2.6.8
Require lands east of Clackamas Community College that are designated as Future Urban Holding to be the subject of concept plans, which if approved as an amendment to the Comprehensive Plan, would guide zoning designations. The majority of these lands should be designated in a manner that encourages family-wage jobs in order to generate new jobs and move towards meeting the city's employment goals.

Goal 2.7 Oregon City Comprehensive Plan Land-Use Map

Maintain the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development of the city by type, density and location.

Policy 2.7.1
Maintain a sufficient land supply within the city limits and the Urban Growth Boundary to meet local, regional, and state requirements for accommodating growth.

Policy 2.7.2
Use the following 11 land-use classifications on the Oregon City Comprehensive Plan Land-Use Map to determine the zoning classifications that may be applied to parcels:

- Low Density Residential (LR)
- Medium Density Residential (MR)
- High Density Residential (HR)
- Commercial (C)
- Mixed Use Corridor (MUC)
- Mixed Use Employment (MUE)
- Mixed Use Downtown (MUD)
- Industrial (I)
- Public and Quasi-Public (QP)
- Parks (P)
- Future Urban Holding (FUH)

Policy 2.7.3

Recognize the design types of *Metro's 2040 Growth Concept*. Establish boundaries for the Regional Center in Downtown Oregon City; Corridors along 7th Street, Molalla Avenue, Beavercreek Road, and Highway 99; Industrial areas; and for Inner and Outer Neighborhoods.

Section 3

Agricultural Lands

Land Conservation and Development Commission (LCDC) Statewide Planning Goal 3, Agricultural Lands, requires local governments "to preserve and maintain agricultural lands." Comprehensive plans for counties are required to identify, preserve, and maintain lands for farm use, consistent with existing and future needs for agricultural products, forest and open space and with the state's agricultural land use policy expressed in the Oregon Revised Statues.

Goal 3 states that only land that lies outside Urban Growth Boundaries can be classified as agricultural. Oregon City, which lies wholly within an Urban Growth Boundary, therefore contains no agricultural land according to this definition. However, Oregon City supports preserving designated farm lands in rural areas outside its city limits by encouraging compact growth within the city. The efficient use of urban land in Oregon City slows urban expansion into rural areas. Section 14, Urbanization, discusses appropriate and timely urban expansion.

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Section 4

Forest Lands

Land Conservation and Development Commission (LCDC) Statewide Planning Goal 4, Forest Lands, requires local governments "to conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture."

Under Goal 4, land is considered forest land if it was acknowledged as such when the goal was adopted. Oregon City has not identified any forest lands within its city limits and has therefore not adopted any goals or policies related to commercial forestry. However, Oregon City recognizes the importance of preserving trees in the urban environment and has adopted goals and policies pertaining to tree preservation (see Section 5, Open Spaces, Scenic and Historic Areas, and Natural Resources).

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Section 5

Open Spaces, Scenic and Historic Areas, and Natural Resources

This section addresses Land Conservation and Development Commission (LCDC) Statewide Planning Goal 5, which requires that open spaces and natural, scenic, and historic resources be protected.

Oregon City is blessed with a wealth of natural resources that visually and physically contribute to its high quality of life and provide a range of ecosystem services. The city's steep topography is carved into 13 watersheds, which benefit from western Oregon's ample rain and collectively support a wide variety of habitats. Oregon City is home to a number of species of fish, wildlife, and plants that are regionally and nationally significant.

As awareness of the importance of natural resources and their relationship to the quality of life has increased, so has concern for protecting the natural environment. Protecting the city's valuable natural resources is thus one of Oregon City's primary goals. In addition, the City must comply with federal, state, and regional laws protecting natural resources, including sensitive, threatened, and endangered species and their habitats.

Oregon City stands out in the region because of its historic character. This section is intended to foster protection of that character by identifying the resources that define the city's historic character and by promoting the development of an aggressive and systematic process that will preserve and enhance Oregon City's special identity.

Open Space

The *Oregon City Park and Recreation Master Plan* (1999) defines natural open space as undeveloped land that is completely or almost completely in a natural state and that is used for passive rather than active recreational purposes.

Open space is usually publicly owned or managed. According to the master plan, the City owns a total of about 38 acres of open space in four sites: Old Canemah Park, River Access Trail, Singer Creek Park, and Waterboard Park. Only Waterboard Park is entirely undeveloped. Clackamas County, Metro, the State of Oregon and the public schools own a total of approximately 278 acres of open space within Oregon City. The master plan recommends adding 250 acres of natural open space, most of which is in Canemah Bluff and Newell Creek Canyon. Metro has already purchased a significant amount of open space in Newell Creek Canyon, the Canemah Bluff and along the Willamette Greenway.

Scenic Views and Sites

Oregon City is blessed with topography that provides outstanding scenic views and sites that create a sense of place and civic identity for both residents and visitors. Distant views of Mount Hood and the Cascade Mountains, as well as nearer views of the Willamette and Clackamas Rivers, Willamette Falls, scenic cliffs, and wooded areas such as Newell Creek Canyon, provide Oregon City with an abundance of scenic amenities, many dramatic and unique. The views and sites are economic and aesthetic resources that contribute to the overall distinctiveness and identity of Oregon City, and they should be protected.



While views of distant landscapes from promontories and high elevations are often protected, views from lower elevations of the higher topographic points of Oregon City have not been as appreciated or protected. These lower elevation views should be considered when development is proposed.

Views can be preserved in a variety of ways, from prohibiting development in particularly significant view corridors to designing structures that are appropriate to a site, using, for example, color and landscaping to hide or minimize visual incongruity. The City should develop guidelines for integrating the built environment with natural resources and continue to adopt and use guidelines to address scenic views, both looking down from higher points and up from lower points.

Major scenic views have been inventoried by the City.

Historic Preservation

In the 1960s, many of the nation's older buildings were lost to urban renewal programs, which negatively affected inner-city core areas by destroying established residential neighborhoods. Many of these neighborhoods were mixed-use, offering a variety of housing and commercial opportunities. The misguided programs led to a loss of inner-city amenities and quality housing and encouraged residential dislocation into the suburbs.

[Preservation] ... is not just a romantic indulgence in nostalgia. It is a physical restatement of the long hallowed American values of frugality, good craftsmanship, and community responsibility.

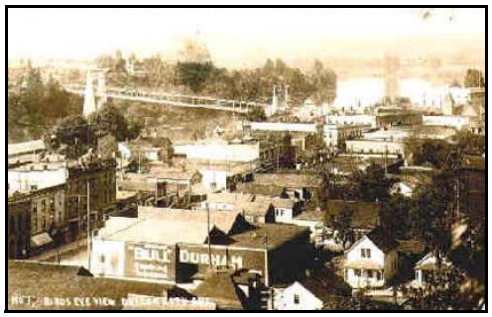
— Bruce Chapman, National Trust

A new attitude toward historic preservation and redevelopment has emerged in the last few decades. Losses in architectural and historic resources and the resulting urban dislocation created a new appreciation for and an awareness of the need to retain the character of neighborhoods. Areas where people have traditionally lived and worked are as worthy of preservation as individual landmarks and memorial sites.

Today, it is recognized that a variety of building types (residential and commercial) and styles contribute to the unique character of a community. When planning for historic preservation, an effort must be made to conserve whole neighborhoods. Retaining these irreplaceable assets requires strong community leadership and cooperation among private and public interests.

Preservation in Oregon City

It would be difficult to find a community in the West with more significant local, state and regional heritage than Oregon City. As the seat of the first provisional government of the Oregon Territory (1843–1849), capital of the Oregon Territory (1849–1850), and the first incorporated town west of the Rockies (1844), Oregon City has many homes, commercial buildings, and sites that are related to its important place in history.



Preservation of these community resources—landmark sites, historic buildings and areas, and archaeological sites—offers an opportunity to maintain and enhance Oregon City's unique identity. A well-developed preservation program can benefit property owners, local historians, students, community spirit, and tourism and increase the appreciation residents have for their city's cultural heritage.

Certified Local Government Program

The State Historic Preservation Office (SHPO) has designated the City of Oregon City as a Certified Local Government (CLG). Administered by the National Park Service, a CLG Program integrates local governments with the National Historic Preservation Program through activities that strengthen decision-making regarding historic places at the local level. The CLG Program seeks to (1) maintain and develop local historic preservation programs that

influence zoning and permitting decisions critical to preserving historic properties, and (2) ensure the broadest possible participation of local governments in the National Historic Preservation Program while maintaining preservation standards established by the Secretary of the Interior. Participating in the CLG Program allows Oregon City to apply for non-competitive and competitive grants administered by SHPO. Surveys of the McLoughlin District in 2002 and the Historic Downtown in 2000 were funded using this grant process. The City is committed to maintaining an active participation in the CLG Program.

Archaeological Sites

Oregon City has important prehistoric and historic resources. For example, Willamette Falls was an important center in Native American culture and attracted great activity well before the 1800s.

Archaeological resources in Oregon have been overlooked by many communities, including Oregon City. Special attention should be given to proposed locations for new construction to avoid impacting archaeological sites. A number of state and federal antiquity laws now provide varying degrees of protection for archaeological sites. Once a site has been damaged by extensive building cover, archaeological values are likely to be lost. If it is likely that a site may yield archeological resources, further review may be needed to ensure that the site can be protected.

Historic Districts

Historic Districts are areas where buildings with national or local historical and/or architectural significance are concentrated. A Historic District is recognized for retaining its "sense of place," meaning that a traditional atmosphere of distinct character is evident. Generally, a Historic District designation requires, through the Historic Overlay Ordinance, that proposed construction, exterior alterations, and demolitions within the district's boundaries be reviewed. To be designated as a Historic District, an area must:

- have architectural features that are well-related and have continuity
- appear as a discrete entity
- exhibit visual harmony in the character of public ways consistent with the architectural character of the area
- have generally compatible uses, including intended uses
- have a majority of properties with historic significance

Oregon City's older areas are valued for their neighborhood character, architecture, and the identity they possess as a result of their role in the development of the city. Unfortunately, some structures have been allowed to deteriorate with a corresponding effect on the character of these areas.

Designation as an historic property ensures an owner that a compatible setting will be maintained. All residents and property owners benefit from the protection and enhancement of property values, incentives for revitalization, and stabilization of an area.

Existing Historic District: Canemah. Canemah is an important example of a relatively intact riverboat town with architectural resources dating from the 1860s. Having evolved from a community for the elite of the riverboat industry to a workers' community, Canemah retains essentially the same sense of place it had in the latter half of the 19th century. Situated above the Falls of the Willamette, it was an important portage town and the major shipbuilding center on the upper Willamette River.

Present Status. Canemah was listed as a Historic District in the National Register of Historic Places in 1977. The area was zoned in 1954 for industry along the river, commercial and multi-family along McLoughlin Boulevard, and multi-family along Third Avenue and portions of Fifth Avenue. In 1982, a majority of the area was rezoned as residential except for a small strip on McLoughlin Boulevard, which was rezoned to Historic Commercial.

In the last 20 years, many homes within the district have been rehabilitated, but some have not been maintained to a level that ensures their significance and status as contributing structures. New construction and exterior alterations need to be reviewed for their long-term effect on the neighborhood and National Register Historic District status.

Proposed Historic District: Downtown. Downtown Oregon City has historical significance as the original town site, following Dr. John McLoughlin's claim of the Willamette Falls area in 1829. The Downtown was surveyed by Sidney Moss in 1842 and Jesse Applegate in 1844. The city grew between the Willamette River and the bluff between 1843 and 1865. Industrial, commercial and residential development all took place. McLoughlin set aside a Mill Reserve in the area closest to the falls where the mills developed. Commercial establishments grew along lower Main Street, and residences were built throughout the area.

After the Civil War, industrial development increased rapidly. A woolen mill was built in 1865, and other small industries and trading establishments expanded. The residential quality of the area deteriorated as the commercial district grew. Access to the upper level was developed and residents relocated there, some physically moving their houses. Over the years, commercial uses have continued to grow, transforming the original pioneer settlement into a Central Business District.

While many of the original impressive Downtown buildings have been lost, a substantial number of historic and/or architecturally significant buildings still stand. The areas from 5th to 9th Streets and from the river to the bluff contain

the largest concentration of historic buildings that merit preservation. The area is generally cohesive, and intrusive or out-of-character uses are relatively few. Improvements could be made in the public rights-of-way to enhance the area as a district without disruption to commercial activity.

The proposed Downtown District consists of eight city blocks from the original Oregon City plat. Total land area of the district is approximately 21 acres. The area is commercial and professional office in use and character and contains approximately 44 structures. Parking lots exist on all but one block.

Present Status. In 2000, a re-survey of the Historic Downtown was conducted to determine the current status of buildings and the potential for the area to be listed as a National Register Historic District. Although the re-survey indicated that Oregon City's central business district is not eligible as a National Register Historic District, it did show that there is potential for restoring a sufficient amount of historic character to resources currently categorized as "Non Contributing in Current State," which would bring the percentage of "Contributing Resources" to an eligible level for a Historic District designation.

The Historic Downtown area is part of the Downtown Community Plan Phase II Implementation Program. Rezoning based on that plan, along with new design guidelines that directly address exterior alterations and new construction in the area, will ensure that future development is compatible with the significant structures of the area.

Proposed Historic District: McLoughlin Conservation District. The McLoughlin District is currently designated as a city Conservation District. However, the findings of a 2002 re-survey of the district, as described below, support its designation as a National Register Historic District.

Conservation Districts

A Conservation District designation is intended to protect the buildings within the district through an ordinance that requires a review of proposed construction, exterior alterations to designated structures, and demolitions. Although not as comprehensive as a Historic District, a Conservation District can ensure that a neighborhood's significance does not erode.

Existing Conservation District: McLoughlin. Many of Oregon City's historic and architecturally significant buildings are above the bluff in the McLoughlin neighborhood. The original Oregon City plat includes the neighborhood area up to Van Buren Street, and it is within this area that early residential development took place, beginning in the 1850s. As the Downtown area changed from a residential to commercial district, home building

increased above the bluff. All of the churches that originally stood in the Downtown eventually relocated to the McLoughlin area as well.

Present Status. In 2002, a re-survey was undertaken to determine the current status of buildings and the potential for the area to be listed as a National Register Historic District. In 2003, Oregon City High School moved from the McLoughlin neighborhood to a new facility on Beavercreek Road. Moving the school provides the City an opportunity to work with the school district to reuse the historic high school building. The City supports any rehabilitation of the campus that would continue its role as a community gathering place and keep it consistent with the Secretary of Interior Standards for Rehabilitation and the Goals and Policies of the Historic Review Board.

Proposed Conservation Districts. Other Historic Districts may exist in this historically important community. The Ely, Park Place, and Rivercrest neighborhoods have many historic properties and may be eligible for designation as Conservation Districts. An appropriate, well-constructed historic preservation plan will provide for identification and establishment of safeguards of these areas, which are important to the quality of Oregon City as a whole and to the identity of the Northwest.

Historic Buildings Outside Identified District Boundaries

There are many historic buildings outside the designated Historic Districts. Some of the buildings are among the oldest in the city, and many stand alone because they were originally built outside of "urban" Oregon City in what used to be farm and pastureland. City areas outside the Canemah and McLoughlin areas have been surveyed to identify the most significant buildings.

Present Status. Efforts to preserve individual historic buildings have been scattered. There is little public recognition of the historic value of significant buildings outside of McLoughlin and Canemah except for the more prominent and expensive estate homes. The Ely, Park Place, Rivercrest, and South End areas in particular have deteriorated, and some of the older homes have been demolished, often to the detriment of the area. Demolition and major incompatible remodeling are critical problems for historic preservation because they are usually irreversible. Private preservation and restoration efforts should be encouraged and assisted by local recognition of significant individual historic buildings throughout Oregon City.

Historic Landmarks

Historic landmarks are structures or sites with unusual historic importance and contribute to the city's identity. Maintenance costs are often returned in tour-

ism revenues. Appreciation of local culture and history is enhanced. Criteria for designation as a historic landmark are:



- association with a major historic person
- association with an historic event or period of time
- association with a former or continuing institution that has contributed to the life of the city
- embodiment of the distinctive characteristics of a type, period, or method of construction, or representation of the work of a master, or possession of high artistic values, or representation of a significant and distinguishable entity where components may lack individual distinction
- association with a group, organization, enterprise in history

Natural Resources

Oregon City's natural resources are the result of the city's topographic complexity, which was created by volcanic activity, erosion and scouring from the post-Ice Age Missoula Floods, and erosion and deposition from the modern Willamette and Clackamas rivers, Abernethy and Newell creeks, and other minor streams. Metro has inventoried, evaluated, and mapped important Goal 5 resources in the region as part of developing a regionwide fish and wildlife habitat protection plan. Two large areas in Oregon City scored 6 (medium quality habitat) on a scale of 1 to 9: along the steep slopes and bluffs overlooking the Willamette River on the western edge of the city, and Newell Creek Canyon. Oregon City will coordinate with Metro to maintain the City's Goal 5 resources inventory in accordance with the new protection plan. The City will also coordinate with the Fisheries Department of the National Oceanic and Atmospheric Administration (NOAA Fisheries, formerly NMFS) and on actions that may affect salmonid habitats.

Anadromous fish, including salmonids such as coho, chinook, and chum salmon, as well as lamprey eel, were historically plentiful in Oregon City's major waterways. These species supported a rich ecosystem that included a wide range of animals, from insects and small invertebrates within the stream and riparian corridor to large animals such as seals and bears, and birds such as osprey and bald eagles. Native people also relied on these stream resources for food and culture, returning annually to Willamette Falls to harvest salmon and other fish. Declines in anadromous fish species in the Willamette River Basin is a consequence of a variety of land-use practices that have altered or destroyed habitat and changed the hydrographic profile of runoff. Several spe-

cies of salmonids, including chinook salmon and steelhead trout, have been listed as threatened under the federal Endangered Species Act (ESA), which has triggered significant protection and restoration activities throughout the region.

In Oregon City, the Clackamas River along the northern boundary of the city, as well as Abernethy, Newell, Holcomb, Potter, and other creeks provide both spawning and rearing habitat for steelhead trout, coho salmon, and cutthroat trout, which are not currently warranted for listing under the ESA. Riparian corridors, the areas on either side of a stream, are critical to protecting the stream ecosystem and quality of habitat for salmonids and other stream-dependent species.

Oregon City can protect or improve habitat conditions for salmonids and other species by:

- adopting standards and implementing programs that protect vegetation along riparian corridors from destruction or alteration
- removing invasive non-native plant species and re-planting native riparian vegetation
- reducing pulsed storm runoff that can erode banks and alter streambed profiles and gravels
- maintaining water quality and quantity in streams
- maintaining or providing fish passage in all streams

Because virtually all rainfall in the city eventually runs to a stream, these standards and programs need to be applied citywide. Ancillary plans such as the *Oregon City Waterfront Master Plan* (2002), *Oregon City Transportation System Plan* (2001), *Oregon City Park and Recreation Master Plan* (1999), and *City of Oregon City Public Works Stormwater and Grading Design Standards* (1999) are important in ensuring that these resources are protected.

Other unique and important habitats and ecological resources in Oregon City have been identified, including:

- Newell Creek Canyon
- Canemah Bluffs, which contain a variety of unique habitats and plant assemblages
- the rocky cliffs along the Willamette River, which are home to a number of rare plants
- Willamette Falls
- other streams, rivers, bogs and wetland areas

These habitats and resources will be inventoried in the Goal 5 update subsequent to adoption of this Comprehensive Plan.

Because lands surrounding the city within the Urban Growth Boundary have significant undeveloped habitat areas, these lands need to be inventoried to identify important ecological resources to ensure the resources are protected

before development occurs. The City and Clackamas County should ensure that Urban Growth Management Agreements contain provisions for identifying and protecting these resources.

Wetlands. Wetlands and their associated hydrology, soils, vegetation, and wildlife provide a wide range of valuable services to the public. Wetlands enable the City to efficiently meet a number of goals in maintaining the quality of life in Oregon City, such as:

- preventing degradation of stream quality and damage from flooding during storms by storing runoff from precipitation and moderating its release into stream networks
- preventing pollutants and sediments from roadways and other development from reaching streams by filtering the flow of groundwater toward streams
- recharging groundwater aquifers for slow release later into streams and through uptake by vegetation into the environment by reducing the speed of runoff and enabling water to percolate into the ground
- providing habitat for wildlife that is important to residents
- providing open space, recreational opportunities, aesthetic and landscape amenities to buffer various uses, all of which maintain the unique environmental setting of Oregon City

Important wetlands have been identified and mapped by the City and Metro in a Local Wetlands Inventory that will be the basis for protection measures through the Comprehensive Plan, implementing ordinances, and other measures. The inventory is kept by the City.

Streams. Streams define the physical configuration of Oregon City and thus its land-use patterns, transportation patterns, and community functions. The Willamette and Clackamas rivers, major waterways of regional significance, border two sides of the city and create an aesthetic and recreational setting of great value to the city. Other principal streams are:

- Abernethy Creek and Newell Creek, tributaries of the Willamette River; these creeks create major topographic and ecologic areas within the city
- Beaver Creek, a tributary of the Willamette River; Beaver's Creek's minor tributaries create the topographic definition of the city's southern edge
- other creeks that drain directly to the Willamette, such as Singer Creek and Coffee Creek, which drain from the Hilltop area through the McLoughlin and Canemah neighborhoods, respectively.

Together, these rivers and streams contribute to the uniqueness of Oregon City and to the variety of natural resource, recreational, and open space values enjoyed by residents and visitors.

Vegetation. The many wooded areas in the city—mainly parks, undeveloped slopes, and undeveloped lots within the Urban Growth Boundary—offer a variety of recreational opportunities, scenic views, and wildlife habitats. Trees in these and other areas should be preserved because trees provide a variety of benefits to the city. They are natural visual, noise, and wind buffers; enhance air quality; filter pollutants from rainwater; help control stormwater runoff; prevent erosion on steep slopes and riverbanks; and help separate conflicting land uses. Trees and treed areas are one means of providing an orderly transition from rural to urban land uses. Total tree cover in the city has diminished as development has occurred without mechanisms to protect urban trees.

The city could benefit from a comprehensive program to conserve and enhance tree cover on public lands and private property. Such a program should include standards and regulations pertaining to cutting of trees on private, undeveloped lands and in view corridors, planting of new trees as part of street or property landscaping, and incentives and assistance for tree planting and maintenance.

Water Quality. Oregon City receives an average of 46 inches of precipitation every year. Other parts of the Willamette and Clackamas river watersheds receive more than 80 inches per year. The city has significant ground- and surfacewater resources that contribute to the physical and cultural identity and natural heritage of the city and to the quality of life for residents. These water resources provide important habitat and ecological conditions for a wide range of fish, wildlife, and plants. Water resources include the Willamette and Clackamas rivers and tributaries of Abernethy, Newell, and Beaver creeks and associated minor creeks. Other water resources include bogs and wetlands perched on Oregon City's unique topography and groundwater that percolate under the city. Because land-use practices and patterns, development design, and city infrastructure and practices can affect the quality and quantity of water resources in the city, the City will seek to protect and restore these resources through a variety of means, including the application of a Water Resources Overlay District, development standards, and civic projects.

Groundwater. The geology of the rocks underlying Oregon City, coupled with high annual rainfall, create conditions for significant groundwater flowing beneath the city and, in some areas, a relatively high water table (groundwater is close to the surface). Groundwater is important to the city in several ways. It can affect the safety and function of buildings and other development, such as streets, when construction meets groundwater. It can also carry chemical pollutants from development, roads, landfills, and industrial sites into drinking water wells and streams. Groundwater provides a slow release mechanism for precipitation that would otherwise run quickly into streams and increase the likelihood of flooding. Groundwater has historically been the source of domestic drinking water for some residences and agricultural wells within the area.

Groundwater provides essential water for the vegetative cover that is so important to Oregon City.

Groundwater within 1.5 feet of the surface is defined as a "high water table." High water tables are of special concern because of their vulnerability to contamination and interception. Because much of Oregon City lies on basalt bedrock that was scoured clean of overlying soils during the post-glacial Missoula Flood events, water does not penetrate deeply or rapidly. Consequently, there are many areas with high water tables in Oregon City. These areas have been inventoried by the State Department of Geology and Mineral Industries. The inventories are kept by the City. Proposed development in these areas is subject to the City's development codes to ensure that it meets applicable engineering standards.

Goal 5.1 Open Space

Establish an open space system that conserves fish and wildlife habitat and provides recreational opportunities, scenic vistas, access to nature and other community benefits.

Policy 5.1.1
Conserve open space along creeks, urban drainage ways, steep hillsides, and throughout Newell Creek Canyon.

Policy 5.1.2
Manage open space areas for their value in linking citizens and visitors with the natural environment, providing solace, exercise, scenic views and outdoor education. Built features in open space sites should harmonize with natural surroundings.

Goal 5.2 Scenic Views and Scenic Sites

Protect the scenic qualities of Oregon City and scenic views of the surrounding landscape.

Policy 5.2.1
Identify and protect significant views of local and distant features such as Mt. Hood, the Cascade Mountains, the Clackamas River Valley, the Willamette River, Willamette Falls, the Tualatin Mountains, Newell Creek Canyon, and the skyline of the city of Portland, as viewed from within the city.

Policy 5.2.2
Maximize the visual compatibility and minimize the visual distraction of new structures or development within important viewsheds by establishing standards for landscaping, placement, height, mass, color, and window reflectivity.

Goal 5.3 Historic Resources

Encourage the preservation and rehabilitation of homes and other buildings of historic or architectural significance in Oregon City.

Policy 5.3.1
Encourage architectural design of new structures in local Historic Districts, and the central Downtown area to be compatible with the historic character of the surrounding area.

Policy 5.3.2
Evaluate the establishment of Historic and Conservation Districts to preserve neighborhoods with significant examples of historic architecture in residential and business structures.

Policy 5.3.3
Promote the designation of qualifying properties outside Historic and Conservation Districts as historic.

Policy 5.3.4
Support the preservation of Oregon City's historic resources through public information, advocacy and leadership within the community, and the use of regulatory tools and incentive programs.

Policy 5.3.5
Support efforts to obtain historic designation at the city, state and national levels for public and private historic sites and districts. Natural and cultural landscapes should also be considered.

Policy 5.3.6
Maintain Oregon City's status as a Certified Local Government in the National Historic Preservation Program.

Policy 5.3.7
Encourage property owners to preserve historic structures in a state as close to their original construction as possible while allowing the structure to be used in an economically viable manner.

Policy 5.3.8
Preserve and accentuate historic resources as part of an urban environment that is being reshaped by new development projects.

Goal 5.4 Natural Resources

Identify and seek strategies to conserve and restore Oregon City's natural resources, including air, surface and subsurface water, geologic features, soils, vegetation, and fish and wildlife, in order to sustain quality of life for current and future citizens and visitors, and the long-term viability of the ecological systems.

Policy 5.4.1
Conserve and restore ecological structure, processes and functions within the city to closely approximate natural ecosystem structure, processes, and functions.

Policy 5.4.2
Cooperate with Clackamas County, Metro and other agencies to identify and protect wildlife habitat, distinctive natural areas, corridors and linkages and other ecological resources within the Urban Growth Boundary and incorporate the information into the Urban Growth Management Agreement with Clackamas County.

Policy 5.4.3
Identify, initiate and cooperate in partnerships with other jurisdictions, businesses, neighborhoods, schools and organizations to conserve and restore natural resources within and adjacent to Oregon City.

Policy 5.4.4
Consider natural resources and their contribution to quality of life as a key community value when planning, evaluating and assessing costs of City actions.

Policy 5.4.5
Ensure that riparian corridors along streams and rivers are conserved and restored to provide maximum ecological value to aquatic and terrestrial species. This could include an aggressive tree and vegetation planting program to stabilize slopes, reduce erosion, and mitigate against invasive species and stream impacts where appropriate.

Policy 5.4.6
Support and promote public education, interpretation, and awareness of the city's ecological resources.

Policy 5.4.7
The City shall encourage preservation over mitigation when making decisions that affect wetlands and a "no net loss" approach to wetland protection.

Policy 5.4.8
Conserve natural resources that have significant functions and values related to flood protection, sediment and erosion control, water quality, groundwater recharge and discharge, education, vegetation and fish, and wildlife habitat.

Policy 5.4.9
Protect and enhance riparian corridors along streams in Oregon City to increase shade, reduce streambank erosion and intrusion of sediments, and provide habitat for a variety of plants, animals, and fish.

Policy 5.4.10
Encourage and promote the restoration of the hydrologic and ecological character and function of streams and wetlands that have been degraded by channeling or eliminated from the landscape by routing into culverts.

Policy 5.4.11
Maintain and enhance the function and quality of natural wetlands and create, where appropriate, wetlands or swales to moderate the quantity and velocity of water runoff entering streams during storm events and to reduce the amount of pollutants carried into streams.

Policy 5.4.12
Use a watershed-scale assessment when reviewing and planning for the potential effects from development, whether private or public, on water quality and quantity entering streams.

Policy 5.4.13
Adopt and/or establish standards for all new development that promote the use of pervious surfaces and prevent negative ecological effects of urban stormwater runoff on streams, creeks and rivers.

Policy 5.4.14
Comply with federal and state regulations for protecting, conserving and restoring threatened and endangered species and critical habitat.

Policy 5.4.15
Partner with Metro, Clackamas County, the Oregon Department of Transportation (ODOT) and other agencies to establish an invasive weeds management strategy.

Policy 5.4.16
Protect surfacewater quality by:

- providing a vegetated corridor to separate protected water features from development
- maintaining or reducing stream temperatures with vegetative shading
- minimizing erosion and nutrient and pollutant loading into water
- providing infiltration and natural water purification by percolation through soil and vegetation

Policy 5.4.17
Protect and maintain groundwater recharge through conservation and enhancement of wetlands and open space.

Policy 5.4.18
Encourage use of native and hardy plants such as trees, shrubs and groundcovers to maintain ecological function and reduce maintenance costs and chemical use.

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Section 6

Quality of Air, Water, and Land Resources

Land Conservation and Development Commission (LCDC) Statewide Planning Goal 6 deals with maintaining and improving the quality of these resources. Waste discharges, defined as solid waste, thermal, noise, atmospheric and water contaminants and pollutants that cause harm to human health or the environment, must not "violate or threaten to violate" federal or state statutes. With respect to the air, water and land resources described or included in state environmental quality regulations, such discharges "shall not (1) exceed the carrying capacity of such resources, considering long-range needs; (2) degrade such resources; or (3) threaten the availability of such resources."

All manner of land uses can be sources of waste. The City's influence over potential impacts from waste can be through direct regulation, such as with stormwater treatment standards, through ensuring compliance with federal and state standards, and through actions, such as education and development incentives, to encourage the reduction of impacts.

Air Quality

The quality of air is increasingly recognized as a key factor in the health of individuals, the attractiveness and livability of communities, and the ability of the community to attract and accommodate growth and development. Oregon City has a relatively high quality of air during most of the year, but it also receives airflows from other parts of the urban region that can carry airborne pollutants. Air quality tends to be lower when prevailing winds are from the northwest.

Motor vehicles are the largest source of air pollution in Oregon, and there is growing concern about "personal pollution" from cars, woodstoves, gasoline-



powered lawn mowers, boat engines, paint, outdoor burning, and aerosol products such as hairspray and air fresheners. Other sources of air pollution are dust from agriculture and land development and particulates in smoke from agriculture, forestry, and industry. The Portland metropolitan area is currently designated an "Air Quality Maintenance Area," which means that the area has a history of not meeting National Ambient Air Quality Standards. However, a variety of pollution reduction programs have enabled the region to meet federal air quality standards.

Air quality standards are set by the Oregon Department of Environmental Quality (DEQ). Oregon City should continue to work with DEQ to ensure that existing and new sources of industrial and commercial pollution comply with state and federal standards and to encourage citizens to reduce the amount of air pollution they generate. One of the most important ways Oregon City can help reduce air pollution is to promote land-use practices and transportation alternatives that reduce the use of single-occupancy vehicles. It is also important for the City to encourage the conservation and enhancement of tree cover as a means of filtering particulate pollution in the air.

Water Quality

The City's ground- and surfacewater resource is significant and adequate for its residents. Water resources are:

- the Willamette and Clackamas rivers
- tributaries of Abernethy, Newell, and Beaver creeks and associated minor creeks
- bogs and wetlands
- groundwater under the city

Because land-use practices, development design, and city infrastructure can affect the quality and quantity of water resources, the City will protect and restore these resources through a variety of means. One way is through the Water Resources Overlay District, which is a zoning overlay with development standards to protect surface waters. The overlay district implements the requirements of Title 3 of Metro's *Urban Growth Management Functional Plan* (1998). Another way is through civic projects to restore water features. Restoration and protection of these resources is covered primarily in Section 5 (Open Spaces, Scenic and Historic Areas, and Natural Resources).





DEQ has mapped groundwater flows, also called aquifers, that are known to or have the potential to carry pollutants. Most of these sensitive aquifers are along Abernethy Creek in the floodplain along the Clackamas River. The aquifer in the Abernethy Creek area near the former Rossman's landfill has been contaminated during the past 100 years with a variety of pollutants from the landfill and other activities. Clearance from DEQ may be necessary for future development of properties in this area. DEQ does not allow the construction of drinking or irrigation wells because the contaminated groundwater in the aquifer could be released into the environment and adversely impact public health and safety. DEQ allows only groundwater wells that monitor contaminants associated with the landfill.

Erosion is defined as the movement of solids (earth, mud, and rock) by wind, water, or gravity. Erosion can be a natural process or caused by human activity. Erosion can cause a loss of productive soil, damage stormwater and the sanitary sewer infrastructure, and degrade water quality in streams and rivers, thus affecting habitat quality for aquatic species. Excessive sediment deposition behind dams can decrease reservoir storage capacity and increase the risk of flooding. Removing excess sediment from behind dams and areas of unwanted deposition, such as reservoirs and streams, can be costly. Soil runoff from construction sites is by far the largest source of excess sediment deposition in developing urban areas.

Complying with LCDC Statewide Planning Goal 6 requires adopting policies and standards that protect water quality. The erosion and sediment control requirements of Title 3 will significantly reduce sediment loading to receiving streams. LCDC Statewide Planning Goal 6 and Title 3 requirements are implemented in Oregon City through the Water Resources Overlay District, Erosion and Sediment Control standards, and other provisions of the *City of Oregon City Municipal Code* (1991).

Quality of Land Resources

Nighttime Light Pollution. Artificial light has extended many human activities well into evening and night and provides much-needed safety along roadways and at intersections. However, much of the nighttime light is wasted into space, as confirmed by satellite images of the earth at night from space. Nighttime light can interfere with viewing starry skies and other outdoor experiences, intrude through windows into homes, and lead to unsafe situations from glare and shadows. In Oregon City, the Haggart Astronomical Observatory at Clackamas Community College is an educational resource for the entire community that is diminished by nighttime light pollution.

New nighttime lighting technology makes nighttime light appropriate for the situation and prevents safety problems and pollution. The technology is readily available, and its benefits to the community are easy to understand. All that is required is a commitment to applying the technology in a flexible and appropriate way.

Noise Pollution. Noise is a part of city life. Noise is generated by, for example, vehicular traffic, emergency vehicles, industrial activities, railroads, aircraft, leaf blowers, sound systems, and construction. Loud, persistent noise is recognized as a serious environmental problem by both state and federal authorities. In 1971, the Oregon Legislature authorized the Environmental Quality Commission to adopt and enforce noise control standards, which are administered through DEQ. The standards cover noise from motor vehicles and industrial and commercial activities.

The most significant sources of noise in Oregon City are major vehicular corridors (for example, Interstate 205, McLoughlin Boulevard, Highway 213, Molalla Avenue, and South End Road), the railroad corridor through downtown and the Canemah neighborhood, the industrial operations of the Blue Heron Paper Mill, and the natural roar of Willamette Falls, especially during the winter. Nuisance noise can also originate from neighborhoods and homes. Local noise control is handled primarily through the Nuisance Code (Section 6 of the *City of Oregon City Municipal Code*) and through design review of development projects to ensure that industry and commercial activities do not negatively impact the immediate neighborhood environment.

Mineral and Aggregate Operations. The Oregon Department of Geology and Mineral Industries has inventoried four areas within Oregon City's Urban Growth Boundary that contain mineral and aggregate resources. These areas are listed in the Natural Resources Inventory of the 1982 *Oregon City Comprehensive Plan*. There are currently no commercial mineral or aggregate removal operations at any of the four sites. Although mineral and aggregate removal operations can be beneficial to a local economy, they are not compatible with urban land uses and quality of life in Oregon City because of noise, dust, traffic, water quality, and other issues.

Goal 6.1 Air Quality

Promote the conservation, protection and improvement of the quality of the air in Oregon City.

Policy 6.1.1

Promote land-use patterns that reduce the need for distance travel by single-occupancy vehicles and increase opportunities for walking, biking and/or transit to destinations such as places of employment, shopping and education.

Policy 6.1.2
Ensure that development practices comply with or exceed regional, state, and federal standards for air quality.

Policy 6.1.3
Set an example through City operations by using and demonstrating practices and technologies that reduce air pollution and protect air quality.

Policy 6.1.4
Encourage the maintenance and improvement of the city's tree canopy to improve air quality.

Goal 6.2 Water Quality

Control erosion and sedimentation associated with construction and development activities to protect water quality.

Policy 6.2.1
Prevent erosion and restrict the discharge of sediments into surface- and groundwater by requiring erosion prevention measures and sediment control practices.

Policy 6.2.2
Where feasible, use open, naturally vegetated drainage ways to reduce stormwater and improve water quality.

Goal 6.3 Nightlighting

Protect the night skies above Oregon City and facilities that utilize the night sky, such as the Haggart Astronomical Observatory, while providing for nightlighting at appropriate levels to ensure safety for residents, businesses, and users of transportation facilities, to reduce light trespass onto neighboring properties, to conserve energy, and to reduce light pollution via use of night-friendly lighting.

Policy 6.3.1
Minimize light pollution and reduce glare from reaching the sky and trespassing onto adjacent properties.

Policy 6.3.2
Encourage new developments to provide even and energy-efficient lighting that ensures safety and discourages vandalism. Encourage existing developments to retrofit when feasible.

Policy 6.3.3
Employ practices in City operations and facilities, including street lighting, which increases safety and reduces unnecessary glare, light trespass, and light pollution.

Goal 6.4 Noise

Prevent excessive noise that may jeopardize the health, welfare, and safety of the citizens or degrade the quality of life.

Policy 6.4.1

Provide for noise abatement features such as sound-walls, soil berms, vegetation, and setbacks, to buffer neighborhoods from vehicular noise and industrial uses.

Policy 6.4.2

Encourage land-use patterns along high-traffic corridors that minimize noise impacts from motorized traffic through building location, design, size and scale.

Goal 6.5 Mineral and Aggregate Operations

Protect the livability and environment of Oregon City by prohibiting commercial aggregate extraction operations within the city and Urban Growth Boundary.

Policy 6.5.1

Prohibit new commercial aggregate removal operations and encourage relocation of existing operations. Aggregate removal for habitat improvement or for public recreational needs is not considered a commercial operation.

Section 7

Natural Hazards

This section is intended to show compliance with Land Conservation and Development Commission (LCDC) Statewide Planning Goal 7, Areas Subject to Natural Hazards, which requires local governments to "… reduce risk to people and property from natural hazards." The section is also intended to show compliance with Title 3 of Metro's *Urban Growth Management Functional Plan* (1998), which requires local governments to comply with regional regulations pertaining to flooding and water quality.

The natural features and processes that shape the topographic, scenic, and natural resource setting of Oregon City present a variety of hazards to people and human activities, such as flooding, rock falls, landslides, wildfires, and earthquakes. Some of the hazards are related to steep topography, saturated soils and bedrock, and bare soil and rock that have been exposed by removing vegetation, movement of the earth, and erosion.

Floods that were once referred to as 100-year floods may occur more often now in Oregon City because humans have altered the watersheds and hydrology of the Willamette and Clackamas river systems. Heavy winter rain events can saturate soils and cause localized landslides and rock falls that can damage roadways and buildings in areas where the topography is steep. Even the seemingly durable rocky cliffs around Oregon City are subject to thermal expansion in summer and freezing in winter that can lead to dangerous rock falls. Mt. Hood and other Cascade Mountain volcanoes erupt every several thousand years. Major subduction-zone earthquakes, potentially catastrophic, occur in the Pacific Northwest every 300 to 800 years, while smaller but nonetheless potentially destructive



earthquakes can occur every ten years. Wildfires are hazardous to people, especially in developed areas.

Reducing or eliminating long-term risk to people and property from natural hazards is called "hazard mitigation." There are two basic types of mitigation. One is to manage the hazard itself, when this is possible, and the other is to manage development to avoid hazards. Both types require an understanding of geological processes, the use of engineering practices that address potential hazards at a reasonable cost over a reasonable time, and an understanding of the consequences of intervention. For instance, in some cases, it may be appropriate to keep a developed area dry by draining water from the area to control small-scale flooding or high water tables. In other cases, it may be safer, less costly, and ultimately wiser to prohibit development in high-velocity floodways or on slide-prone slopes.

City policies can help minimize the risks and impacts of natural hazards by limiting development in areas where hazardous events are most likely to occur and by working with the residents of these areas. In 1998, Oregon City adopted the *Oregon City Hazard Mitigation Plan*, written by a community planning team in consultation with a number of federal, state, and regional governmental agencies. The plan describes potential hazards in Oregon City, lists goals, objectives and mitigation measures, and describes an action plan. The plan also contains maps of the 100-year and 1996 flood areas, potential landslide areas, relative earthquake hazard, and the location of hazardous materials, natural gas pipelines, and essential facilities.

Flooding

Most flooding in Oregon City is the result of overflows of one or more of its three major streams—the Willamette River, Clackamas River, and Abernethy Creek—although localized, minor flooding can occur during storms. Flooding is most likely between October and April and generally results from a series of heavy rainfall events that can be aggravated, as in 1964 and 1996, by concurrent snowmelt in the watershed.



Because the Willamette River is influenced by tidal height nearly to the base of the falls, flooding at the confluence of the Clackamas and Willamette rivers and Abernethy Creek can be exacerbated by high river levels caused by high winter tides and storm surge on the coast. Areas associated with the Willamette and Clackamas rivers and Abernethy Creek that are subject to flooding have been mapped and are shown in the *Oregon City Hazard Mitigation Plan* (1998).

Localized flooding also occurs in Oregon City, principally due to high water tables, relatively level topography that does not drain quickly, and alterations of natural streams by culverts and storm sewers that are inadequate during

storms. A *Drainage Master Plan* (1988), updated in 1999 as the *City of Oregon City Public Works Stormwater and Grading Design Standards*, contains an inventory of areas with drainage and localized flooding problems. A number of structures in these areas are subject to flooding, including key public facilities such as the wastewater treatment plant for Oregon City, West Linn, and Gladstone, the intake on the Clackamas River for the City's water treatment plant, the sub-regional solid waste transfer station, an electrical substation, and a site with hazardous waste.

In 1999, Oregon City adopted a Flood Management Overlay District as part of the *City of Oregon City Municipal Code.* An overlay district is an area that contains a specific resource or potential hazard and is subject to regulations related to the resource or hazard. Examples are historic areas and floodplains. The purpose of a Flood Management Overlay District is to minimize public and private losses due to flooding through a variety of means.



Areas in the Flood Management Overlay District are within the 100-year floodplain, flood areas, and floodways as shown on the Federal Emergency Management Agency flood insurance maps including areas of special flood hazard delineated in 1979 and the area inundated by the 1996 flood, and have physical or documented evidence of flooding based on aerial photographs of the 1996 flooding and/or the water quality and flood management areas maps.

Unstable Soils

Unstable soils are types of soils or soils in locations, such as on steep slopes, that are not stable enough to support development, and may be hazardous to surrounding uses. Unstable soils are subject to slumping or earth flow on slopes, high groundwater level, landslide or erosion, or identified by field investigation performed by a geotechnical engineer or engineering geologist. Areas of unstable foundation soils have been mapped for Oregon City and are on file at the Oregon City Planning Department. In 1994, the City adopted an Unstable Soils and Hillside Constraint Overlay District to provide "safeguards in connection with development on or adjacent to steep hillside and landslide areas and other identified known or potential hazard areas, thereby preventing undue hazards to public health, welfare and safety." The hazardous areas in the overlay district were identified by the State of Oregon Department of Geology and Mineral Industries (DOGAMI) in 1979 and in subsequent mappings of Oregon City and by Portland State University in 1992. DOGAMI published its findings in *Geology and Geological Hazards of North Clackamas County, Oregon, Bulletin 99* (1979), and Portland State University published its findings in *Environmental Assessment of Newell Creek Canyon, Oregon City, Oregon* (1992). Other

areas of concern are shown on other city, county, state and federal maps. These publications are available at the Oregon City Planning Department.

Development and construction in areas with unstable soils require that special development standards be met on a site-specific basis to prevent or minimize damage caused by unstable soils. Maintaining existing vegetation or revegetating may be required for excavation and road slopes in areas designated as landslide-prone.

Landslides. Landslides include rockslides, mudslides, debris flows, earthflows, and slumping. These phenomena are natural geologic processes that occur principally when soils and rock in steep areas become saturated with water, increasing weight and lubricating the mass. Gravity pulls the affected areas downhill. Landslides can be exacerbated by adding fill material to a slope, removing vegetation, altering drainage and runoff patterns, and undercutting a slope. Landslides can be triggered by heavy rains, groundshaking from earthquakes and heavy traffic, and undercutting the lower edge of a slope, which can be caused by erosion along stream banks, and by development, such as cuts in road construction.

Areas most susceptible to landslides in Oregon City are those with slopes of greater than 25 percent. These areas have been mapped by DOGAMI and are shown in the *Oregon City Hazard Mitigation Plan* (1998). The Unstable Soils and Hillside Constraint Overlay District requires geotechnical surveys of other potential hazard areas and provides standards that are used to determine the potential risk of landslides on slopes with various degrees of steepness in relation to the development.

Seismic Activity

Although predicting seismic events is extremely difficult, some prediction is possible by looking at the history of a particular region. Oregon is in a region with a history of intense seismic activity, generated by the subduction of the Juan de Fuca Plate under the North American Plate and by the collision of the Pacific Plate with the North American Plate along the San Andreas Fault and associated faults in California. Known catastrophic subduction-zone seismic events in the Pacific Northwest, which have occurred every 300 to 800 years, have caused a down-drop of land, generated enormous tsunamis along the coast, and triggered major landslides throughout the region. The last such event took place in 1700.

Tectonic uplift of the entire Pacific Northwest region, driven by subduction of the Juan de Fuca Plate far offshore, has spawned many faults throughout the region, including the West Hills Fault along the axis of the toe of Portland's West Hills. An earthquake in March of 1993 near Molalla just south of Oregon City, dubbed the "Spring Break Quake," had a magnitude of 5.6 on the Richter

scale and caused significant damage to buildings throughout the region. In February 1999, a small earthquake with a magnitude of 2.7 cracked plaster at Oregon City High School.

Most of the damage to people and property from earthquakes is caused by groundshaking, which varies from place to place, depending on subsurface geology. Areas with floodplain soils, gravels, and significant water are likely to experience far more severe groundshaking than areas that stand on solid basalt bedrock, which resists movement. Areas of potential seismic hazard have been mapped by DOGAMI and are shown in the *Oregon City Hazard Mitigation Plan* (1998). Not surprisingly, the most hazardous area coincides with the most severe flood-prone area north of Abernethy Creek, due primarily to the alluvial soil and high water table that are most vulnerable to liquefaction during an earthquake. Areas in the McLoughlin neighborhood and on the Hilltop are far less vulnerable to groundshaking because they are underlain by basalt flows with little soil cover.

Oregon City can take several steps to minimize damage caused by seismic events. These include retrofitting existing public facilities and other buildings to withstand shaking, requiring new development to be built to new standards designed to withstand shaking, and developing an emergency response plan.

Other Hazards

Oregon City is also subject to wildfires, wind and ice storms, and volcanic activity, although the risk of these hazards is far less than the others discussed above.

Wildfires. Dry summers, dense vegetation, and the invasion of non-native weeds in parts of Oregon City make the city vulnerable to wildfires. Wildfires are particularly likely in areas with steep slopes and limited groundwater, leading to dry vegetation in late summer, where there is combustible brush or debris, and where structures with flammable exterior materials are present. The danger of wildfire can be exacerbated by a lack of adequate road access for fire equipment and by inadequate or poorly placed fire hydrants. While much of Oregon City is not vulnerable to wildfires, some areas are, especially in the so-called "wildland-urban interface" where dwellings are in the middle of heavily treed or vegetated areas and where steep, vegetated terrain can contribute to a "chimney effect" as fires burn uphill. The same conditions could apply to areas near Waterboard Park, Canemah Bluffs, Park Place, and canyons such as Singer Creek and Newell Creek.

Wind and Ice Storms. In fall and winter, major storms from the Pacific Ocean bring high winds to the Oregon coast but are generally moderated by the time they reach Oregon City. However some storm events result in damag-

ing high winds, as was the case in October 1962. More often, a combination of climatic conditions in winter result in freezing rain and ice storms throughout western Oregon, which can result in loss of life and property damage. These storms affect the entire city but damage can be more severe where trees are blown over and trees limbs droop onto power and telephone lines. Electrical power service can be interrupted because of downed lines, which can lead to additional safety and comfort complications for the city and for residents. Traffic signals, emergency communications, roads, and other public facilities are especially vulnerable. These events are usually of short duration, from a few hours to a few days.

Volcanic Activity. Oregon City's landscape was shaped by volcanic activity; much of Oregon City lies on a series of basalt flows that resulted from volcanic eruptions many thousands of years ago. Other small lava buttes and cinder cones form the forested buttes between Oregon City and Gresham. Mt. Hood, 35 miles northeast of the city, is the most visually attractive example of the volcanic activity, but it is only one of several volcanic features in the region. Other volcanoes in the Cascade Mountain Range include Mt. St. Helens, about 70 miles away in Washington state, which erupted in May and July of 1980, and South Sister, east of Eugene, which shows distinct signs of subsurface volcanic activity.

Although Mt. Hood has not erupted recently, it has the potential to erupt with lava, ash, and flows of hot ash mixed with water. These materials would flow swiftly down the flanks of the mountain and could reach the Columbia River. Depending on wind conditions, ash could drift across the city and present a health and structural hazard.

While volcanic events are rare, they can occur at any time and with enormous force. Scientists are developing the capability to predict when and where eruptions will occur. It is unlikely that Oregon City would be directly affected by a volcanic eruption in the region. More likely are secondary effects from airborne ash that would severely affect air quality. Ash, mudflows, and pyroclastic flows would affect the Clackamas River watershed, thus potentially compromising the supply of water for Oregon City and West Linn.

Goal 7.1 Natural Hazards

Protect life and reduce property loss from the destruction associated with natural hazards.

Policy 7.1.1

Limit loss of life and damage to property from natural hazards by regulating or prohibiting development in areas of known or potential hazards.

Policy 7.1.2
Protect existing development from natural hazards through mitigation measures identified in the *Oregon City Hazard Mitigation Plan*.

Policy 7.1.3
Reduce risk to residents and businesses by maintaining accurate information on the existence and potential of hazards.

Policy 7.1.4
Ensure that key public facilities (emergency service) are located outside recognized hazard areas.

Policy 7.1.5
Minimize the risk of loss of life and damage to property from flooding by limiting development in the 100-year floodplain and by ensuring that accepted methods of flood proofing are used.

Policy 7.1.6
Encourage the use of land and design of structures that are relatively unaffected by the periodic effects of flooding, such as parking and other uses not normally occupied by humans.

Policy 7.1.7
Prohibit uses in areas subject to flooding that would exacerbate or contribute to hazards posed by flooding by introducing hazardous materials, filling or obstructing floodways, modifying drainage channels, and other detrimental actions.

Policy 7.1.8
Provide standards in City Codes for planning, reviewing, and approving development in areas of potential landslides that will prevent or minimize potential landslides while allowing appropriate development.

Policy 7.1.9
Locate, design, and construct structures in conformance with current building codes and standards for seismic-resistant design.

Policy 7.1.10
Evaluate the need to retrofit existing public facilities such as water reservoirs, bridges, pipelines, and hospitals to better withstand earthquakes.

Policy 7.1.11
Prioritize roadways needed for public service, medical, and emergency vehicles during emergencies.

Policy 7.1.12
Ensure that key public services, such as water and sewer; and key public facilities such as police, fire, and hospital structures have the capability to back-up electricity during emergencies.

Policy 7.1.13
Minimize the risk of loss of life and damage to property from wildfires within the city and the Urban Growth Boundary.

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Section 8

Parks and Recreation

This section is intended to show compliance with Land Conservation and Development Commission (LCDC) Statewide Planning Goal 8, Recreation Needs, which directs jurisdictions to inventory recreational needs and opportunities and ensure that recreational facilities are appropriately sited with respect to compatibility with other land uses and availability of resources.

Because parks and recreational opportunities enhance the livability of a city and contribute to the well-being of its citizens, Oregon City is committed to providing its growing population with recreational facilities and services.

The major recreational facilities in Oregon City are the End of the Oregon Trail Interpretive center, McLoughlin House National Historic Site, Barclay House, the Buena Vista Club House, Ermatinger House, Aquatic Center, Carnegie Center, and Pioneer Community Center.

Major Recreational Facilities in Oregon City

The End of the Oregon Trail Interpretive Center. The End of the Oregon Trail Interpretive Center is located on an 8-acre site in the north portion of town adjacent to the County Maintenance Shops. While the City owns and maintains the site, the Oregon Trail Foundation maintains the site as well as operates the interpretive facility and a Visitor Information Center.

McLoughlin House National Historic Site and Barclay House. The McLoughlin House National Historic Site and the Barclay House (713 and 719 Center Street) are historic homes that are now museums. They are owned by

the National Park Service (NPS). The McLoughlin Memorial Association has operated the site but is transferring those responsibilities to NPS.

Buena Vista Club House. Owned and maintained by Parks and Recreation, the Buena Vista Club House at 1601 Jackson Street houses recreational programs and is available for community rentals.

Ermatinger House. One of the oldest buildings in Oregon, the Ermatinger House at 619 6th Street is managed by Parks and Recreation. The roof and foundation have been renovated, but some major structural upgrades are still needed to make it safe for large groups and a viable tourist attraction. Open hours are currently limited. Some special events and period teas are held.

Aquatic Center. The Aquatic Center is adjacent to the former Oregon City High School on Jackson Street. The facility has an indoor pool, wading pool, and meeting space and is used heavily by the school district for swimming lessons, the Oregon City High School Swim Team, and residents of Oregon City and surrounding areas. The center has deteriorated from age and inadequate maintenance, and parking is limited due to its location in a residential area. Because fixing these problems would require a significant public investment, a feasibility study should be conducted to investigate rehabilitating or expanding the facility or constructing a new facility either as a stand-alone pool or as part of a full-service community center in a more suitable location.



Carnegie Center. Formerly the home of the city library, the Carnegie Center is now a cultural arts facility with an art center, children's area, and coffee shop. The center sits on the 1.3-acre Library Park site in the middle of the McLoughlin neighborhood. Recent renovations include recreating the original façade and upgrading fire safety features to required standards. The park includes a spray pool, playground and pathway system. A recently completed plan calling for program upgrades, better marketing and relocation of the Children's Museum should be implemented.

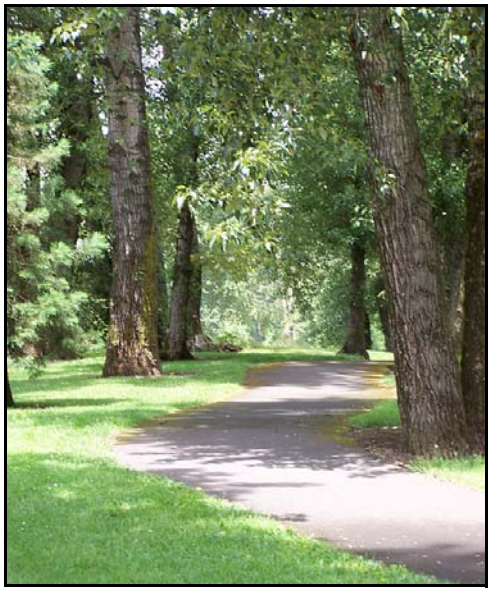
Pioneer Community Center. The Pioneer Community Center at 615 6th Street is used primarily during the day for senior-citizen activities, and in the evenings and on weekends for recreational programs, classes, public meetings, social events and rentals. The main level is heavily used, but the basement is underutilized because there is neither an elevator nor a public stairway connecting the two floors. In addition, there are continuing problems with water damage. This facility has suffered from heavy use and many years of deferred

maintenance. Much of the equipment, especially in the kitchen, is original and needs to be replaced.

Additional facilities on the site are a peace garden, pathway system, and parking area.

Oregon City Park and Recreation Master Plan

The most recent *Oregon City Park and Recreation Master Plan* (1999) is one of the several ancillary documents to the Comprehensive Plan. It is the primary inventory, planning, and implementation document for those resources. The 1999 master plan substantially changed the way the City administers its parks and recreational services. In 2000, parks and cemeteries were combined with recreation (Carnegie Center, Aquatics, Pioneer Center and city-wide recreational programming), paving the way for greater implementation of the entire master plan. The master plan also contains provisions for protecting open spaces and natural habitats, which are addressed in Section 5, Open Spaces, Scenic and Historic Areas, and Natural Resources.



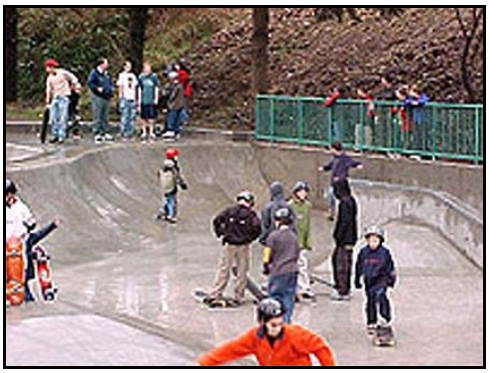
Oregon City should continue to implement the master plan and periodically review it, with special attention given to areas that are experiencing rapid growth. Because it is difficult to purchase large tracts of parkland in developed areas, the City should look to newly annexed areas and to areas within potential expansions of the Urban Growth Boundary for possible regional and community park sites while relatively inexpensive property with substantial acreage still exists.

The City should partner with other service providers as well as private industry when possible to develop green spaces and sites for active recreation. A proposed sports complex near Clackamette Cove, under consideration in cooperation with Tri-Cities (Environmental Services),[2] is a prime example. When possible, the City should work with subdivision developers to include park sites that are established according to City standards and subsequently given to the City to operate and maintain.

Because of funding constraints and the need to maintain existing facilities, regional and community parks should include revenue-producing amenities that at least partially fund maintenance of the facilities. The City should create an endowment fund or some other steady source of revenue to offset adding maintenance responsibilities to an already overburdened system.

The development of bike and pedestrian connections through greenways, natural parks and existing parks as well as through newly acquired property and easements should be aggressively pursued. In particular, agreements with

[2] Tri-Cities consists of a consortium of the Cities of Oregon City, Gladstone, and West Linn that, under the guise of Clackamas County Environmental services, provide wastewater treatment.



Metro and Clackamas County to implement Metro's Regional Trail System through and around Oregon City should be pursued. The City should consider taking the lead in joint applications for state and federal trail grants.

Heavy emphasis needs to be placed on developing new recreational facilities as the City continues to grow. Demands for a community center with a swimming pool and other recreational amenities are increasing, as shown in the series of town hall meetings in 2001 as part of the First City's Future planning (see Section 1, Citizen Involvement). Programming for youth and families in Oregon City is becoming ever more important. Activities for teens appear to be the greatest current need.

With rapid growth bringing new families into the city and surrounding area, reviewing the 1999 *Oregon City Park and Recreation Master Plan* every five to ten years is imperative, as new residents bring new ideas and demands.

Goal 8.1 Developing Oregon City's Park and Recreation System

Maintain and enhance the existing park and recreation system while planning for future expansion to meet residential growth.

Policy 8.1.1

Provide an active neighborhood park-type facility and community park-type facility within a reasonable distance from residences, as defined by the *Oregon City Park and Recreation Master Plan*, to residents of Oregon City.

Policy 8.1.2

When property adjacent to an existing neighborhood or community park becomes available, consider adding property to the park and developing it to meet the current needs of existing neighborhoods.

Policy 8.1.3

Develop regional and community parks in such a way that revenue-producing amenities are included to bring in a revenue stream to partially fund maintenance of the parks system.

Policy 8.1.4

Create either an endowment fund or a steady revenue stream to offset adding maintenance responsibilities to an already overburdened system.

Policy 8.1.5

Identify and construct a network of off-street trails throughout the city for walking and jogging.

Policy 8.1.6

Provide land for specialized facilities such as sports fields and indoor recreational facilities.

Policy 8.1.7
Seek out opportunities to coordinate and partner with other departments, agencies, and jurisdictions to fulfill the aims of the *Oregon City Park and Recreation Master Plan*.

Policy 8.1.8
Explore the possibility of developing a full-service community recreation center that has an aquatics facility and that focuses on providing programming and activities for the youth and families of Oregon City.

Policy 8.1.9
Emphasize retaining natural conditions and the natural environment in proposed passive recreation areas.

Policy 8.1.10
Identify revenue-producing opportunities for inclusion in existing and future parks to offset operational costs.

Policy 8.1.11
Explore opportunities for the school district and the City to share recreational facilities such as athletic fields and meeting space.

Policy 8.1.12
Identify and protect land for parks and recreation within the Urban Growth Boundary.

Policy 8.1.13
Explore the development of a riverfront promenade along the Willamette River from River View Plaza at 5th Street to Clackamette Park.

Policy 8.1.14
Require or encourage developers to dedicate park sites as part of the subdivision review process. When possible, require or encourage developers to build parks to City standards and give them to the City to operate and maintain.

Policy 8.1.15
Investigate the possibility of forming a regional parks and recreational district to replace City-provided services.

Policy 8.1.16
Investigate partnerships with existing and new heritage organizations for joint programming and/or management of historic buildings such as the Ermatinger House and the Buena Vista Club House.

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Section 9

Economic Development

This section is intended to show compliance with Land Conservation and Development Commission (LCDC) Statewide Planning Goal 9, Economy of the State, which calls for diversification and improvement of the economy. Goal 9 also requires local governments "to inventory commercial and industrial lands, project future needs for such lands, and plan and zone enough land to meet those needs." The section is also intended to show compliance with Title 1 of Metro's *Urban Growth Management Functional Plan* (1998).

Oregon City should strive to increase economic activity that increases local, family-wage jobs. The amount of vacant, industrial land inside the Urban Growth Boundary should be monitored to ensure that there is a sufficient supply to support continued economic growth. In addition, industrial land should be used efficiently by encouraging uses that employ a relatively high number of employees per acre. Coordination between public agencies and the business community, adequate transportation for goods and services, job training, and support for home-based businesses are important methods for ensuring that employment lands are developed successfully.

This section, together with its resource document, the *Economic Development Technical Report* (2002), demonstrates that Oregon City's supply of commercial and industrial land is sufficient to continue to promote opportunities for a healthy economy.

Oregon City has long had a significant role in commerce in Oregon and the Willamette Valley, in large part because of its location on the banks of the Willamette River. From early times, the need to portage around the Willamette Falls created an opportunity for development. Regular river steamer service beginning in 1850 made Oregon City a hub for the exchange and transfer of

goods from the upper and lower Willamette River and the land routes on the east side of the river. The first large industry in Oregon City, the Oregon Woolen Mills, built in 1864, was based on waterpower.

Currently, the city has a well developed by industrial and commercial base. Most of the land zoned for commercial uses has already been developed. Industrial areas, such as the Fir Street light industrial area and the Red Soils industrial park, are also near completion.

Employment

No single employer or sector dominates the employment picture in Oregon City because the majority of employers are small businesses. Seventy-four percent (1,215 out of 1,632 registered businesses) have fewer than five employees. Less than 1 percent (9 employers) have 100 or more employees, while the top three have more than 200 employees: Willamette Falls Hospital (726), Fred Meyer (275), and Blue Heron Paper Company (250). These nine employers account for almost 20 percent of the total number of private-sector employees in Oregon City.



Based on business licenses and information from public agencies, in 2002 there were a total of 13,005 employees in Oregon City—9,718 in the private sector and 3,287 in the public sector. However, these numbers are likely to be low because not every business has a business license, and businesses may report a lower number of employees than they actually have since business license fees are based on number of employees. In addition, the public sector employment number does not include state and federal workers. If both the public and private employees are underestimated by 10 percent, a more accurate number of employees for 2002 is 14,305. In 1982, there were an estimated 7,291 employees.

With 726 employees, Willamette Falls Hospital is by far the largest private employer in Oregon City. Another 997 people are employed by other providers of health care. Willamette Falls Hospital and Clackamas Community College should both be supported in their effort to grow because in some respects, they are mutually supportive. For example, the medical technology and nursing programs at Clackamas Community College provide trained employees for the hospital and other health-care employers.

A breakdown of employment by industry sector reveals that 967 employees work in eating and drinking establishments,[3] 400 in fabricated metals and primary metal industries, 250 in paper and allied products (at Blue Heron Paper Mill), 248 in auto repair services and auto repair shops, and 185 in credit agencies or banking.

[3] Employment categories are Standard Industry Classifications.

About one-third of the total employment in Oregon City is in the public sector. With 1,080 employees, the Oregon City School District is currently the largest public employer. In 1982, Clackamas Community College was the largest public employer, with 750 to 850 seasonal employees, but the college now employs less than half that number (349). The City of Oregon City has fewer employees now than it did in 1982 (159 now compared to 165 in 1982). There are a total of 3,287 employees in the city and county governments, school district, and community college. There are also state and federal employees, such as the Oregon City Self-Sufficiency Center, which has 146 employees.

Buildable Land

In 2002, a consultant hired by the City inventoried the current buildable land that may be available for commercial and industrial development. The report, the *Economic Development Technical Report* (2002), indicates that there are few remaining buildable acres for commercial development within the city limits and the Urban Growth Boundary—only 22.7 developable acres of vacant and redevelopable, commercially zoned property. There were 181 acres of developable land zoned for, or planned to be used for, industrial purposes. Most of this land is in the Downtown area, north of Abernethy Creek and south of Highway 213, and near Clackamas Community College along both sides of Beavercreek Road. Constraints on land north of Abernethy Creek make it more suited to mixed uses, and it was rezoned, reducing further the amount of industrial land available.



The report is available at the Oregon City Planning Department.

Metro Requirements

Metro's *Urban Growth Management Functional Plan* (1998) established employment targets and other economic policy directives for jurisdictions within Metro. Oregon City must comply with the functional plan or justify exceptions to it.

Metro has assigned a target of 8,185 jobs to Oregon City, the number of jobs the city should plan to accommodate between 1994 and 2017 within the 1996 city limits. Clackamas County has allocated 2,987 jobs to the area between the 1996 city limits and the Urban Growth Boundary, which was part of Clackamas County's employment and housing target distribution in the urban unincorporated area surrounding Oregon City (*Clackamas County Urban Growth Management Functional Plan Compliance Report* [2000]). Although Oregon City has never formally agreed to the County's employment distribution of 2,987

jobs, combining Metro's job capacity for Oregon City (8,185) with the County's allocation for the Urban Growth Boundary (2,927) results in a target of 11,172 new jobs to be created between 1994 and 2017.

The *Economic Development Technical Report* examines the density of commercial development and the number of employees per acre for different types of commercial and industrial land uses and estimates future employment capacity based on available land—how many employees could be accommodated within Oregon City and the current Urban Growth Boundary. The report concludes that, with the implementation of the *Oregon City Downtown Community Plan* (1999) and other modest changes to the zoning ordinance and the Comprehensive Plan Land-Use Map (changing the area north of the Fairways Airport land strip to industrial and adding two neighborhood commercial centers), Oregon City will be able to accommodate 9,048 jobs between 1994 and 2017. This is short of the 11,172 combined employment target by 2,124 employees; that is, Oregon City will be able to reach 81 percent of the target.



The Downtown area is designated as a Regional Center design type in *Metro's 2040 Growth Concept* (1995) and is planned to encourage the development of very high density, mixed-use retail, office, and residential uses, served by high-quality transit service and multi-modal street networks. The City has adopted the *Oregon City Downtown Community Plan* (1999), which is consistent with the Regional Center designation. The zoning proposed in the Downtown community plan assigns a new Mixed Use Downtown (MUD) zone designation for current industrial zone designations on some of the properties. The effect will be to replace some exclusively industrial land with mixed uses that will generate employment but not in light or heavy industries.

Another design type assigned to Oregon City in *Metro's 2040 Growth Concept* is Employment Areas. Oregon City has elected to apply the Industrial Area design type to its Comprehensive Plan Land-Use Map by including all industrial designations in that category.

Title 4 of Metro's *Urban Growth Management Functional Plan* (1998) restricts "big-box retailers" (i.e., single retailers with over 60,000 square feet of gross leasable space) from locating within areas identified as Employment Areas on Metro's Employment and Industrial Areas map. A new Mixed Use Employment District restricts retail uses to less than 60,000 gross square feet for a single business in a single building.

Once a concept plan is completed for the Urban Growth Boundary expansion along Beavercreek Road, it is anticipated that a significant amount of industrial land will be added to the city's industrial land supply. To ensure efficient, orderly, and adequate provision of services and creation of compatible industrial development, a concept plan (see Section 2, Land Use) must be adopted prior to any proposed urban levels of development.

Preserving and Growing Oregon City's Economy

Ensuring an adequate supply of industrial land is only part of the equation for economic health. The City can participate in other ways to help grow the local economy. The City can work with local businesses, organizations and other jurisdictions to create development partnerships, create incentives to help promote development, and keep abreast of changing conditions that might require regulatory or plan adjustments. Other activities include encouraging the creation of a skilled workforce, working to retain and expand existing employers, promoting tourism and home-based businesses, and ensuring that the transportation system can meet the needs of industry and employees. Transportation bottlenecks can constrain the expansion of businesses and prevent new ones from locating here because of the added costs that congestion imposes. Alternative transportation modes and transportation demand management strategies can relieve some of the pressures on the roadway system.



Economic Development Incentives. During the public involvement process for the Comprehensive Plan update, citizens recommended creating market-based incentives to encourage development in the Downtown and waterfront areas. Market-based incentives fall into several categories:

- Public commitments and actions such as locating city offices Downtown, supporting transit operations, and following through on critical City projects recommended in the Downtown community and waterfront master plans.
- Regulatory code compliance relief from development standards such as setbacks, parking, landscaping, and site coverage; relief from fees or charges such as System Development Charges.
- Public support, including design assistance, small business and marketing assistance, marketing studies or pro-forma analysis, promotion of Downtown in City publications, and support of special events like parades, farmers' markets, and antique fairs.
- Financial assistance from, for example, the City's Capital Improvement Program and Urban Renewal Program, improvements to public infrastructure and building parking lots, low-interest loans and direct grants, local improvement districts (with or without the City's assuming part of the design and administration costs), and property tax abatement.
- Direct assistance with development such as public/private partnerships or co-development (i.e., sharing the cost of building and maintaining a parking structure with spaces allotted to both the public and the private business), land assembly and resale, and loan guarantees.

Goal 9.1 Improve Oregon City's Economic Health

Provide a vital, diversified, innovative economy including an adequate supply of goods and services and employment opportunities to work toward an economically reasonable, ecologically sound and socially equitable economy.

Policy 9.1.1
Attract high-quality commercial and industrial development that provides stable, high-paying jobs in safe and healthy work environments, that contributes to a broad and sufficient tax base, and that does not compromise the quality of the environment.

Policy 9.1.2
Contribute to the health of the regional and state economy by supporting efforts to attract "traded sector industries" such as high technology and production of metals, machinery, and transportation equipment. (Traded sector industries compete in multi-state, national, and international markets and bolster the state's economy by bringing money in from sales of goods and services outside of the state.)

Goal 9.2 Cooperative Partnerships

Create and maintain cooperative partnerships with other public agencies and business groups interested in promoting economic development.

Policy 9.2.1
Seek input from local businesses when making decisions that will have a significant economic impact on them.

Policy 9.2.2
Carefully consider the economic impacts of proposed programs and regulations in the process of implementing the City's Comprehensive Plan.

Policy 9.2.3
Simplify, streamline, and continuously improve the permitting and development review process.

Policy 9.2.4
Use financial tools available to the City, including its Urban Renewal Program and Capital Improvement Program, to support its economic development efforts.

Policy 9.2.5
Use public-private partnerships as a means to leverage private investment when appropriate.

Goal 9.3 Retention of Existing Employers

Retain existing employers, both public and private, and encourage them to expand their operations within the City.

Policy 9.3.1
Protect existing industries from encroachment by incompatible land uses, and ensure that expansion options are available to them wherever possible.

Policy 9.3.2
Support programs of Clackamas County, the Oregon Department of Economic and Community Development, the Small Business Administration and other agencies that provide business-related services such as low-interest loans, job training, and business counseling.

Policy 9.3.3
Encourage the retention and expansion of Clackamas County as a major employer inside the city.

Policy 9.3.4
Work cooperatively with Clackamas Community College, Clackamas County (for Red Soils Facility), and Willamette Falls Hospital to help facilitate their expansion, and encourage master planning for future expansions.

Goal 9.4 Education, Skills And Workforce Training

Ensure that the major employers in Oregon City are able to find qualified and skilled workers to meet their needs.

Policy 9.4.1
Encourage Clackamas Community College and the Oregon City High School to continue providing job training. Support partnerships between Clackamas Community College and potential employees such as Willamette Falls Hospital and other private businesses and new employers on the City's industrial lands, especially near the college.

Policy 9.4.2
Promote the development of ongoing partnerships between Clackamas Community College, the Oregon City School District, the Workforce Investment Council of Clackamas County, local and regional businesses, the Oregon Employment Department, and other agencies to train new workers.

Goal 9.5 Retail Service

Allow a variety of retail outlets and shopping areas to meet the needs of the community and nearby rural areas.

Policy 9.5.1
Develop local neighborhood or specific plans, when appropriate, to blend infill development along linear commercial areas into existing neighborhoods.

Policy 9.5.2
Develop plans to provide necessary public services to surrounding rural industrial lands for future development.

Goal 9.6 Tourism

Promote Oregon City as a destination for tourism.

Policy 9.6.1
Protect historic, recreational, and natural resources as the basis for tourism, such as the Historic Downtown Area.

Policy 9.6.2
Ensure land uses and transportation connections that support tourism as an important aspect of the City's economic development strategy. This could include connections to the End of the Oregon Trail Interpretive Center and the train depot.

Policy 9.6.3
Provide land uses in the Downtown Historic Area, 7th Street corridor, and the End of the Oregon Trail Interpretive Center that support tourism and visitor services.

Policy 9.6.4
Encourage and support citywide events that would attract visitors and tie to the historic attractions of the city. Preserve tourism-related transportation services like the Oregon City Elevator and trolley.

Policy 9.6.5
Encourage river-related tourism facilities and services, such as docking facilities, river transit and river tours.

Policy 9.6.6
Encourage private development of hotel, bed and breakfast, restaurant facilities and other visitor services.

Goal 9.7 Home-Based Businesses

Provide a supportive climate for home-based businesses.

Policy 9.7.1
Encourage home-based businesses that are low impact and do not disrupt the residential character of the neighborhoods in which they are located.

Policy 9.7.2
Encourage the support services that home-based businesses need.

Goal 9.8 Transportation System

Recognize the importance of the land use-transportation link and encourage businesses to locate in areas already served by the type of transportation system they need.

Policy 9.8.1
Through coordination with TriMet and local employers, encourage and promote the use of mass transit to travel between residential areas and employment areas.

Policy 9.8.2
Participate in regional efforts to encourage employers to promote telecommuting and other flexible work arrangements.

Policy 9.8.3
Assess the feasibility of implementing Transportation Management Associations in the city.

Policy 9.8.4
Promote "shared parking" and transportation demand management techniques such as transit vouchers, car or van pooling, and flexible schedules and telecommuting options to reduce peak hour trips.

Policy 9.8.5
Work with the Oregon Department of Transportation to preserve and improve the capacity of Highway 213 and its intersection with I-205.

Policy 9.8.6
Encourage the provision of multi-modal transportation to support major existing employers.

Policy 9.8.7
Assess methods to integrate the pedestrian, bicycle and elevator transportation modes into the mass transit system.

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Section 10

Housing

This section is intended to show compliance with Land Conservation and Development Commission (LCDC) Statewide Planning Goal 10, Housing. The goal requires cities to plan for needed housing types such as multi-family and manufactured housing, to inventory buildable residential land, to project future needs for the land, and to zone enough buildable land to meet those needs. The goal prohibits cities from discriminating against needed housing types. Oregon City is also subject to regional requirements to provide an adequate supply of vacant and buildable land for future residential growth. This section is supported by the resource document, *Housing Technical Report* (2002).

Oregon City recognizes that the health of the city depends largely on the health of its neighborhoods. The housing goals and policies listed in this section are intended to ensure that the integrity of existing neighborhoods is protected and that planning for new neighborhoods is comprehensive and inclusive of a range of housing types and residential services.

Oregon City is unique for its role in Oregon history and for the age and diversity of its housing. Many of the older homes and buildings have historical significance. Therefore, housing planning is aimed at both development of new housing and preservation or careful redevelopment of older historic housing. Like many other communities in the Willamette Valley, Oregon City's population grew more quickly than expected in the 1990s, nearly doubling (see table, next page). More housing will be needed to accommodate new residents and those wishing to move into different types of housing.

In 2002, the City hired a consultant to determine if existing Comprehensive Plan and zoning designations would accommodate growth in Oregon City through 2017. The report, *Housing Technical Report* (2002), includes an inven-

Oregon City's population, 1988 to 2003

		Change from previous year	
Year	Population	Number	Percentage
1988	15,030		
1989	14,975	–55	–0.4%
1990	16,100	+1,125	+7.5%
1991	16,760	+660	+4.1%
1992	16,810	+50	+0.3%
1993	17,315	+505	+3.0%
1994	17,545	+230	+1.3%
1995	18,980	+1,435	+8.2%
1996	20,410	+1,430	+7.5%
1997	21,895	+1,485	+7.3%
1998	22,560	+665	+3.0%
1999	23,405	+845	+3.7%
2000	24,940	+1,535	+6.6%
2001	26,200	+1,260	+5.1%
2002	26,680	+480	+1.8%
2003	28,100	+1,420	+5.3%

Source: City of Oregon City

tory of existing vacant buildable and underutilized land, characteristics of existing housing and demographics in Oregon City and how they compare to the region, and a forecast of housing needs.

According to the report, affordability of housing in Oregon City in 2002 was an issue, as it is in many cities. The U.S. Department of Housing and Urban Development has set 30 percent of monthly income as the maximum that should be spent on housing, and based on this figure, 12 percent of Oregon City's residents cannot afford a studio apartment and more than 23 percent cannot afford a two-bedroom apartment. Rent is slightly higher in the Portland metro area; 12 percent cannot afford a studio apartment and 26 percent cannot afford a two-bedroom apartment.

Other comparisons to the Portland metro area include the following:

- The percentage of people in Oregon City living in group quarters (for example, correctional institutions, nursing homes and residential care facilities) is higher (3.5 percent in Oregon City) than in the metro area (1.8 percent). The number of residents seeking housing in group quarters is likely to increase if the population ages and the Clackamas County correctional facility expands.
- Oregon City's population is slightly younger.

- The percentage of female-headed households in Oregon City living in poverty is significantly higher (25 percent in Oregon City; 20 percent in the metro area).
- Average household income is similar.
- Types of housing (for example, single-family detached and multi-family) are similar.
- Percentage of renters versus owners is similar.

State and Metro Requirements

As noted above, both the State of Oregon and Metro have requirements that Oregon City must fulfill with respect to its comprehensive planning for residential needs. Part of complying with Goal 10 is ensuring that there is an adequate supply of vacant and buildable land for future growth and that the land is designated for a variety of housing types to fit a range of incomes, needs, and preferences. Compliance with Goal 10 is demonstrated through a housing inventory and analysis, which is also one of Metro's requirements. The housing inventory and analysis completed for this updated Comprehensive Plan is discussed below within the context of compliance with *Metro's 2040 Growth Concept* (1995).

Oregon City has two Metro requirements to fulfill. The first is related to *Metro's 2040 Growth Concept*. The second is related to Title 7 of the *Urban Growth Management Functional Plan* (1998) and concerns provisions for affordable housing. Both requirements are discussed below.

Metro's 2040 Growth Concept defines regional growth and development in the Portland metropolitan region with policies, a map of land uses, and a *Regional Framework Plan* (1997), which further establishes the policy direction. Metro's *Urban Growth Management Functional Plan* (1998) became the implementing ordinance that sets requirements for local governments. The functional plan established growth management regulations to ensure that the region complies with state goals for land use in a coordinated way and that housing and employment growth is accommodated equitably across the region.



After the Urban Growth Boundary was established, the affected cities and counties negotiated targets for new dwelling units and jobs. In 1994, Metro and Clackamas County estimated that Oregon City should expect to need to accommodate 9,940 additional housing units between 1994 and 2017 within the city and the Urban Growth Boundary. To comply with the Metro target, Oregon City needed to demonstrate that, after subtracting units built between 1994 and 2002, the land-use designations on remaining vacant and underutilized land would accommodate the difference in needed new dwelling units. If Oregon

City could not do so, the City would need to find other ways to meet the capacity target, most likely through increasing minimum residential densities within the city and Urban Growth Boundary.



The 2002 housing inventory revealed that 3,665 dwelling units were built between 1994 and 2002, which left 6,075 new units needed to meet the Metro 2017 target. After accounting for expected future accessory dwelling units and environmentally constrained land, the overall planned density of residential land in Oregon City and within the Urban Growth Boundary was not sufficient to meet the dwelling unit target established by Metro. Full development of all vacant and partially vacant land under the current Comprehensive Plan designations would result in only 4,593 new units, falling short of the target by more than 1,400 units. The projected shortage of housing units would mean that future population growth, projected to increase from 28,100 in 2003 to approximately 47,500 in 2017, could not be accommodated with the City's current zoning and available land.

Two avenues were pursued to make up the shortfall: (1) map and zoning code amendments to increase densities in targeted areas, and (2) expansion of the Urban Growth Boundary in three locations. With input from a citizen advisory group, the City made changes to the Comprehensive Plan Land-Use Map and zoning code, providing additional units within the city limits. As part of encouraging more intensive development (as well as a wider range of housing types), a new designation of "Mixed Use" was developed to include the mixed-use zones planned for Downtown and other areas of the city suited to combinations of compatible uses. To increase the range of available housing types as well as add the potential for more units, some areas of the city were recommended to be redesignated to more intense residential uses based on the following location criteria:



- along collectors, arterials and transit corridors
- close to business districts and employment and education centers
- in the Downtown mixed-use area
- adjacent to similar more intense densities

As part of the recent Urban Growth Boundary expansion process, Oregon City applied for and received approval of expansions at South End Road, Redland Road, and Beavercreek Road. Land within the 2002 expanded Urban Growth Boundary provides additional land for future annexation and will help the City meet the demand for housing.

In 2001, Metro adopted amendments to Title 7 of the *Urban Growth Management Functional Plan* to implement the *Regional Affordable Housing Strategy* (2000), which identifies measures to provide adequate affordable housing in the Metro region. The amendments require local jurisdictions to consider adopting a number of tools and strategies for promoting the creation and retention of affordable housing. Metro defines an affordable housing unit as one that requires no more than 30 percent of household income for people earning 50 percent of the median household income in their jurisdiction. By that definition, an affordable housing unit in Oregon City in 2000 would cost $570 per month or less. The 2002 housing inventory and analysis showed that the number of lower-cost units in Oregon City was inadequate to meet both the current (2002) and projected housing needs of the city's lower-income residents. Title 7 tools and strategies have been adopted as Goal 10.2 and Policies 10.2.1 through 10.2.4.

Many of the policies in the 1982 Comprehensive Plan have been retained in the updated plan because they are still relevant. Because the housing inventory conducted in 2002 established baseline data for housing, the City will track development as it occurs, to keep the information current.

Goal 10.1 Diverse Housing Opportunities

Provide for the planning, development and preservation of a variety of housing types and lot sizes.

Policy 10.1.1
Maintain the existing residential housing stock in established older neighborhoods by maintaining existing Comprehensive Plan and zoning designations where appropriate.

Policy 10.1.2
Ensure active enforcement of the *City of Oregon City Municipal Code* regulations to ensure maintenance of housing stock in good condition and to protect neighborhood character and livability.

Policy 10.1.3
Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.

Policy 10.1.4
Aim to reduce the isolation of income groups within communities by encouraging diversity in housing types within neighborhoods consistent with the *Clackamas County Consolidated Plan*, while ensuring that needed affordable housing is provided.

Policy 10.1.5
Allow Accessory Dwelling Units under specified conditions in single-family residential designations with the purpose of adding affordable units to the

housing inventory and providing flexibility for homeowners to supplement income and obtain companionship and security.

Policy 10.1.6
Allow site-built manufactured housing on individual lots in single-family residential zones to meet the requirements of state and federal law. (Pursuant to state law, this policy does not apply to land within designated historic districts or residential land immediately adjacent to a historic landmark.)

Policy 10.1.7
Use a combination of incentives and development standards to promote and encourage well-designed single-family subdivisions and multi-family developments that result in neighborhood livability and stability.

Goal 10.2 Supply of Affordable Housing

Provide and maintain an adequate supply of affordable housing.

Policy 10.2.1
Retain affordable housing potential by evaluating and restricting the loss of land reserved or committed to residential use. When considering amendments to the Comprehensive Plan Land-Use Map, ensure that potential loss of affordable housing is replaced.

Policy 10.2.2
Allow increases in residential density (density bonuses) for housing development that would be affordable to Oregon City residents earning less than 50 percent of the median income for Oregon City.

Policy 10.2.3
Support the provision of Metro's Title 7 Voluntary Affordable Housing Production Goals.

Policy 10.2.4
Provide incentives that encourage the location of affordable housing developments near public transportation routes. Incentives could include reduction of development-related fees and/or increases in residential density (density bonuses).

Section 11

Public Facilities

This section is intended to show compliance with Land Conservation and Development Commission (LCDC) Statewide Planning Goal 11, Public Facilities. Goal 11 requires that public facilities and services be provided in a timely, orderly and efficient manner. The goal's central concept is that local governments should plan public services in accordance with the community's needs as a whole rather than be forced to respond to individual developments as they occur.

Public facilities and services include:

- wastewater collection and treatment, water distribution and storage, and stormwater management
- solid waste (trash) disposal
- transportation infrastructure
- fire protection and emergency services
- police protection
- library
- parks and recreation

Oregon City is committed to providing its residents with safe and accessible public facilities and services that are developed in a timely, orderly and efficient fashion and that contribute to their welfare and quality of life.Oregon City also has an interest in its citizens having access to utilities provided by other agencies and the private sector, such as electricity, gas, telecommunications, health care, and education.

Wastewater Collection and Treatment, Water Distribution, and Stormwater Management

Oregon City's wastewater collection and treatment, water distribution, and stormwater management facilities and services are funded by user fees and governed by the following ancillary documents:

- *City of Oregon City Sanitary Sewer Master Plan* (2003)
- *Caufield Basin Master Plan* (1997)
- *South End Basin Master Plan* (1997)
- *Drainage Master Plan* (1988), updated in 1999 as the *City of Oregon City Public Works Stormwater and Grading Design Standards*
- *City of Oregon City Water Master Plan* (2003)

Wastewater Collection and Treatment. The *City of Oregon City Sanitary Sewer Master Plan* (2003) contains specifications for the existing wastewater collection system and discusses how the specifications will need to change during the next 20 years, based on projected growth. According to the master plan, Oregon City's sanitary sewer system is in relatively good condition with isolated areas of capacity problems, and will remain adequate within the Urban Growth Boundary for the next 20 years. The greatest deficiency is the older pipes that need repair, rehabilitation, or replacement. The City continues to work with the Tri-City Service District to reduce inflow and infiltration into the collection system.

Wastewater is treated at the Tri-City Water Pollution Control Facility. Located in Oregon City, Tri-City treats wastewater from Oregon City, West Linn and Gladstone. Wastewater flows from the greater Clackamas County area were recently diverted to Tri-City as a result of a cost-efficient strategy that benefited Tri-City ratepayers. Flows to Tri-City may increase if the Kellogg Creek Water Pollution Control Plant in Milwaukie closes and as planned growth occurs in the Damascus area. The need for a major expansion of Tri-City will have to be weighed against preserving the valuable property around the treatment plant for future parks, recreation, and mixed-use development. Oregon City and Tri-City should continue to collaborate on the Clackamette Cove area improvements identified in the *Tri-City Service District, Tri-City Water Pollution Control Facility (WPCF) Master Plan Plant Advanced Facilities Plan* (2002) and the *Oregon City Waterfront Master Plan* (2002).

Water Distribution and Storage. Surface water from the Lower Clackamas River is the source of potable water for Oregon City and West Linn. The wholesale water supplier is the South Fork Water Board, which is owned equally by Oregon City and West Linn. Water is distributed by each city under separate utility departments. The South Fork Water Board has rights to withdraw 42.6 million gallons per day (mgd), which is expected to meet demand for

at least 30 years. However, Oregon City will need to increase water storage capacity within its distribution system.

Stormwater Management. The focus of stormwater management has changed over the years from underground stormwater and sanitary sewers combined and piped systems to open, natural drainage channels where possible. The *Caufield Basin Master Plan* (1997) and *South End Basin Master Plan* (1997) call for drainageways to remain in a natural state for maximum water quality, water resource preservation, and aesthetic benefits. The *City of Oregon City Public Works Stormwater and Grading Design Standards* (1999) encourages the use of open ponds for stormwater runoff control where feasible. Detention ponds that serve more than one development and regional detention facilities are preferred because they require a lower level of monitoring and maintenance effort than single- or on-site detention. Updated plans for all of the drainage basins in Oregon City should be developed using a watershed planning approach.

The City's stormwater management program is subject to the City's National Pollution Discharge Elimination System Municipal Separate Storm and Sewer System (NPDES) MS-4 permit, which is administered by the Oregon Department of Environmental Quality (DEQ) for the U.S. Environmental Protection Agency (EPA).

Oregon City and the other urban municipalities in Clackamas County have operated since 1996 under a joint NPDES permit that prescribes requirements for each agency. Oregon City is responsible for monitoring and maintaining its stormwater management system to ensure the environmental integrity of the system's receiving waters (the Willamette and Clackamas rivers), and for preparing annual reports showing permit compliance.

Solid Waste (Trash) Disposal

For most residences and businesses within the city limits, Oregon City Garbage Company, a private company contracted by Oregon City, collects garbage and recyclables at the curb for distribution to Metro disposal and transfer facilities. Metro oversees regional garbage disposal, recycling and waste reduction programs and owns the Metro South Transfer Station. Regional landfill sites are estimated to have the capacity to serve the region until mid-century (*Regional Solid Waste Management Plan, 1995-2005* [1999]). Therefore, no capacity issues are anticipated for the duration of this Comprehensive Plan.

Transportation Infrastructure

The transportation infrastructure in Oregon City is governed by the *Oregon City Transportation System Plan* (Oregon City TSP), adopted in 2001. Oregon City's transportation system is discussed separately in Section 12, Transportation.

Fire Protection and Emergency Services

Oregon City provided its own fire protection and emergency services until it contracted them out. In 1999, the responsibilities were contracted by Tualatin Valley Fire and Rescue (TVFR), East Division. Since July 2003, Clackamas County Fire District #1 has provided fire protection and emergency services.

There are three fire stations in Oregon City: the main station at the old City Hall in the McLoughlin Neighborhood, a substation along Molalla Avenue near Clackamas Community College, and a new station on South End Road.

Electricity, Gas and Telecommunications

Several utilities provide energy and communication services to residents and businesses in Oregon City. Portland General Electric, which owns generating and transmission facilities, provides electricity to Oregon City. The Bonneville Power Administration markets wholesale electrical power and operates a high-voltage transmission line south of Oregon City and east of Holly Lane in Newell Canyon. Currently, there is sufficient electricity capacity in the Oregon City area to support industrial, commercial, and residential expansion.

New transmission line facilities should be located underground where economically and technically feasible to preserve the aesthetic quality of neighborhoods and reduce the risk of power outages. Local service lines in new subdivisions should be underground. Development of a new program to bury existing power and telephone lines should be investigated.

Northwest Natural (NWN) pipes natural gas to homes and businesses in the Metro area. NWN's system is sized to support existing customers. Planning for future capacity needs is focused primarily on the supply of natural gas, rather than on the supply of pipelines. There are no infrastructure capacity constraints with the existing natural gas pipeline system.

Qwest Communications International, Inc., provides local, long distance, and wireless telephone services as well as broadband data, and voice and image communications for businesses and consumers. Qwest maintains both older telephone transmission lines and newer fiber-optic lines. Beavercreek Telephone also provides local services.

Emerging technologies such as wireless communications, geographic information systems, and digital subscriber lines (DSL) are becoming increasingly important to the economy and education. However, these technologies are growing so rapidly and are so volatile that documenting information about

transmission resources, providers, demand, and use in the Oregon City area is extremely difficult. Because information transmission resources are federally regulated, the Federal Communications Commission maintains a list of its Clackamas County licensees, which indicates that all of these emerging technologies are or will be available to Oregon City residents. Because most of these resources are privately owned, the City's role in the information transmission system should be to inform residents and businesses about available resources and act as an advocate for providing up-to-date services to residents and businesses. City staff needs to keep abreast of methods of mitigating adverse impacts that can result from both the volatility of the industry and the construction of system infrastructure such as cell towers and in-ground fiber-optic lines.

Health Care

Healthcare services in Oregon City are provided by Willamette Falls Hospital, the Clackamas County Department of Human Services, and a variety of private entities such as retirement communities, assisted living facilities, and nursing homes. Clackamas County's health services are found in various locations throughout the city.

Willamette Falls Hospital anticipates the need for expansion during the next 10 to 20 years. The hospital has been purchasing nearby properties in anticipation of expansion, but traffic circulation continues to be a challenge and may hinder future expansion. The City and County should continue to work with the hospital to balance the needs of the neighborhood, patients, and the hospital. New facilities, such as medical and dental offices, should be compatible in size with the surrounding areas. A City-approved master plan is needed to ensure adequate facilities and infrastructure during construction.

Although regional healthcare planning is done by public and private healthcare providers, Oregon City should stay abreast of trends in health care and changes in population that may affect land uses. For example, "aging in place" refers to providing citizens accommodations that can be adapted to the physical limitations associated with aging, thereby limiting disruption to individuals. In addition, the City should support the revisions of the *Uniform Building Code* that accommodate accessibility for the disabled.

Education

K-12. The public education system in Oregon City consists of elementary schools, middle schools, and one high school. The Oregon City School District projects enrollment based on demographic trends and a ratio of 0.94 school children per residential household. A rolling five-year projection is done every

fall to ensure that the facilities will accommodate growth. The preferred number of students per classroom is 25, with the maximum considered to be 30.

To the extent possible, future school facilities should be located in, or at least adjacent to, residential areas to reduce traffic impact, maintain convenience for students, provide a focus for the neighborhoods, and promote energy conservation. Neighborhood schools and their athletic facilities should also serve as community centers by being available for community meetings and events in the evenings and on weekends.

The Oregon City School District and Oregon City should proceed with the disposition of the original high school, which was vacated in 2003, and other vacant school properties to ensure that the properties are used for the mutual benefit of all residents.

Post-Secondary. Clackamas Community College (CCC) has been, and will continue to be, an important resource and significant partner in the character and development of Oregon City. The college offers an array of educational opportunities, job training programs, social programs, recreational facilities, and meeting spaces that benefit the residents of Oregon City and the surrounding communities.

CCC is connected to Oregon City High School to the south by a foot path, giving high school students easy access to advanced classes. Development on nearby industrial land should offer opportunities for internships and employment for students at both the high school and CCC.

The TriMet hub on the center of campus will play a role in future public transportation routes through Oregon City and should be enhanced to improve service. The Environmental Learning Center offers a valuable community resource as an educational and demonstration site. The Haggart Observatory on the CCC campus has one of the largest telescopes in the Pacific Northwest and is an educational resource that should be protected. Because nighttime light pollution can impair the telescope's ability to see into space, the development of lighting standards, including minimum lighting standards where suitable, and appropriate shielding of parking, street, path, and building lights, would benefit the observatory. For more information on nighttime light pollution, see Section 6 (Air, Water, and Land Resources).

CCC and Oregon City should work together to zone CCC's 164-acre site to allow for taller buildings in order to increase the efficient use of the remaining vacant property in a compact and dense, urban form. Master planning of the site is also critical to ensuring that adequate facilities are available in a timely manner for students, and that the pedestrian and transportation system, including the extension of Meyers Road, will support the increased enrollment that will follow from the expanded services the college plans to provide. The City should support expansion that is consistent with good site planning and design and compatible with adjacent uses.

Police Protection

The Oregon City Police Department consists of three divisions: support, records, and operations (chiefly patrol, including traffic). The departmental facilities at City Hall are severely deficient. The City should develop additional funding to support the minimum level of police service as the city continues to grow.

Library

The Oregon City Public Library houses its collection of 98,000 items in a leased, 13,000-square-foot facility in Danielson's Hilltop Mall on Warner Milne Road. The library program is partially funded by a county library levy and the City's general fund. Funds are distributed to the libraries in the county based on size of service area and circulation of library materials.



A new facility is desperately needed to accommodate Oregon City's population. In 1993, a construction bond measure for a new library was unsuccessful. In 1995, the library was moved to its current location. The facility is not large enough to meet the needs of Oregon City residents and the county residents. According to Oregon Library Association standards, the number of Oregon City Public Library employees is inadequate for the size of its service area. The library does not have public meeting, study, or equipment rooms.

In 1998, Oregon City hired Providence Associates, Inc., a nationally recognized consultant in library building development, to evaluate the library and its services. Their report, *From One Century to the Next: A Twenty Year Needs Assessment for the Oregon City Public Library* (1998) indicated that a 59,000-square-foot facility would be needed to meet the needs of the residents in 2020.

In 2000, the City Commission discussed plans for building a new, 32,000-square-foot library. The Library Building Committee is currently searching for an appropriate site in the Hilltop area, near retail services and with good access to Oregon City neighborhoods, multiple modes of transportation (car, transit, pedestrian, bicycle), and major roads from rural areas to the east and south. The site must have at least four acres to be able to accommodate the building, parking and future expansion. A stand-alone facility and a civic complex that includes a library are both feasible options.

Parks and Recreation

Oregon City owns and maintains a number of parks and recreational facilities throughout the city. The major facilities are the End of the Oregon Trail Interpretive Center, McLoughlin House National Historic Site, Barclay House,

Buena Vista House, Ermatinger House, Aquatic Center, Carnegie Center, and Pioneer Community Center. See Section 8, Parks and Recreation, and the *Oregon City Park and Recreation Master Plan* (1999) for more information.

Other Public Facilities and Services

Reservoirs and Pump Stations. Reservoirs and pump stations are located at strategic locations throughout the city and are secured, controlled, and monitored through telemetry.

Operations Division of the Public Works Department. The Operations Division of the Public Works Department resides in facilities throughout the city. Facilities include staff offices, shops for sign fabrication and fleet maintenance, and storage for equipment, tools, and pump station and pipe maintenance equipment.



City Hall. City Hall, located on Warner Milne Road, contains offices and other facilities for the City Commission, City Manager, Municipal Court, and the departments of Community Development, Public Works, Finance, Police, and Community Services. City Hall consists of a permanent building connected by covered walkways to three portable buildings.

The Community Development Department provides long-range planning and development review. Within this department, Geographic Information System (GIS) services provide mapping and critical support for all planning functions.

The Public Works Department plans and constructs capital improvements, operates and maintains city infrastructure, administers the Downtown parking program, and provides code enforcement.

The Finance Department oversees the annual budget, is responsible for accounts receivable, accounts payable, and utility billing services, and provides human resources support for all departments.

The Community Services Department plans and operates the city's library and parks and recreational activities.

The facility City Hall occupies is severely undersized not only for existing staff but also for much needed additional staff. The City is continuing its efforts to develop a long-term plan for a permanent home for City Hall and the services it provides.

Funding. Oregon City's public facilities and services can be funded in a number of ways.

- The **General Fund** is a limited revenue source from property taxes and shared by a multitude of other governmental agencies and special districts.

- **Urban Renewal** funding comes from designating specific areas as deficient in assessed values and development ability and creating a plan for increasing property tax values and revenues through public infrastructure improvements and private development incentives. The Urban Renewal tax mechanism affords municipalities the opportunity to collect revenues for highly needed, value-based improvements for which other resources are insufficient. The improvements, in turn, provide a higher tax base for future City budgets.
- The **Capital Improvement Program** provides a detailed financial analysis of proposed projects. It is generally a short-term plan (one to five years) for public facility improvements and extension.
- **Special levies** or **bond issues** can be submitted to voters to raise funds for specific projects. These tools have traditionally been used for large projects such as school funding, construction or purchase of recreational facilities, and sewer or water system replacement.
- **Grants** may be available for many projects meeting certain federal and/or state guidelines.
- **Local Improvement Districts (LIDs)** are useful for many projects deemed necessary for small areas.
- **User fees** can be assessed for many services. Water, wastewater, stormwater, street maintenance, power, gas, telephone, garbage removal, health services, and some governmental services (courts and permit issuance) can be funded in this manner.
- **System development charges (SDCs)** are collected when building permits are issued and are used to construct infrastructure required to serve new development and growth of system needs. The SDC is directly related to the Capital Improvement Program for transportation, water, wastewater, stormwater, and parks.
- **Tax increases** may also be used, although they are usually insufficient and highly unpopular.
- **Zoning, subdivision control, site plan review.** Although funding is not directly addressed, many planning mechanisms, including zoning, subdivision control, site plan review, and others are used to require or encourage installation of many public facilities and services.
- **Better coordination of services and improved operating efficiency** are highly desirable, when possible.
- **Builders and residents.** The cost of public facilities serving new developments should be borne as much as possible by builders and residents of developments. Development proposals should be approved only if the vital public facilities

necessary for additional land development and population growth are existing or committed.

Goal 11.1 Provision of Public Facilities

Serve the health, safety, education, welfare, and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.

Policy 11.1.1

Ensure adequate public funding for the following public facilities and services, if feasible:

- Transportation infrastructure
- Wastewater collection
- Stormwater management
- Police protection
- Fire protection
- Parks and recreation
- Water distribution
- Planning, zoning and subdivision regulation
- Library services
- Aquatic Center
- Carnegie Center
- Pioneer Community Center
- City Hall
- Buena Vista House
- Ermatinger House

Policy 11.1.2

Provide public facilities and services consistent with the goals, policies and implementing measures of the Comprehensive Plan, if feasible.

Policy 11.1.3

Confine urban public facilities and services to the city limits except where allowed for safety and health reasons in accordance with state land-use planning goals and regulations. Facilities that serve the public will be centrally located and accessible, preferably by multiple modes of transportation.

Policy 11.1.4

Support development on underdeveloped or vacant buildable land within the city where public facilities and services are available or can be provided and where land-use compatibility can be found relative to the environment, zoning, and Comprehensive Plan goals.

Policy 11.1.5

Design the extension or improvement of any major public facility and service to an area to complement other public facilities and services at uniform levels.

Policy 11.1.6
Enhance efficient use of existing public facilities and services by encouraging development at maximum levels permitted in the Comprehensive Plan, implementing minimum residential densities, and adopting an Accessory Dwelling Unit Ordinance to infill vacant land.

Policy 11.1.7
Develop and maintain a coordinated Capital Improvements Plan that provides a framework, schedule, prioritization, and cost estimate for the provision of public facilities and services within the City of Oregon City and its Urban Growth Boundary.

Goal 11.2 Wastewater

Seek the most efficient and economic means available for constructing, operating, and maintaining the City's wastewater collection system while protecting the environment and meeting state and federal standards for sanitary sewer systems.

Policy 11.2.2
Plan, operate and maintain the wastewater collection system for all current and anticipated city residents within the existing Urban Growth Boundary. Plan strategically for future expansion areas.

Policy 11.2.2
Given the vision for Clackamette Cove, investigate strategies to deal with increased flows, including alternate locations for treatment, from growth in the Damascus area and the potential closure of the Kellogg Creek Water Pollution Control Plant.

Policy 11.2.3
Work with the Tri-City Service District to provide enough collection capacity to meet standards established by the Oregon Department of Environmental Quality (DEQ) to avoid discharging inadequately treated sewage into surface-water.

Policy 11.2.4
Seek economical means to reduce inflow and infiltration of surface- and groundwater into the wastewater collection system. As appropriate, plant riparian vegetation to slow stormwater, and to reduce erosion and stream sedimentation.

Policy 11.2.5
Implement the City's wastewater policies through the *City of Oregon City Sanitary Sewer Master Plan*.

Goal 11.3 Water Distribution

Seek the most efficient and economic means available for constructing, operating, and maintaining the City's water distribution system while protecting the environment and meeting state and federal standards for potable water systems.

Policy 11.3.1
Plan, operate and maintain the water distribution system for all current and anticipated city residents within its existing Urban Growth Boundary and plan strategically for future expansion areas.

Policy 11.3.2
Collaborate with the South Fork Water Board to ensure that an adequate water supply system is maintained for residents. Coordinate with the South Fork Water Board, the City of West Linn, and Clackamas River Water to ensure that there is adequate regional storage capacity.

Policy 11.3.3
Maintain adequate reservoir capacity to provide all equalization, operational, emergency, and fire flow storage required for the City's distribution system.

Policy 11.3.4
Adopt a progressive water rate structure that will encourage water conservation.

Goal 11.4 Stormwater Management

Seek the most efficient and economical means available for constructing, operating, and maintaining the City's stormwater management system while protecting the environment and meeting regional, state, and federal standards for protection and restoration of water resources and fish and wildlife habitat.

Policy 11.4.1
Plan, operate, and maintain the stormwater management system for all current and anticipated city residents within Oregon City's existing Urban Growth Boundary and plan strategically for future expansion areas.

Policy 11.4.2
Adopt "green streets" standards to reduce the amount of impervious surface and increase the use of bioswales for stormwater retention where practicable.

Policy 11.4.3
Ensure parking lot designs that mitigate stormwater impacts. Take measures to reduce waterflow and increase water absorption through the use of bioswales, vegetated landscaped islands with curb cuts to allow water inflow, and tree planting.

Policy 11.4.4
Maintain existing drainageways in a natural state for maximum water quality, water resource preservation, and aesthetic benefits.

Policy 11.4.5
Design stormwater facilities to discharge surfacewater at pre-development rates and enhance stormwater quality in accordance with criteria in *City of Oregon City Public Works Stormwater and Grading Design Standards.*

Policy 11.4.6
Regularly review and update the above standards to reflect evolving stormwater management techniques, maintenance practices, and environmental compatibility.

Policy 11.4.7
Provide stormwater management services and monitor, report and evaluate success of the services consistent with the NPDES MS-4 permit requirements.

Goal 11.5 Solid Waste

Seek to ensure that the most cost-effective, integrated solid waste plan is developed and implemented.

Policy 11.5.1
Acknowledge Metro's responsibility for preparing and implementing the *Regional Solid Waste Management Plan, 1995-2005* because solid waste disposal is a regional concern requiring regional solutions.

Policy 11.5.2
Coordinate with Metro and Clackamas County as needed to help implement the goals and objectives of the *Regional Solid Waste Management Plan, 1995-2005*.

Policy 11.5.3
Commit to long-term sustainability and recognize the link between reduction of solid waste, reuse and recycling of materials, and protection of natural resources.

Goal 11.6 Transportation Infrastructure

Optimize the City's investment in transportation infrastructure.

Policy 11.6.1
Make investments to accommodate multi-modal traffic as much as possible to include bike lanes, bus turnouts and shelters, sidewalks, etc., especially on major and minor arterial roads, and in regional and employment centers.

Policy 11.6.2
Advocate for local, state, and regional cooperation in achieving an integrated connected system such as for the Amtrak station, light rail, and bus transit.

Goal 11.7 Private Utility Operations

Coordinate with utilities that provide electric, gas, telephone and television cable systems, and high-speed internet connection to Oregon City residents to ensure adequate service levels.

Policy 11.7.1
Require local service lines in new subdivisions be placed underground.

Policy 11.7.2
Coordinate with private utility providers to install infrastructure during street construction and maintenance to reduce the need to repeatedly cut into newly paved streets.

Policy 11.7.3
Adopt lighting practices in streets and other public facilities, and encourage them in private development, that reduce glare, light pollution, light trespass, and energy use, while maintaining even lighting ensuring good visibility and safety for the public.

Policy 11.7.4
Encourage development of broadband networks in street rights-of-way in a coordinated way to provide state-of-the-art technology to residents.

Policy 11.7.5
Maintain and enforce the cell tower ordinance. Adopt, support and encourage innovations in reducing, camouflaging or screening cell towers.

Goal 11.8 Health and Education

Work with healthcare and education providers to optimize the siting and use of provider facilities.

Policy 11.8.1
Work with Clackamas County as needed to ensure that county services are sited appropriately and that citizens of Oregon City continue to have access to County health and human services.

Policy 11.8.2
Coordinate with the master planning efforts by Willamette Falls Hospital to address environmental, neighborhood and health provider concerns about expansion plans, parking, traffic, and circulation.

Policy 11.8.3
Coordinate with the Oregon City School District to ensure that elementary and middle school sites are located centrally within the neighborhoods they serve, to the extent possible.

Goal 11.9 Fire Protection

Maintain a high level of fire protection and emergency medical services.

Policy 11.9.1
Ensure that all areas, including newly annexed areas, receive fire protection and emergency medical services.

Policy 11.9.2
Attempt to maintain the City's Class IV fire insurance rating and work towards achieving a Class III rating, as funds are available.

Policy 11.9.3
Promote public awareness of fire prevention techniques, emergency management, and emergency preparedness education programs as important components of community safety.

Goal 11.10 Police Protection

Preserve the peace and provide for the safety and welfare of the community.

Policy 11.10.1
Maintain continuous liaison with other elements of the criminal justice system.

Policy 11.10.2
Strive to provide rapid response to emergency and non-emergency calls.

Policy 11.10.3
Promote traffic safety to reduce property loss, injuries and fatalities.

Policy 11.10.4
Continually evaluate operations to maximize effectiveness and efficiency.

Policy 11.10.5
Seek to have a department and community committed to the philosophy of community-oriented policing. Develop community partnerships so that both the community and department are empowered to solve problems and seek creative solutions.

Policy 11.10.6
In addition to law enforcement, help deter crime through proactive programs that emphasize education, prevention, and cooperation.

Goal 11.11 Civic Facilities

Strategically locate civic facilities to provide efficient, cost-effective, accessible, and customer friendly service to Oregon City residents.

Policy 11.11.1
Locate City facilities in a way that ensures customer service and provides easy access to the majority of residents. Access should be provided for the physically impaired and for those traveling by transit, bicycle, or foot.

Policy 11.11.2
Investigate options for obtaining or building a new City Hall.

Policy 11.11.3
Implement measures to maximize and leverage resources and increase services to the public.

Policy 11.11.4
Incorporate measures to meet long-term rising demand for services. Provide for future needs of increased staff, space and storage when purchasing or building new city facilities.

Goal 11.12 Library

Ensure that the library has an adequate facility and resources to maintain its vital role in the community and accommodate growth of services, programs and the population of the entire service area.

Policy 11.12.1
Identify and acquire, if possible, an appropriate site for a permanent library that is centrally located to the service area. This could include a mixed-use facility with retail space and Friends of the Library activities, etc.

Policy 11.12.2
Explore partnerships with schools and other community groups in regard to shared programming, public meeting rooms and other community-use spaces.

Policy 11.12.3
Develop, if possible, a means of funding a permanent library facility.

Section 12

Transportation

This section is intended to show compliance with Land Conservation and Development Commission (LCDC) Statewide Planning Goal 12, Transportation, which aims to provide "a safe, convenient and economic transportation system." A transportation system that functions well contributes to a city's well-being, enhances quality of life, and increases opportunities for growth and development.

Oregon City Transportation System Plan (TSP)

The 2001 *Oregon City Transportation System Plan* (TSP) is an ancillary plan to the Comprehensive Plan (ancillary plans are available at City Hall). The TSP functions as a guide for the management and development of Oregon City's transportation facilities to the year 2020. It is based on a vision of a community that integrates efficient land use with a multi-modal transportation system. The goals and policies of the TSP are designed to enhance the quality of life in Oregon City and facilitate the movement of goods and services for local businesses. This section of the Comprehensive Plan summarizes key parts of the TSP.

The LCDC administrative rule known as the Transportation Planning Rule (TPR) (Oregon Administrative Rule 660-12) requires that TSPs contain a plan for roads, public transit, bicycles, pedestrians, rail and air travel, and transmission lines. The Oregon City TSP and its subdocuments provide details about the state and regional regulatory framework for transportation, plans for existing and future road, pedestrian, transit, and bicycle networks, and the projects and policies that are needed to implement those networks.

Other Transportation Plans

Other ancillary transportation plans are discussed in this section, including the *Oregon City Downtown Community Plan* (1999), *7th Street Corridor Design Plan* (1996), the *Molalla Avenue Boulevard and Bikeway Improvements Plan* (2001). The city is also working on plans for the Highway 99E corridor to improve access control, landscaping, pedestrian safety, and the connection to the riverfront.

Downtown Community Plan. Implementation of the *Oregon City Downtown Community Plan* would enable a more efficient land-use pattern to emerge in the Downtown area. Improved efficiency would result in a more vital and vibrant Downtown area that is better equipped to capture and serve the traveling public, particularly pedestrians and transit riders.

The McLoughlin Boulevard corridor represents a vital transportation link in achieving the goals of the *Oregon City Downtown Community Plan* and Metro's vision for Oregon City as a Regional Center (*Metro's 2040 Growth Concept* [1995]). Regional Centers serve large market areas outside the central city and have connections via high-capacity transit and highways, such as Highway 99, which is designated as a Corridor in *Metro's 2040 Growth Concept* (see Section 2, Land Use, for more detail). Oregon City will provide leadership to improve access by vehicles and transit to Downtown and to the connection between Downtown and the Willamette River.

7th Street Corridor and Molalla Avenue. Implementation of the *7th Street Corridor Design Plan* (1996) and the *Molalla Avenue Boulevard and Bikeway Improvements Plan* (2001) would enable the 7th Street corridor to evolve into one that is more accessible by pedestrians and transit with land uses that support multi-modal transportation. Additional land-use planning is needed for the redevelopment of underutilized parcels along Molalla Avenue that represent opportunities for transit-oriented development with higher density and mixed uses. These plans contain proposed improvements that are consistent with Metro's 2040 Corridor designation for this important transportation link.

The 7th Street plan contains a multi-modal vision of the corridor with recommended action items. The vision for the street is a cohesive design with a historical character, slower traffic, and lively pedestrian activity. One of the objectives is to revitalize the area by providing parking and transportation improvements. Support for rehabilitating building façades and the pedestrian environment is also discussed as a means to make the area more attractive to pedestrians, shoppers, and tourists. An emphasis is placed on pedestrians with easy access across 7th Street, benches, street trees, curb extensions, and other elements to identify "Pedestrian Places." Traffic would move more slowly with a narrower pavement width, curb extensions, traffic calming devices, and trees. Neighborhood safety would be enhanced by more pedestrian activity and mix of uses.

Visual and physical connections with Downtown and the McLoughlin neighborhood would improve the vitality of the corridor as well. The 7th Street plan calls for supporting the existing businesses and preserving the architectural heritage of the community. The business environment should invite new and complementary development and redevelopment that is compatible in scale and style with the neighborhood. New public facilities, such as a branch library, elementary school, civic institutions, and Community Theater, should be encouraged while existing public facilities like the park and promenade system should be retained and enhanced. Diverse mixed use and infill housing should be encouraged because increased density can contribute to the economic vitality of the corridor. The corridor could also function as a buffer between commercial uses and the adjoining single-family neighborhood.

The *Molalla Avenue Boulevard and Bikeway Improvements Plan* (2001) was developed to address deficiencies that arose from new development along the corridor and the limitations imposed by the mix of land uses, roadway configurations, and streetscape characteristics. This plan identifies regional, local, and neighborhood needs and objectives for the corridor, and integrates them into an overall vision. The plan includes specific recommendations for providing and maintaining safe and efficient facilities and services for public transportation, private automobiles, pedestrians, and bicyclists.

Highway 213. The *Highway 213 Urban Corridor Design Study* (2000) contains a detailed evaluation of existing and projected congestion on Highway 213 between Henrici Road and I-205 and recommended improvements. Highway 213 changes from a large high-volume facility on the north end to a rural, two-lane road at the south end. The preferred alternatives for improvements have been adopted into the Oregon City TSP, but a long-term solution to congestion on Highway 213 will also require improvements on I-205. The City, together with the Oregon Department of Transportation and Metro, should conduct a study of the I-205 corridor in this area.

Roadway System. A key component of the Oregon City TSP is a plan for a roadway system that will accommodate the expected needs of the street network in Oregon City to 2020. The plan includes:

- new alignments and connections for streets
- a road classification system that establishes a hierarchy of street types and the types of travel expected on them
- capital improvements that address near- and long-term roadway and intersection capacity, and operational and safety improvements
- identification of substandard roadway sections that should be upgraded to city standards

- street and access management standards to ensure that the roadway system fits adjacent land uses and accommodates expected demand

Land uses along roadways should be integrated with the roadway classification while keeping function, safety, aesthetics, and overall livability in mind. Higher density housing and non-residential uses should be clustered around collectors and arterials. Single-family housing should be oriented to the front of the street to avoid backyards and associated fencing from creating a tunnel affect.



Roadway connectivity requirements are intended to create better circulation patterns that reduce average auto trip lengths, provide greater options for reaching deserved destinations and improve multi-modal accessibility. The Oregon City TSP contains proposed roadway connections and facilities that would improve circulation, access, and traffic operations and fulfill the long-term needs of the city's transportation network. The planned street connections are designed to comply with the *2000 Regional Transportation Plan* (RTP) requirements for street connectivity.

In addition to the guidance provided by the Oregon City TSP for roadway connections, the *Street Connectivity Plan* (in progress) helps the City, land owners, and developers choose street connections that improve local access and circulation and preserve the integrity of the regional street system. The plan, expected to be adopted in 2005 as part of the Oregon City TSP, will comply with the design standards for street connectivity presented in the RTP.

Roadway Design Standards

Design standards for roadways are based on characteristics such as travel volume, capacity, travel speed, adjacent land use, composition of traffic, and safety. The *City of Oregon City Street Design Standards*, a subdocument of the TSP, is intended to ensure that new and improved roadways are consistent with the overall plan for the road network.



Optional "green street" standards, intended to reduce the impact from roadways on water quality, stream corridors, and vegetation, will be added to the TSP. Examples of green street standards are minimizing the amount of impervious surface by making streets narrower, creating more permeable surfaces, and using swales for treatment and conveyance.

Multi-Modal Transportation

The Oregon City TSP contains recommended improvements in public transit and facilities for bicycles and pedestrians. The key objectives in the development of pedestrian and bicycle systems are to provide accessible and safe connections between major activity centers, such as housing, commercial areas, schools, recreation areas, and to improve the safety of pedestrians and bicyclists throughout the city.

Transit service provides mobility to residents who do not have access to automobiles and an alternative mode of transportation for those who do. Public transportation in the Oregon City is currently provided by TriMet, the South Clackamas Transit District, Canby Area Transit, and the Oregon City Municipal Elevator. The Pioneer Community Center operates two vans that provide transportation for seniors on a point-to-point, pre-arranged schedule.

Community input during development of the Oregon City TSP stressed the need for improved service on weekends, expanded service on weekdays, and expanded service area coverage in certain parts of the city. The City will continue to monitor the adequacy of the transit service and work with TriMet and other providers to expand service as necessary. In addition, both the City and TriMet should promote a greater public awareness of the public transit that is available. In particular, the City should promote the South Corridor bus and light rail that serves Oregon City. The City should also work with TriMet to locate park-and-ride facilities at convenient neighborhood nodes to facilitate access to regional transit.

Local transit service opportunities should be explored to promote non-single-occupancy vehicle travel to help prolong the adequacy of the infrastructure capacity.

A local Transportation Management Association (TMA) that would serve businesses and local trolley-type transit service along major and minor arterials should be considered. Trolley service would provide convenient, economical mobility for all ages and reduce the need for additional vehicular lanes. Connections to local transit corridors should be ensured by reliable links between Hilltop, Downtown, Beaver Creek (education and employment centers), and the surrounding neighborhoods.

Rail Transportation

Union Pacific Railroad (UPRR) provides freight rail service in the region. The UPRR rail line in Clackamas County is not experiencing capacity constraints although some at-grade crossings have caused some concern because of the slower speeds needed to maintain safety at the crossings. In areas where pedestrian and motor vehicle ways cross train tracks, trains are required to travel more slowly. With slower speeds, fewer trains can use the tracks, thereby affecting the efficiency of the rail system.



Four Amtrak passenger trains travel daily on the UPRR mainline. A new Amtrak station has opened on Washington Street west of the End of Oregon Trail Interpretive Center. The station provides rail connections to Portland, Eugene, and other Amtrak locations.

Because at-grade crossings and steep and varied topography constrain the rail system in the Oregon City area, the City should be involved with solving the problems associated with at-grade railroad crossings. The City should also be involved with maximizing safety where other transportation modes cross rail lines, minimizing capacity constraints on roadways that cross rail lines, and minimizing delays for trains and other transportation modes at railroad crossings. Possible policies and action items include:

- obtaining federal and state funding, where possible, for railroad-related improvements
- restoring a pedestrian and bicycle connection at the 17th Street crossing, which was closed because of the construction of the Amtrak station, to ensure non-auto connectivity between the End of the Oregon Trail area, the Oregon City Shopping Center, and Clackamette Cove; the connection could be restored by building a pedestrian overpass, underpass, or other alternative
- maintaining adequate active warning devices that control traffic during train crossings

Marine Transportation

The Willamette and Clackamas rivers are the navigable waterways within the City of Oregon City Urban Growth Boundary. The Willamette River provides a through-route for commercial vessels from the Willamette Valley to the Columbia River via the Willamette Falls Locks. There is one commercial dock facility within Oregon City, at Sportcraft Marina. There are two recreational boat ramps, one at Clackamette Park and another at Sportcraft Marina. The Clackamas River is a recreational waterway only. In addition to the boat ramp at Clackamette Park on the Clackamas River, there is another Clackamas River boat ramp in Riverside Park at the end of Water Avenue, approximately one-half mile east of Gladstone.



Boats traveling upstream on the Willamette River past Oregon City must pass through the Willamette Falls Locks. In continuous operation since 1873, the locks are the oldest multi-lock system in America. The locks contribute to Oregon City's recreational system, and while there is currently no commercial dock in the city, the locks also support

the regional commercial marine system. The City should continue to support the Willamette Falls Locks as both a recreational and commercial facility.

Oregon City and the Oregon Marine Board are in the process of building a floating commercial dock off John Storm Park between I-205 and the Rivershore Hotel. The dock will provide a stopping point near Willamette Falls for commercial tours or private boats and connect via a gangway to the stairs behind the County Courthouse building and to Downtown. The dock should enhance commercial and recreational opportunities on the river and provide economic benefits to the city.

Oregon City's role in the Marine System Plan (part of the *Oregon City Transportation Plan,* 2001) at the regional level is to continue to ensure adequate commercial access to regional, national, and international marine services through associations with the Port of Portland, Metro, and the Oregon Department of Transportation. Oregon City's role at the local level is to facilitate connections between the roadway network and the waterway system for both commerce and recreation. It is especially important to Oregon City's development as a tourist destination to encourage the development of river-related tourism facilities and services, such as docking facilities, river transit, and river tours.

The City actively supports the continued presence of boat launches in the area for recreational users. The *Oregon City Waterfront Master Plan* (2002) incorporates existing and proposed boat launches and docks in its discussion of future development along the waterfront. The creation of multi-use paths and other facilities that promote the multi-modal use of the recreational areas along the shores of the Willamette and Clackamas rivers should also be encouraged. Finally, the City will encourage, and participate in, any regional study dedicated to the investigation of marine transport as an effective commuter transportation mode.

Air Transportation

Air transportation for Oregon City passengers and freight is provided primarily by four regional airports, all of which are owned and operated by the Port of Portland: Portland International Airport (PDX), Hillsboro Airport, Troutdale Airport, and Mulino Airport. Because none of the airports are located in Oregon City, Oregon City needs effective ground transportation service to the airports. As such, the City will focus on enhancing ground transportation and will consider supporting:

- improved connections to I-205 for better access to PDX, Hillsboro Airport, and Troutdale Airport
- improved connections to Highway 213 for better access to Mulino Airport
- the extension of light rail service to Oregon City along I-205 to provide a transit connection to PDX

- the development of, in cooperation with TriMet and other transportation service providers, an airport shuttle service and/or other public transportation connections

The City will also continue to play an active role in air transportation planning at the regional and statewide levels.

Information Technologies

Information technologies such as wireless communications, geographic information systems, and the Internet play a role in telecommuting and transportation system information. The City should focus on disseminating information about these resources and investigating ways to use these information technologies to improve the entire transportation system. The City will work to make the traffic and travel planning information that is available on the Internet also available to residents who do not have access to the Internet—perhaps through their employers. The City will also work with Internet providers to develop a network that provides space for broadband fiber-optic lines along road rights-of-way as roads are constructed or retrofitted.

Infrastructure Funding

Intelligent Transportation Systems (ITS) use advanced technology to solve transportation problems, improve safety, provide services to travelers, and help implement traffic management strategies. ITS can increase the efficiency of an existing transportation system while reducing the need to add capacity (for example, new travel lanes, transit equipment). Efficiency is achieved by providing better management of the transportation system, and by providing services and information to travelers and transportation system operators so they can (and will) make better travel decisions, thus reducing overall demand on the transportation systems. Clackamas County is the lead agency in developing a countywide ITS plan and Oregon City is a participant in that effort. The City should continue to look for appropriate ways to implement ITS to improve the efficiency of the city's transportation network and reduce the need to add capacity.

Parking

The Oregon City TSP complies with Metro's parking requirements in the *Urban Growth Management Functional Plan* (1998) by establishing maximum parking standards.

Oregon City's Code Enforcement Division operates, maintains, and provides enforcement for metered parking, city-owned parking lots, and other parking restrictions throughout Oregon City. Strategies for Downtown parking accessi-

bility should be reviewed regularly to support the *Oregon City Downtown Community Plan* (1999). To ease demand for parking in these areas, the City will work to provide better transit, pedestrian, and bicycle connections where appropriate.

The Oregon City Public Works Street Division maintains city streets. As of 2002, transportation infrastructure maintenance was funded primarily by a gas tax. The revenue provides no funding for improvements such as pavement reconstruction, curbs, and traffic signals. Oregon City has historically sold bonds to pay for improvements, but the pay-back obligation cripples maintenance funding. Based on pavement management data and capital improvement needs, alternative funding sources are needed to maintain the City's transportation infrastructure.

The City should work with TriMet to develop park-and-ride facilities at convenient neighborhood nodes to facilitate access to regional transit.

Goal 12.1 Land Use-Transportation Connection

Ensure that the mutually supportive nature of land use and transportation is recognized in planning for the future of Oregon City.

Policy 12.1.1
Maintain and enhance citywide transportation functionality by emphasizing multi-modal travel options for all types of land uses.

Policy 12.1.2
Continue to develop corridor plans for the major arterials in Oregon City, and provide for appropriate land uses in and adjacent to those corridors to optimize the land use-transportation connection.

Policy 12.1.3
Support mixed uses with higher residential densities in transportation corridors and include a consideration of financial and regulatory incentives to upgrade existing buildings and transportation systems.

Policy 12.1.4
Provide walkable neighborhoods. They are desirable places to live, work, learn and play, and therefore a key component of smart growth.

Policy 12.1.5
Investigate the possibility of a new street connection between South End Road and Highway 99E between Downtown and New Era.

Policy 12.1.6
Investigate the possibility of a new east-west connection from Highway 213 to Willamette Falls Hospital.

Goal 12.2 Local and Regional Transit

Promote regional mass transit (South Corridor bus, Bus Rapid Transit, and light rail) that will serve Oregon City.

Policy 12.2.1
Explore local and regional transit opportunities that will increase non-single-occupancy vehicle travel to prolong infrastructure capacity.

Policy 12.2.2
Target local transit where it is expected to be particularly effective, such as frequent, reliable links between Hilltop, Downtown, Willamette Falls Hospital, the Beavercreek educational and employment centers, and the adjacent neighborhoods.

Policy 12.2.3
Work with TriMet to locate park-and-ride facilities at convenient neighborhood nodes to facilitate access to regional transit.

Policy 12.2.4
Consider establishing a local Transportation Management Association (TMA) to serve area businesses. The TMA would fund a local trolley or bus transit service along the major and minor arterials to reduce the need for widening rights-of-way for additional lanes as well as provide convenient and economical mobility to everyone.

Policy 12.2.5
Advocate for a new regional bus rapid transit and rail transit connections to Oregon City.

Goal 12.3 Multi-Modal Travel Options

Develop and maintain a transportation system that provides and encourages a variety of multi-modal travel options to meet the mobility needs of all Oregon City residents.

Policy 12.3.1
Provide an interconnected and accessible street system that minimizes vehicle-miles-traveled and inappropriate neighborhood cut-through traffic.[4]

Policy 12.3.2
Provide an interconnected and accessible pedestrian system that links residential areas with major pedestrian generators such as employment centers, public facilities, and recreational areas.

[4] A 10-percent reduction in the number of vehicle miles traveled per capita has been assumed within the 20-year projection consistent with and reflected in the Metro travel demand forecasting model used to evaluate the transportation system and identify needs.

Policy 12.3.3
Provide a well-defined and accessible bicycle network that links residential areas, major bicycle generators, employment centers, recreational areas, and the arterial and collector roadway network.

Policy 12.3.4
Ensure the adequacy of pedestrian and bicycle connections to local, county, and regional trails.

Policy 12.3.5
Promote and encourage a public transit system that ensures efficient accessibility, mobility, and interconnectivity between travel modes for all residents of Oregon City.

Policy 12.3.6
Establish a truck route network that ensures efficient access and mobility to commercial and industrial areas while minimizing adverse residential impacts.

Policy 12.3.7
Promote the connection and expansion of rail and river transportation services to and through Oregon City.

Policy 12.3.8
Ensure that the multi-modal transportation system preserves, protects, and supports the environmental integrity of the Oregon City community.

Policy 12.3.9
Ensure that the city's transportation system is coordinated with regional transportation facility plans and policies of partnering and affected agencies.

Policy 12.3.10
Develop, if possible, dock facilities along the Willamette River to support a range of public and private boat and water transportation opportunities.

Goal 12.4 Light Rail

Promote light rail that serves Oregon City and locate park-and-ride facilities at convenient neighborhood nodes to facilitate access to regional transit.

Policy 12.4.1
Support light rail development to Oregon City.

Policy 12.4.2
Explore local service transit opportunities to promote non-single-occupancy vehicle travel and prolong infrastructure capacity.

Policy 12.4.3
Ensure efficient use of local transit by providing frequent, reliable links between the land uses and community associated with the Hilltop, Downtown, the Hospital, the Beavercreek educational and employment centers, and the adjacent neighborhoods.

Goal 12.5 Safety

Develop and maintain a transportation system that is safe.

Policy 12.5.1
Identify improvements that are needed to increase the safety of the transportation system for all users.

Policy 12.5.2
Identify and implement ways to minimize conflict points between different modes of travel.

Policy 12.5.3
Improve the safety of vehicular, rail, bicycle, and pedestrian crossings.

Goal 12.6 Capacity

Develop and maintain a transportation system that has enough capacity to meet users' needs.

Policy 12.6.1
Provide a transportation system that serves existing and projected travel demand.

Policy 12.6.2
Identify transportation system improvements that mitigate existing and projected areas of congestion.

Policy 12.6.3
Ensure the adequacy of travel mode options and travel routes (parallel systems) in areas of congestion.

Policy 12.6.4
Identify and prioritize improved connectivity throughout the city street system.

Goal 12.7 Sustainable Approach

Promote a transportation system that supports sustainable practices.

Policy 12.7.1
Support "green street" construction practices.

Policy 12.7.2
Encourage the use of materials geared for long life cycles in both public and private transportation facilities.

Policy 12.7.3
Encourage the use of reused and recycled materials.

Policy 12.7.4
Promote multi-modal transportation links and facilities as a means of limiting traffic congestion.

Policy 12.7.5
Treat roadway pollution along transportation routes through the most effective means.

Goal 12.8 Implementation/Funding

Identify and implement needed transportation system improvements using available funding.

Policy 12.8.1
Maximize the efficiency of the Oregon City transportation system, thus minimizing the required financial investment in transportation improvements, without adversely impacting neighboring jurisdictions and facilities.

Policy 12.8.2
Provide transportation system improvements that facilitate the timely implementation of the *Oregon City Downtown Community Plan* and protect regional and local access to the End of the Oregon Trail Interpretive Center.

Policy 12.8.3
Provide incentives for private sector contributions to multi-modal transportation links and facilities, for example, establishing new standards in the zoning code.

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Section 13

Energy Conservation

This section is intended to show compliance with Land Conservation and Development Commission (LCDC) Statewide Planning Goal 13, Energy Conservation. Goal 13 declares that "land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles."

Consumption of energy is affected by many things—land use, placement of structures, modes of transportation, and proximity of different types of land uses, among others. Oregon City's goals and policies related to Goal 13, to be implemented through development ordinances, internal policies, and private sector incentives, are intended to demonstrate the City's commitment to energy conservation.

As fossil fuels become scarcer and the cost of non-renewable energy increases, it is becoming more and more important to conserve the remaining available energy and to find new sources of energy. Energy conservation and sources of renewable energy are part of a larger concept of sustainability. The State of Oregon defines sustainability as "using, developing and protecting resources at a rate and in a manner that enables people to meet their current needs and also provides that future generations can meet their own needs." Energy conservation and sustainable consumption can be enhanced by efficient land-use patterns and sustainable land development practices.

The objectives of Goal 13 are to:

- improve the efficiency of fossil fuel consumption
- encourage design that takes advantage of natural light and energy resources
- encourage energy contributions from solar energy systems
- slow increases in central station generation demand

- reduce energy demand during peak periods
- promote non petroleum-fueled transit
- encourage conservation of materials
- enable full potential to be taken from new energy supply technologies and efficient measures

Energy Sources

Oregon City lies near the Willamette River Falls, which was a principal energy source for the emerging settlement in the 1800s and which subsequently provided the electricity for the first long-distance transmission of electrical energy from Oregon City to Portland. The falls have been modified as subsequent electrical and direct waterpower technologies were applied. Today, the Willamette Falls Hydroelectric Project combines power generated by Portland General Electric (PGE) and the Blue Heron Paper Company at the falls on the Oregon City side of the Willamette River. In addition, the West Linn Paper Company has power-generating facilities on the West Linn side of Willamette Falls. PGE retains ownership of the former hydroelectric site at the Willamette Falls and is in the process of obtaining a permit to re-license the facility. It is not likely that the electrical-generating capability at Willamette Falls will be expanded dramatically for a variety of economic and ecological reasons.

Solar energy is not likely to be a significant source of energy for Oregon City because of the climate, but new technologies make solar energy a viable supplemental source to help heat building space and water. Solar energy can also be converted directly into electricity in specific applications such as powering remote communication facilities.

No sources of natural gas or petroleum are known in the city. However, methane gas from the former Rossman landfill on the north end of the city and co-generation of electricity from methane generated from operations at the Tri-Cities Waste Water Treatment Facility may be supplemental sources of energy.

A significant source of energy is the energy that is conserved by citizens and businesses. Unused energy is a source that can be used as surely as if it were newly created energy. The City can promote and stimulate this source by advocating efficient land-use development patterns and sustainable development practices through an appropriate balance of incentives and regulations. These conservation methods are discussed in the following sections.

Conservation Method: Land Use

The way urban land is used affects energy consumption both directly and indirectly. Energy is used directly for heating, cooking, driving, and other similar tasks. Energy is used indirectly by creating consumer goods and services that

consume energy. Conservation techniques in land use address both types of energy use.

Zoning regulations often segregate types of land use—industrial, commercial and residential—to separate incompatible uses. The result is often longer travel distances from work to home and to other destinations. Regulations that instead promote mixed-use development, compact development, residential clustering, increased densities near activity centers, flexible parking requirements, increased landscaping for cooling purposes, water quality, and home-based occupations can promote energy conservation.

Subdivision design can contribute to energy conservation. For example, how a home is oriented affects how much solar energy the home will generate and use. For example, the largest wall and window areas should face north and south rather than east and west because the south side of a building at a latitude of 40 degrees receives three times as much winter sun as the east or west side. Factors such as street connections, environmental constraints like steep slopes and wetlands, and infill development may make solar orientation impractical, but accommodating these factors properly can contribute to resource conservation.

Landscaping can increase the benefits of sun exposure. Trees reduce heat loss from buildings in winter and absorb radiation in summer. Trees on the south, southeast or southwest sides of a building are preferably deciduous, providing summer shade while allowing low winter sun to shine through.

Planned unit developments (PUDs) should be encouraged to allow for energy-efficient higher density and mixed uses within neighborhoods. PUDs can reduce the use of energy for transportation between living, working and shopping areas. The neighborhood commercial district concept is another way to reduce energy by shortening the trips people need to make to obtain necessities. Commercial, office, and industrial uses should be located along or near major transit corridors. Residential density usually decreases as one moves away from these corridors. To encourage alternative means of transportation, sidewalks and bikeways should be designed for maximum safety, convenience and weather protection, and should allow access to working and shopping areas and schools from residential areas.

Existing structures should be preserved and materials recycled to save energy that is required to manufacture building materials and construct new buildings. Recycling collection and storage facilities should be encouraged, not only in industrial areas, but also in more convenient commercial areas. Metro's South Transfer Station near Highway 213 and Washington Street provides an opportunity for residents to drop off recyclable materials.

Conservation Method: Transportation

Transportation systems can help conserve fossil fuels by designing them for maximum efficiency. Land use in Oregon City should encourage alternatives to single-occupancy vehicles such as walking, carpooling, transit, and bicycling.

Bikeways should be constructed along with safe bicycle parking areas. Designated "bikes only" lanes along major streets should be developed where possible, such as the recently designated lanes along Warner Parrott Road, South End Road, and Molalla Avenue. Multi-use paths should be built in appropriate areas where bicycle- and pedestrian-generator uses are located. Local merchants should be required to supply bicycle racks (preferably under some type of cover) for riders' convenience and as an incentive for bicycle use. Streets should be designed for efficient multi-modal transportation while also helping to protect the quality of the region's stream systems.

Use of carpools, transit, and preference parking should be examined. Vanpools operated by large firms and agencies in Oregon City for their local employees should also be considered. Areas with employment concentrations—Oregon City Shopping Center, Downtown, the hospital area, and Molalla/7th Street—should also be considered for use of vanpools. Amenities for transit riders, such as appropriate shelters and or seating, can be required or encouraged in association with site development along transit routes.

See Section 12 (Transportation), the *Oregon City Transportation System Plan* (2001), and Section 8 (Parks and Recreation) for more information on this topic.

Conservation Method: Structures

The purpose of this section is to suggest policies designed to optimize energy efficiency and conservation in structures.

Alternative renewable energy systems should be considered. Energy from the wind, sun, water, and solid waste will become increasingly important as fossil fuel supplies diminish. Interior improvements designed to save energy include insulating water heaters and pipes and appropriately locating windows and doors. Architectural design can also play a major part in conservation. Integration of green design techniques, especially the use of low-cost green design and construction practices will help the City move towards its energy goals. Some general design practices to be encouraged are building design strategies, siting, land use and landscaping, energy systems, resource-friendly products and materials, and increased salvage practices on job sites.

Incentives and Implementation

Implementation of energy conservation policies typically occurs through both public and private sector incentives and through development ordinances. For example, density bonuses can be awarded as incentives to developments that incorporate energy-efficient design.

Transportation policies from the *Oregon City Transportation System Plan* (2001) and other ancillary documents are designed to create more efficient travel networks for alternative modes such as walking, biking, and public transit by improving facilities and connections between modes.

The *Uniform Building Code* is the major implementing device for structural conservation methods. This code describes minimum building standards and should be strictly enforced by the City.

The City should carry out recycling in its own operations and facilitate resource recovery and recycling throughout the community.

Goal 13.1 Energy Sources

Conserve energy in all forms through efficient land-use patterns, public transportation, building siting and construction standards, and city programs, facilities, and activities.

Policy 13.1.1
Maintain the historic use of Willamette Falls as an energy source for industrial and commercial development.

Policy 13.1.2
Encourage siting and construction of new development to take advantage of solar energy, minimize energy usage, and maximize opportunities for public transit.

Policy 13.1.3
Enable development to use alternative energy sources such as solar through appropriate design standards and incentives.

Policy 13.1.4
Wherever possible, design and develop public facilities to take advantage of solar energy, develop co-generation, and conserve energy in operations and public access.

Goal 13.2 Energy Conservation

Plan public and private development to conserve energy.

Policy 13.2.1
Promote mixed-use development, increased densities near activity centers, and home-based occupations (where appropriate).

Policy 13.2.2
Create commercial nodes in neighborhoods that are underserved to reduce vehicle miles traveled.

Policy 13.2.3
Plan for complementary mixed uses when considering annexation of new, under- or undeveloped areas so that new urban residential areas have closer access to jobs and services.

Policy 13.2.4
Encourage use of carpools and transit in cooperation with TriMet and other state and regional transportation agencies.

Policy 13.2.5
Construct bikeways and sidewalks, and require connectivity of these facilities to reduce the use of petroleum-fueled transportation.

Policy 13.2.6
Support the concept of sustainability over the long term by:

- encouraging education efforts such as developing and/or distributing educational materials to the public about energy efficiency and sustainability
- encouraging designs that achieve a minimum Leadership in Energy and Environmental Design (LEED) certification
- implementing sustainable concepts within the Oregon City government facilities that receive a minimum "Platinum" LEED rating
- implementing design guidelines that address sustainability for private sector development
- taking advantage of up-to-date technology to reduce energy use
- developing incentive programs to apply to private sector development, where feasible

Section 14

Urbanization

This section is intended to show compliance with Land Conservation and Development Commission (LCDC) Statewide Planning Goal 14, Urbanization. Goal 14 requires cities to estimate future growth and the need for land and to zone enough land to meet that need. The goal calls for each city to establish an "urban growth boundary" to "identify and separate urbanizable land from rural land."

As Oregon City continues to grow, it must manage the growth for the benefit of its citizens and businesses. The goals and policies of this section are intended to ensure that the city grows in ways that are fiscally sound, result in high-quality development, allow services to be provided efficiently and protect natural resources. Oregon City will urbanize in a thoughtful and deliberate manner to protect, preserve, and enhance the positive facets of city life.



Urbanization is the conversion of rural or natural resource lands to urban uses. In 1982, Oregon City occupied 3,000 acres. In 2002, the city occupied 7,295 acres—5,892 acres within the city limits and 1,403 acres outside the city limits but within the Urban Growth Boundary. Urbanization at the edge of Oregon City is constrained by the Willamette River and the City of West Linn to the west, Clackamas River and the City of Gladstone to the north, and steep topography to the south and east.

A 1990 Urban Growth Management Agreement (UGMA) between the City and Clackamas County guides land-use designations and the extension of public services to urbanizing areas. Under the agreement:

- Oregon City, rather than Clackamas County, provides public services in urbanizing areas.

- Oregon City Comprehensive Plan designations apply within urbanizing areas.
- The County zones properties inside the Urban Growth Boundary to the Future Urbanizable (FU-10) zone district until the City annexes the property and applies a city zone district.

Because the City, under City land-development regulations, cannot provide sewer and water services to properties within the Urban Growth Boundary until the properties have been annexed or the property owners have agreed to annexation, urban-level development can occur only within city limits. The UGMA appears to be working well, in that urban-level development has not occurred outside the city limits, as has happened in other jurisdictions within the region. As expansion of the Urban Growth Boundary becomes more difficult, the UGMA may need to be amended to ensure that the City and County provide for the efficient transition and provision of public services.

Growth and Urbanization Issues

How will the city continue to urbanize? How do the City government and other governmental agencies that serve the city guide the type, location, quality and design of new development? Some of the challenges facing Oregon City are:

- protecting and enhancing existing development, including older development that is now considered historic, along with new growth
- ensuring an adequate supply of housing in a range of prices and types, including housing that is affordable to low- and moderate-income families
- attracting multi-story offices, unique commercial centers, vibrant mixed-use centers, and productive employment areas
- ensuring that the city's basic utilities and facilities, especially its transportation system, have the capacity to handle the growth
- creating an urban environment, while keeping significant amounts of open space and parks available and accessible to residents
- balancing private property rights with public goals and needs as the City adopts new programs and regulations aimed at shaping the city's built and natural environment

The City will need to use all available tools in a strategic and coordinated manner to encourage high-quality development and redevelopment in appropriate locations, and at the same time protect and enhance the livability of the city. The goals and policies to meet the challenges described above are in some measure implemented through other sections of the Comprehensive Plan, such as good urban design in development, compact growth to reduce the need for expansion of the Urban Growth Boundary, multi-modal transportation initia-

tives, and viable neighborhoods that have a variety of uses. Other themes the City should consider as it grows are discussed below.

Expansion of Boundaries. Oregon City cannot expand west or north because of rivers and the adjacent cities of West Linn and Gladstone. The city will ultimately run out of land on which to accommodate new development, both within the current city limits and the Urban Growth Boundary.

As the region grows, the city will need to expand its limits to accommodate a fair share of the future demand for housing and jobs. This should be done in a rational and planned manner, in coordination with the City's Capital Improvement Program and its ability to provide services to new areas. In addition, the City should consult with residents who would be affected by a proposed Urban Growth Boundary expansion to get their input, including what their concerns are and what they expect the impacts to be, and to assess the level of support.



The Urban Growth Boundary is established to identify and separate urbanizable land from rural land, as described in LCDC Statewide Planning Goal 14. Metro regulates the expansion of the Metro Urban Growth Boundary, which includes Oregon City's Urban Growth Boundary, through Title 11 of the *Code of the Metropolitan Service District* (2003). However, Oregon City can apply for a major amendment to the Urban Growth Boundary every year except years in which Metro updates its five-year analysis of buildable land supply.

Metro considers the following when evaluating proposed changes to the Urban Growth Boundary:

- demonstrated need to accommodate long-range urban population growth
- need for housing, employment opportunities, and livability
- orderly and economic provision of public facilities and services
- maximum efficiency of land uses within, and on the fringe of, the existing urban area
- environmental, energy, economic and social consequences
- retention of high-quality, productive agricultural land
- compatibility of the proposed urban uses with nearby agricultural activities

An application for an expansion must demonstrate that growth cannot be reasonably accommodated within the current Urban Growth Boundary, that proposed uses would or could be compatible with existing uses, and that the long-term environmental, economic, social, and energy consequences after mitigation would not be significantly greater than they would be elsewhere in Metro's jurisdiction.

Title 11 requires cities to include the land within their Urban Growth Boundaries in their Comprehensive Plans prior to urbanizing that land. Title 11 intends to promote the integration of land added to the Urban Growth Boundary with existing communities by ensuring that concept plans are developed for areas proposed for urbanization or annexation. Concept plans must include a conceptual transportation plan; natural resources protection plan to protect areas with fish and wildlife habitat, water quality enhancement and mitigation and natural hazards mitigation; a conceptual public facilities and services plan for wastewater, water, storm drainage, transportation, parks, and police and fire protection; and a conceptual school plan. Metro requires Oregon City to adopt concept plans for areas added to the Urban Growth Boundary.

Once inside the Urban Growth Boundary, areas can be proposed for annexation. The Oregon City zoning code lists factors for evaluating a proposed annexation. The Planning Commission and City Commission should not consider issues related to annexations that are better suited to development reviews. The City should consider its ability to adequately provide public facilities and services to an area and leave development plans and related issues to the site development/design review process.



The City is required to refer all proposed annexations to the voters. Rather than asking voters to approve property owners' requests to annex one at a time, the City should implement an annexation plan. The City could then annex large blocks of properties, with voter approval, rather than in a piecemeal fashion. Annexation would be tied more directly to the City's ability to provide services efficiently, maintain regular city boundaries, and help the city meet Metro targets for housing and employment. The zoning of the property should be considered when the Planning Commission and City Commission review the annexation request.

Applications for annexation, whether initiated by the City or by individuals, are based on specific criteria contained in the *City of Oregon City Municipal Code.* An annexation may not be approved because the City cannot provide public services to the area in a timely fashion, as required by state and metro regulations. Therefore, an annexation plan that identifies where and when areas might be considered for annexation can control the expansion of the city limits and services to help avoid conflicts and provide predictability for residents and developers. Other considerations are consistency with the provisions of this Comprehensive Plan and the City's public facility plans, with any plans and agreements of urban service providers, and with regional annexation criteria.

Partnerships with Other Governments. The City does not provide all of the urban services within the city limits. Clackamas County, the Oregon City School District, the Oregon Department of Transportation, the TriCities Sewer

District, Clackamas Community College, and many other agencies also provide necessary services to residents and employees. In order to efficiently and effectively use the public dollars available to all of these different agencies, the City should be proactive in forming excellent working relationships with other agencies to address urban service issues.

Green Corridors. "Green corridors" are lands and waterways left in a natural condition to provide open space, recreational opportunities, habitat, and a sense of separation of various areas. Metro has identified green corridors in the region in *Metro's 2040 Growth Concept* (1995). Although there are no green corridors within the city now, there may be in the future. Beavercreek and its tributaries are potential green corridors. Clackamas County is establishing green corridors adjacent to Oregon City on Highway 99E from Canemah to New Era and on Highway 213 from the Oregon City city limits to Molalla. The City recognizes the value of green corridors and will ensure that any such corridor within its city limits or Urban Growth Boundary is adequately protected.

Options for implementing green corridor concepts elsewhere include:

- providing a gradual transition from green corridor to urban environment
- implementing a green belt or green corridor policy of parks and open spaces along these corridors; this could include purchase and development of parks along corridors and restricting development in natural areas with steep slopes, wetlands, or other flooding issues from development along these corridors
- preserving these areas by adding zoning language to implement scenic roads policies
- reviewing development standards along the corridor to extend setbacks, increase landscaping requirements, encourage native vegetation
- developing incentive programs and educational programs
- linking tourism promotion or historic preservation to green corridors

Goal 14.1 Urban Growth Boundary

Establish, and amend when appropriate, the Urban Growth Boundary in the unincorporated area around the city that contains sufficient land to accommodate growth during the planning period for a full range of city land uses, including residential, commercial, industrial, and institutional.

Policy 14.1.1

The Urban Growth Boundary shall conform to Title 11 of the *Code of the Metropolitan Service District* and will provide sufficient land to accommodate 20-year urban land needs, resulting in efficient urban growth and a distinction between urban uses and surrounding rural lands, and promoting appropriate infill and redevelopment in the city.

Policy 14.1.2
Concept plans that provide more detail than the city's Comprehensive Plan will be required prior to development of lands within the Urban Growth Boundary.

Goal 14.2 Orderly Redevelopment of Existing City Areas

Reduce the need to develop land within the Urban Growth Boundary by encouraging redevelopment of underdeveloped or blighted areas within the existing city limits.

Policy 14.2.1
Maximize public investment in existing public facilities and services by encouraging redevelopment as appropriate.

Policy 14.2.2
Encourage redevelopment of city areas currently served by public facilities through regulatory and financial incentives.

Goal 14.3 Orderly Provision of Services to Growth Areas

Plan for public services to lands within the Urban Growth Boundary through adoption of a concept plan and related Capital Improvement Program, as amendments to the Comprehensive Plan.

Policy 14.3.1
Maximize new public facilities and services by encouraging new development within the Urban Growth Boundary at maximum densities allowed by the Comprehensive Plan.

Policy 14.3.2
Ensure that the extension of new services does not diminish the delivery of those same services to existing areas and residents in the city.

Policy 14.3.3
Oppose the formation of new urban services districts and oppose the formation of new utility districts that may conflict with efficient delivery of city utilities within the Urban Growth Boundary.

Policy 14.3.4
Ensure the cost of providing new public services and improvements to existing public services resulting from new development are borne by the entity responsible for the new development to the maximum extent allowed under state law for Systems Development Charges.

Goal 14.4 Annexation of Lands to the City

Annex lands to the city through a process that considers the effects on public services and the benefits to the city as a whole and ensures that development

within the annexed area is consistent with the Oregon City Comprehensive Plan, City ordinances, and the City Charter.

Policy 14.4.1
Promote compact urban form and support efficient delivery of public services by ensuring that lands to be annexed are within the City's Urban Growth Boundary, and contiguous with the city limits. Do not consider long linear extensions, such as cherry stems and flag lots, to be contiguous with the city limits.

Policy 14.4.2
Include an assessment of the fiscal impacts of providing public services to unincorporated areas upon annexation, including the costs and benefits to the city as a whole as a requirement for concept plans.

Policy 14.4.3
Evaluate and in some instances require that parcels adjacent to proposed annexations be included to:

- avoid creating unincorporated islands within the city;
- enable public services to be efficiently and cost-effectively extended to the entire area; or
- implement a concept plan or sub-area master plan that has been approved by the Planning and City Commissions.

Policy 14.4.4
Expedite the annexation of property as provided by state law in order to provide sewer service to adjacent unincorporated properties when a public health hazard is created by a failing septic tank sewage system.

Goal 14.5 Partnerships with Other Governments

Create and maintain cooperative, collaborative partnerships with other public agencies responsible for servicing the Oregon City area.

Policy 14.5.1
Amend as necessary the 1990 Urban Growth Management Agreement with Clackamas County to control land uses in the unincorporated area around the city to ensure that conversion of rural lands to urban uses upon annexation is orderly and efficient and in conformance with the Comprehensive Plan for Oregon City.

Policy 14.5.2
Coordinate public facilities, services and land-use planning through intergovernmental agreements with the school district, Clackamas Community College, Clackamas County Fire District #1, Tri-Cities Services District and other public entities as appropriate.

Policy 14.5.3
Coordinate with Clackamas County and Metro to contain city boundaries and future urban land uses to areas on relatively level land north of the steep lands of Beaver Creek and its tributaries that border the southern portion of the city and the steep lands of the tributaries to Abernethy Creek that border the east and southeasterly portions of the city.

Goal 14.6 Green Corridors and Green Belts

Promote green corridors and green belts in lands beyond Oregon City's Urban Growth Boundary to maintain the rural character of the landscape and unincorporated communities and to protect the agricultural economy of the region.

Policy 14.6.1
Support green corridor policies and practices along major transportation routes designated by Clackamas County to neighboring cities.

Policy 14.6.2
Maintain a green belt around the southern and eastern edge of the city by confining urban land uses to the relatively level lands north of the steep slopes of Beaver Creek and its tributaries along the southern portion of the city and the steep lands of the tributaries to Abernethy Creek that border the eastern and southeastern portions of the city.

Policy 14.6.3
Maintain the rural forested appearance along the Willamette River along US Highway 99E and from Canemah to South End Road at Beaver Creek by requiring vegetative screening and setbacks to provide a visual buffer and by regulating signage and lighting.

Section 15

Willamette River Greenway

This section is intended to show compliance with Land Conservation and Development Commission (LCDC) Statewide Planning Goal 15, Willamette River Greenway. Goal 15 sets forth procedures for administering the 300 miles of greenway that protect the Willamette River.

In 1973, the Oregon State Legislature designated the Willamette River Greenway (WRG) to protect the Willamette River corridor from Eugene to the confluence with the Columbia River. The intent was to protect the corridor's natural, scenic and recreational qualities and to preserve its historical sites, structures, facilities, and objects for education and enjoyment.

The *Willamette River Greenway Plan* was developed by the Oregon Department of Transportation (ODOT), pursuant to ORS 390.318. In 2004, responsibility for overseeing the plan was transferred from ODOT to the Oregon Parks and Recreation Department.The plan contains an inventory of resource lands and the location of the WRG boundary for all affected jurisdictions, the resources that are to be protected, policy considerations, and development review criteria. LCDC implemented Goal 15 to carry out the legislative directive and to provide the parameters within which the Department of Transportation's Greenway Plan could be carried out by local governments in their Comprehensive Plans. LCDC is authorized under Goal 15 to determine whether local Comprehensive Plans satisfy the requirements of the statutes.



Goal 15 requires local jurisdictions to plan for and protect uses within the WRG by adopting the relevant portions of the Greenway Plan into their Comprehensive Plans. Consequently, the City of Oregon City is required to establish a WRG boundary, the uses allowed within the WRG boundary, the Compati-

bility Review Boundary (within 150 feet of the ordinary low waterline of the Willamette River), and the processes for development review and criteria for approval.In addition, each Comprehensive Plan must discuss areas that have been identified for possible public acquisition and the conditions under which such acquisitions may occur as set forth in the state's Greenway Plan.

The WRG boundary was established after significant inventory work had been done in the early 1980s, and the inventory was included in the 1982 Comprehensive Plan. The City is responsible for mapping and updating the boundary, and a map showing the boundary is available at the Oregon City Planning Department. Land within the WRG in Oregon City is subject to the goals and policies of this section of the Comprehensive Plan and to the regulations in applicable implementing ordinances.

The goals and policies herein provide the basis for an overlay zone in Title 17 of the *City of Oregon City Municipal Code* (1991), which regulates allowed uses within the WRG boundary. Oregon City reviews proposals for any change, or intensification of use, or development (as defined in Goal 15) within the WRG through Greenway permit applications. Land within 150 feet of the ordinary low waterline is considered to be within the WRG Compatibility Review Boundary and is subject to a compatibility review through the conditional use process. Compatibility review is an additional level of protection for sensitive resources at the river's edge to ensure the best possible balance of appearance, habitat, water quality, public access, and scenic, economic, and recreational qualities. Procedures for, and criteria to be used in, the conditional use/compatibility review processes are consistent with requirements in Goal 15 and are implemented through the Willamette River Greenway Overlay District.

This section of the Comprehensive Plan discusses properties that may become available to Oregon City for acquisition and the conditions under which the acquisitions could occur.

Documents Affecting Implementation of the WRG

Several documents adopted since 1982 affect future and existing development within the Willamette River Greenway. They are:

- *Oregon City Waterfront Master Plan* (2002), which highlights open space improvements and mixed-use redevelopment within the district, generally along the waterfront from 5th Street in downtown north to the Clackamas River and east along the Clackamas River to I-205
- *Oregon City Downtown Community Plan* (1999), which establishes a framework for preserving and strengthening the historic character of Oregon City, refining the mix of land uses and emphasizing pedestrian-oriented design (see Section 2, Land Use)

- Water Resources Overlay District of Title 17 (zoning) of the *City of Oregon City Municipal Code* (1991), which implements Title 3 of Metro's *Urban Growth Management Functional Plan* (1998)
- Flood Management Overlay District of Title 17 of the *City o f Oregon City Municipal Code*
- Erosion and sediment control requirements of the *City of Oregon City Municipal Code*

The adoption of the *Oregon City Waterfront Master Plan* (2002) and the *Oregon City Downtown Community Plan* (1999) and the regulations to implement them has the potential to complicate the regulations that apply to land within the WRG. Some of the implementing ordinances that affect the WRG conflict with the regulations that apply to the WRG, particularly development regulations. The City will review these ordinances, remove any conflicts, ensure that the goals of the Greenway Plan are met, and add substance where needed. In 1999, after the 1996 flood that inundated portions of the greenway, a new floodplain section in the natural resources section of the Comprehensive Plan was adopted to better address the management of development in the floodplain. See Section 5, Open Spaces, Scenic and Historic Areas, and Natural Resources. In addition, a city-sanctioned Natural Resources Committee was established by ordinance in 2002 and should be encouraged to provide input in projects or concerns relating to the Greenway.

Privately Owned Land within the WRG

During the 1990s, the City acquired many of the privately owned parcels along the Willamette and Clackamas rivers that the 1982 Comprehensive Plan recommended acquiring. Parcels along Clackamette Drive near the I-205 bridge around Clackamette Cove were acquired in the late 1990s.

The majority of waterfront properties in the Canemah District remain in private ownership. It is important for the City to acquire and maintain open space in Canemah to provide bike and pedestrian connections along Highway 99E to the Willamette River Trail as well as river access and view corridors. Equally important is the protection and enhancement of degraded riparian areas in the Canemah District through municipal, public service, and community planting projects.

The remaining privately owned parcels within the WRG Compatibility Review Boundary are owned primarily by the Union Pacific Railroad and Blue Heron Paper Company. The railroad is an important link in the transportation system and plays a critical role in regional freight and passenger transportation (Amtrak).

The Blue Heron Paper Company continues to play a vital role in providing jobs in Oregon City. The existing use plays a role in enhancing the river-related



economic resources (that being power and raw material for the pulp and paper manufacturing). However, it makes it difficult for the City to achieve compatibility with the Greenway goals of protecting natural, recreational and scenic resources of the river corridor and inside the WRG Compatibility Review Boundary. Debris cleanup and riparian planting projects involving citizens working with the Blue Heron Paper Company are currently possible and should be pursued.

Oregon City should not pursue acquiring parcels adjacent to McLoughlin Boulevard that have commercial or office uses. These parcels will be zoned to implement the *Oregon City Downtown Community Plan* and are integral to the Greenway Plan's goals as well as *Metro's 2040 Growth Concept* (1995) regional goals for Oregon City as a regional center.

Goal 15.1 Protect the Willamette River Greenway

Ensure the environmental and economic health of the Willamette River by adopting goals, policies and procedures that meet LCDC Statewide Planning Goal 15, Willamette River Greenway.

Policy 15.1.1
Protect the significant fish and wildlife habitat of the Willamette River by maximizing the preservation of trees and vegetative cover.

Policy 15.1.2
Preserve major scenic views, drives and sites of the WRG.

Policy 15.1.3
Encourage access to and along the river consistent with the *Oregon City Park and Recreation Master Plan* and the *Oregon City Waterfront Master Plan*.

Policy 15.1.4
Restrict new substations and power line towers in the WRG and river view corridor.

Policy 15.1.5
Protect and maintain parks and recreation areas and facilities along the Willamette River to minimize effects in the WRG, in accordance with the *Oregon City Park and Recreation Master Plan* and the *Oregon City Waterfront Master Plan*.

Policy 15.1.6
Review uses proposed for inside the Willamette River Greenway Compatibility Review Boundary for consistency with local goals and policies for that area.

Appendix A

Oregon City's Comprehensive Plan Land-Use Map

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City of Oregon City

GEOGRAPHIC INFORMATION SYSTEM

Comprehensive Plan Map

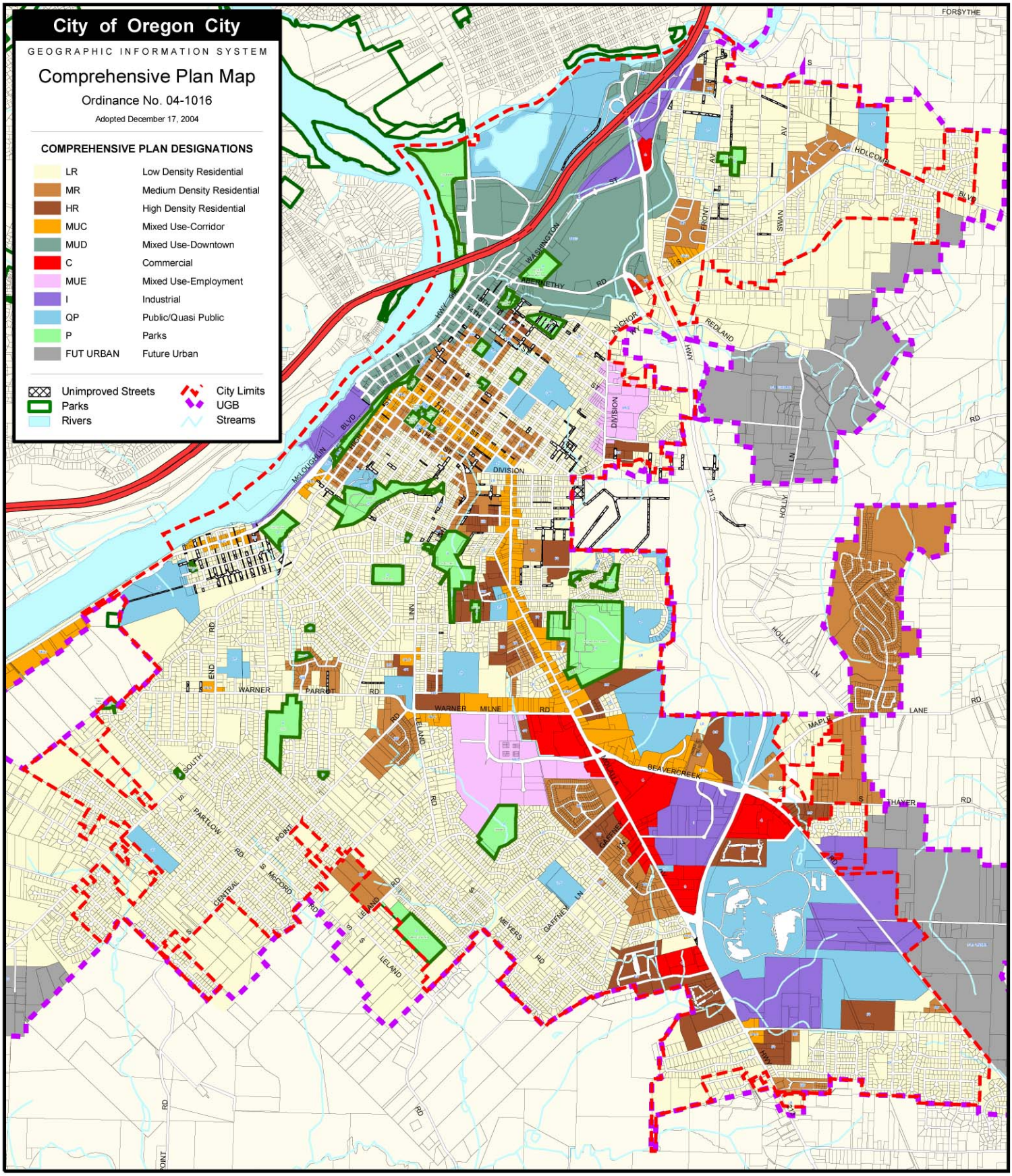
Ordinance No. 04-1016

Adopted December 17, 2004

COMPREHENSIVE PLAN DESIGNATIONS

LR	Low Density Residential
MR	Medium Density Residential
HR	High Density Residential
MUC	Mixed Use-Corridor
MUD	Mixed Use-Downtown
C	Commercial
MUE	Mixed Use-Employment
I	Industrial
QP	Public/Quasi Public
P	Parks
FUT URBAN	Future Urban

Unimproved Streets
Parks
Rivers
City Limits
UGB
Streams



MAP FOR REFERENCE PURPOSES ONLY.
The information on this map is derived from Oregon City's digital database. However, there may be map errors or omissions. Please contact Oregon City directly to verify map information. Notification of any errors is appreciated.

Please recycle with colored office grade paper.

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2,000 1,000 0 2,000 4,000 Feet

City of Oregon City
P.O. Box 3040
320 Warner Milne Rd.
Oregon City, OR 97045
503-657-0891 phone
503-657-6629 fax
www.ci.oregon-city.or.us

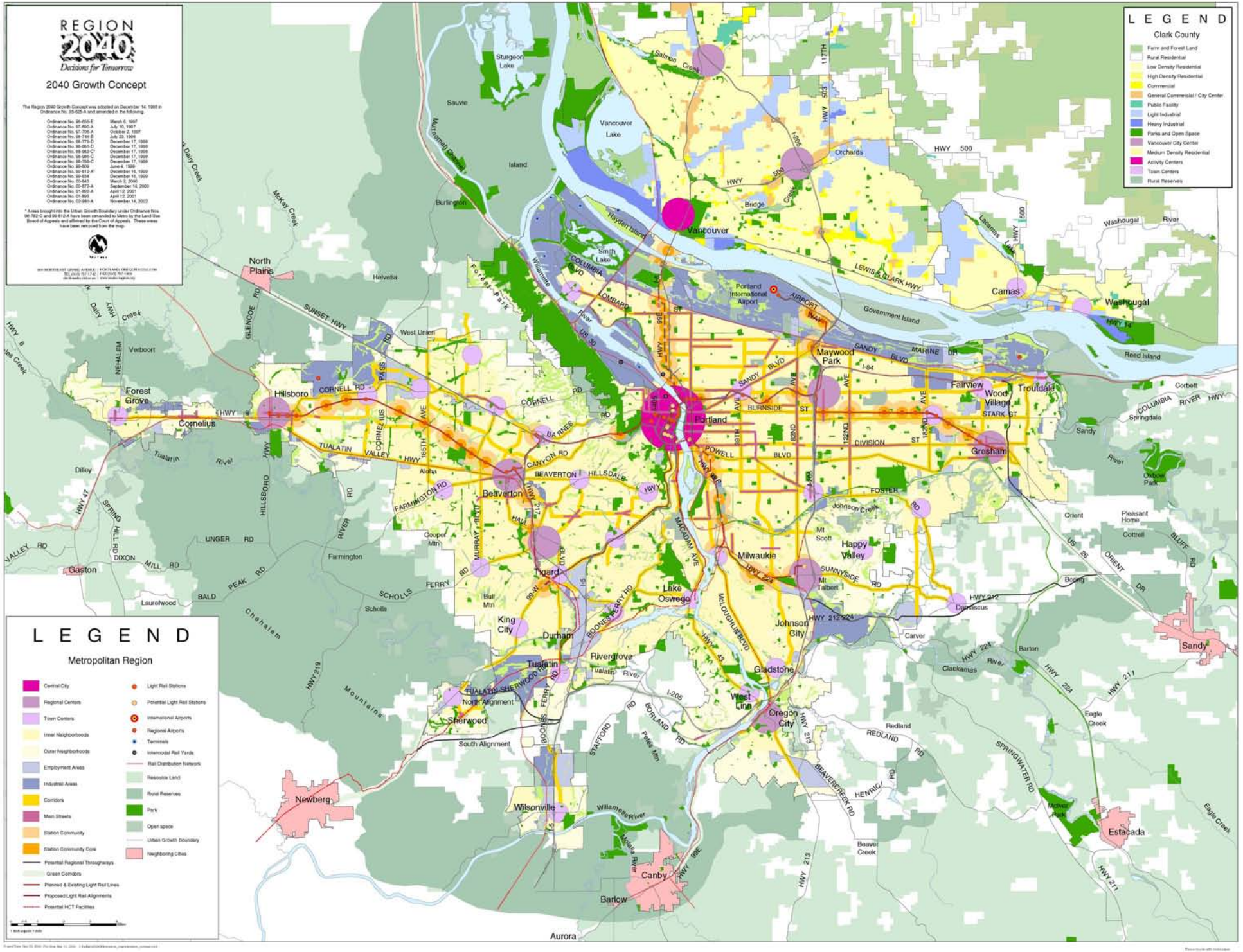
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Plot name: Comprehensive_8_5x11P_No_Addresses_20050119.pdf
Map name: Comprehensive Map - 8_5x11 portrait.mxd

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Appendix B

Metro's 2040 Growth Concept Map

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REGION 2040
Decisions for Tomorrow
2040 Growth Concept
The Region 2040 Growth Concept was adopted on December 14, 1995 in Ordinance No. 95-625-A and amended in the following.
Ordinance No. 96-655-E March 6, 1997
Ordinance No. 97-690-A July 10, 1997
Ordinance No. 97-706-A October 2, 1997
Ordinance No. 98-744-B July 23, 1998
Ordinance No. 98-779-D December 17, 1998
Ordinance No. 98-861-D December 17, 1998
Ordinance No. 98-863-C* December 17, 1998
Ordinance No. 98-866-C December 17, 1998
Ordinance No. 98-788-C December 17, 1998
Ordinance No. 99-809 June 4, 1999
Ordinance No. 99-812-A* December 16, 1999
Ordinance No. 99-834 December 16, 1999
Ordinance No. 00-843 March 2, 2000
Ordinance No. 00-872-A September 14, 2000
Ordinance No. 01-903-A April 12, 2001
Ordinance No. 01-905 April 12, 2001
Ordinance No. 02-981-A November 14, 2002
* Areas brought into the Urban Growth Boundary under Ordinance Nos. 98-782-C and 99-812-A have been remanded to Metro by the Land Use Board of Appeals and affirmed by the Court of Appeals. These areas have been removed from the map.
LEGEND
Clark County
Farm and Forest Land
Rural Residential
Low Density Residential
High Density Residential
Commercial
General Commercial / City Center
Public Facility
Light Industrial
Heavy Industrial
Parks and Open Space
Vancouver City Center
Medium Density Residential
Activity Centers
Town Centers
Rural Reserves
LEGEND
Metropolitan Region
Central City
Regional Centers
Town Centers
Inner Neighborhoods
Outer Neighborhoods
Employment Areas
Industrial Areas
Corridors
Main Streets
Station Community
Station Community Core
Potential Regional Throughways
Green Corridors
Planned & Existing Light Rail Lines
Proposed Light Rail Alignments
Potential HCT Facilities
Light Rail Stations
Potential Light Rail Stations
International Airports
Regional Airports
Terminals
Intermodal Rail Yards
Rail Distribution Network
Resource Land
Rural Reserves
Park
Open space
Urban Growth Boundary
Neighboring Cities
Vancouver
Portland
Gresham
Hillsboro
Beaverton
Tigard
Tualatin
Lake Oswego
Milwaukie
Oregon City
West Linn
Wilsonville
Newberg
Sherwood
King City
Durham
Johnson City
Gladstone
Riverdrove
Forest Grove
Cornelius
North Plains
Sandy
Estacada
Canby
Barlow
Aurora
Camas
Washougal
Troutdale
Fairview
Wood Village
Maywood Park
Happy Valley
Damascus
Boring
Orient
Corbett
Springdale
Pleasant Home
Cottrell
Oxbow Park
Mt Hood
Columbia River
Willamette River
Tualatin River
Clackamas River
Sandy River
Washougal River
Lewis & Clark Hwy
Sunset Hwy
Hwy 26
Hwy 30
Hwy 99E
Hwy 99W
Hwy 217
Hwy 224
Hwy 212
Hwy 213
Hwy 211
Hwy 219
Hwy 47
Hwy 8
Hwy 14
Hwy 500
I-5
I-84
I-205
Tualatin-Sherwood Rd
Boones Ferry Rd
Borland Rd
Stafford Rd
Beaver Creek Rd
Redland Rd
Springwater Rd
Johnson Creek Blvd
Powell Blvd
Foster Rd
Division St
Burnside St
Stark St
Sandy Blvd
Marine Dr
Columbia Blvd
Lombard St
Airport Way
Barnes Rd
Cornell Rd
Canyon Rd
Beaverton Hillsdale Hwy
Farmington Rd
Tualatin Valley Hwy
Murray Blvd
Scholls Ferry Rd
Sunnyside Rd
Macadam Ave
McLoughlin Blvd
Glencoe Rd
Hillsboro
Cornelius Pass Rd
Helvetia
Sauvie Island
Burlington
Vancouver Lake
Sturgeon Lake
Smith Lake
Haydon Island
Government Island
Reed Island
Orchards
Bridge
Salmon Creek
McKay Creek
Dairy Creek
Gales Creek
Tualatin River
Willamette River
Columbia River
Multnomah Channel
Forest Park
Portland International Airport
Mt Scott
Mt Talbert
Cooper Mtn
Bull Mtn
Pete's Mtn
Chehalem Mountains
Eagle Creek
McIver Park
Oxbow Park
Dilley
Gaston
Laurelwood
Verboort
Helvetia
Farmington
Aloha
Beaverton
Tigard
Tualatin
Sherwood
Wilsonville
Newberg
Canby
Barlow
Aurora
Milwaukie
Happy Valley
Damascus
Johnson City
Gladstone
Oregon City
West Linn
Riverdrove
Durham
King City
Lake Oswego
Carver
Barton
Redland
Beaver Creek
Eagle Creek
Estacada
Sandy
Troutdale
Fairview
Wood Village
Maywood Park
Gresham
Camas
Washougal
Reed Island
Corbett
Springdale
Pleasant Home
Cottrell
Orient
Boring
Oxbow Park
Mt Hood
Columbia River
Willamette River
Tualatin River
Clackamas River
Sandy River
Washougal River
Lewis & Clark Hwy
Sunset Hwy
Hwy 26
Hwy 30
Hwy 99E
Hwy 99W
Hwy 217
Hwy 224
Hwy 212
Hwy 213
Hwy 211
Hwy 219
Hwy 47
Hwy 8
Hwy 14
Hwy 500
I-5
I-84
I-205
Tualatin-Sherwood Rd
Boones Ferry Rd
Borland Rd
Stafford Rd
Beaver Creek Rd
Redland Rd
Springwater Rd
Johnson Creek Blvd
Powell Blvd
Foster Rd
Division St
Burnside St
Stark St
Sandy Blvd
Marine Dr
Columbia Blvd
Lombard St
Airport Way
Barnes Rd
Cornell Rd
Canyon Rd
Beaverton Hillsdale Hwy
Farmington Rd
Tualatin Valley Hwy
Murray Blvd
Scholls Ferry Rd
Sunnyside Rd
Macadam Ave
McLoughlin Blvd
Glencoe Rd
Hillsboro
Cornelius Pass Rd
Helvetia
Sauvie Island
Burlington
Vancouver Lake
Sturgeon Lake
Smith Lake
Haydon Island
Government Island
Reed Island
Orchards
Bridge
Salmon Creek
McKay Creek
Dairy Creek
Gales Creek
Tualatin River
Willamette River
Columbia River
Multnomah Channel
Forest Park
Portland International Airport
Mt Scott
Mt Talbert
Cooper Mtn
Bull Mtn
Pete's Mtn
Chehalem Mountains
Eagle Creek
McIver Park
Oxbow Park
Dilley
Gaston
Laurelwood
Verboort
Helvetia
Farmington
Aloha
Beaverton
Tigard
Tualatin
Sherwood
Wilsonville
Newberg
Canby
Barlow
Aurora
Milwaukie
Happy Valley
Damascus
Johnson City
Gladstone
Oregon City
West Linn
Riverdrove
Durham
King City
Lake Oswego
Carver
Barton
Redland
Beaver Creek
Eagle Creek
Estacada
Sandy
Troutdale
Fairview
Wood Village
Maywood Park
Gresham
Camas
Washougal
Reed Island
Corbett
Springdale
Pleasant Home
Cottrell
Orient
Boring
Oxbow Park
Mt Hood

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Glossary

Accessory dwelling unit. Attached or detached dwelling that is secondary to the primary dwelling unit and intended to provide a convenient and affordable housing opportunity.

Active recreation area. Area suitable for intensive recreation. Often open, with trees or shrubs along the perimeters, providing areas for sports fields, large built facilities such as swim centers and sports complexes and areas for large celebrations and events.

Affordable housing. Defined by Metro as a housing unit that requires no more than 30 percent of household income for people earning 50 percent of the median household income in their jurisdiction.

Aggregate resource. Rock, sand, or gravel.

Ambient noise. Average level of background noise.

Ancillary plan. Auxiliary, subordinate, or supplement to a comprehensive plan, such as a transportation system plan or a park and recreation master plan.

Capital Improvements Program. Description of when a community's major public facilities (e.g., roads, libraries, sewer systems, police stations) will be built, how much it will cost, and source of funding. Usually covers three to ten years.

Carrying capacity. Level of use that can be accommodated and sustained without unacceptable damage to the environment, including air, land, and water quality.

Comprehensive plan. Official document of a local government that includes goals and policies that direct how the community will develop. It may also include action measures or strategies for implementing the goals and policies. Oregon Administrative Rules further define a comprehensive plan as a "generalized, coordinated land use map and policy statement of the governing body of a local government that interrelates all functional and natural systems and activities relating to the use of lands, including, but not limited to, sewer and water systems, transportation systems, educational facilities, recreational facilities, and natural resources and air and water quality management programs." In Oregon, a comprehensive plan is adopted by ordinance, has the force of law, and is the basis for zoning and subdivision ordinances. A number of other City planning documents support and/or implement the plan.

Corridor. See "Design types."

Dark skies. Night skies unaffected by light pollution.

Density. The number of families, individuals, dwelling units, households, or housing structures per unit of land.

Design types. Conceptual areas described in the *Metro 2040 Growth Concept* text and map in Metro's regional goals and objectives.

Corridor. Major street that serves as a key transportation route for people and goods. Served extensively by transit. While some are continuous, narrow bands of high-intensity development along arterial roads, others are more "nodal," that is, a series of smaller centers at major intersections or other locations along an arterial that have high-quality pedestrian environments, good connections to adjacent neighborhoods and good transit service. As long as the average target densities and uses are allowed and encouraged along the corridor, many different development patterns-nodal or linear-may meet the corridor objective. Along good quality transit lines, a corridor features a high-quality pedestrian environment, convenient access to transit, and somewhat higher than current densities. An average of 25 persons per acre is recommended.

Employment Areas. Areas with mixed types of employment including manufacturing, distribution and warehousing, commercial and retail development, as well as some residential development. Retail uses should primarily serve the needs of people working or living in the immediate employment area. Exceptions to this general policy can be made only for certain areas indicated in a functional plan. Various types of employment and some residential development are encouraged in employment areas with limited commercial uses. Average recommended density is 20 persons per acre.

Industrial Area and Freight Terminal. Serves as hub for regional commerce, industrial land and freight facilities for truck, marine, air and rail cargo. Provides the ability to generate and move goods in and out of the region. Access centered on rail, regional freeway system, and key roadway connections. Keeping these connections strong is critical to maintaining a healthy regional economy.

Inner Neighborhood. Residential area accessible to jobs and neighborhood businesses with smaller lot sizes.

Main Street. Similar to a Town Center, a Main Street has a traditional commercial identity but on a smaller scale with a strong sense of the immediate neighborhood. A Metro concept for streets with a concentration of retail and service establishments, typically accessible by transit, that serve neighborhoods and draw some people from other parts of the region. Includes residential uses but does not imply that the City will meet Metro's density guidelines.

Neighborhood. Under Metro's 2040 Growth Concept, most existing neighborhoods will remain largely the same. Some redevelopment can occur so that vacant land or under-used buildings could be put to better use. New neighborhoods are likely to have an emphasis on smaller single-family lots, mixed uses and a mix of housing types including row houses and accessory dwelling units. The growth concept distinguishes between slightly more compact inner neighborhoods, and outer neighborhoods, with slightly larger lots and fewer street connections.

Neighboring City/Green Corridor. Communities such as Sandy, Canby, Newberg and North Plains have a significant number of residents who work or shop in the metropolitan area. Cooperation between Metro and these communities is critical to address common transportation and land-use issues. Neighboring cities are connected to the metro area by Green Corridor transportation routes

Outer Neighborhood. Residential neighborhoods farther away than Inner Neighborhoods from large Employment Centers with larger lot sizes and lower densities.

Regional Center. As a center of commerce and local government services serving a market area outside the central city, accessible to hundreds of thousands of people, a Regional Center is the focus of transit and highway improvements. Characterized by two- to four-story compact employment and housing development served by high-capacity transit and highways. Nine Regional Centers will become the focus of compact development, redevelopment and high-quality transit service and multimodal street networks

Design review guidelines. Standards related to the appearance and construction of buildings and related facilities (e.g., trees, street lights, and sidewalks). Typically applied to specific types of development or specific zones and reviewed by City staff. Can be either optional or mandatory but are often called guidelines because they are suggestions. Mandatory requirements are often referred to as development or design standards.

Drainageways. Open linear depressions, either natural or man-made, for collection and drainage of surface water. May be permanently or temporarily filled with water.

Ecological/scientific areas. Land or water that has retained much of its natural character, though not necessarily completely natural, and significant because of historical, scientific, palaeontological, or natural features.

Employment Area. See "Design types."

Essential facilities. As defined in Oregon Revised Statutes 455.447 and pertaining to natural hazards regulations:

- hospitals and other medical facilities with surgery and emergency treatment areas
- fire and police stations
- tanks or other structures containing, housing or supporting water or fire-suppression materials or equipment required for the protection of essential or hazardous facilities or special occupancy structures
- emergency vehicle shelters and garages
- structures and equipment in emergency-preparedness centers
- standby power generating equipment for essential facilities
- structures and equipment in government communication centers and other facilities required for emergency response

Economic, Social, Environmental and Energy (ESEE) analysis. Required under Land Conservation and Development Commission Statewide Planning Goal 5. Purpose is to inventory natural resource sites and identify their relative resource value to determine an appropriate level of protection through land-use regulations.

Federal Emergency Management Agency (FEMA). Administrator of the National Flood Insurance Program.

Floodplain. Land subject to periodic flooding, including the100-year floodplain as mapped by Federal Emergency Management Agency (FEMA)

Flood Insurance Studies or as indicated by other substantial evidence of flood events.

Floodway. Portion of watercourse required for the passage or conveyance of a given storm event, as identified and designated by the City. Includes the channel of the watercourse and the adjacent floodplain that must be reserved in an unobstructed condition in order to discharge the base flood.

4(d) Rule. Federal rule that establishes regulations to protect species listed as threatened under the Endangered Species Act (ESA). These requirements can be used by local governments to ensure that their activities and regulations are consistent with the ESA.

Goal 5 Rule. Oregon Administrative Rule requiring local governments to develop and maintain inventories of natural resources, scenic and historic areas, and open spaces. The rule provides cities with the option of following general requirements for identifying "significant" resources or using state criteria to determine which resources are significant.

Green streets. Transportation infrastructure that incorporates a variety of design and engineering concepts to reduce the adverse impacts of streets on air quality, water quality, wildlife habitat, and the pedestrian environment.

Historic District. An area containing a number of lots, blocks, and buildings that have special historical, architectural, or cultural significance as part of the heritage of the City. The McLoughlin area has been designated as a Historic District.

Home occupation. Any activity carried out for gain by a resident and conducted as a customary, incidental, and accessory use in the resident's home. Standards for home occupations are included in Oregon City's Community Development Code.

Impervious surface. Solid surfaces, such as streets, parking lots, and roofs, that prevent rain from being absorbed into the soil, thereby increasing the amount of water runoff that typically reaches a receiving stream.

Industrial Area and Freight Terminal. See "Design types."

Infill. Use of vacant lots in predominantly developed areas, or the undeveloped portion of developed lots, to make more efficient use of land resources.

Infiltration. Seepage of groundwater into cracks of sewer or stormwater collection pipes. Also used to describe the process of absorption of liquids into the ground.

Inflow. Entry of water into the sewer or stormwater collection system through manholes, gutters connecting to the stormwater system, and similar open facilities. Typically used in combination with infiltration to describe impacts on a sewer or stormwater collection system from unintended outside sources.

Infrastructure. Facilities and structures used to provide public services to City residents and businesses. Examples are roads, sewer and water transmission lines, administrative buildings, and parks and recreation properties and structures.

Inner Neighborhood. See "Design types."

Land Use Compatibility Statement. Must be submitted by a business applying for a permit from the Oregon Department of Environmental Quality. Must be reviewed and signed by a local city planner approving or rejecting a new project. By signing, the City indicates that the proposed project is compatible with the comprehensive plan and other land-use ordinances.

Level of service (LOS). Used to measure the effectiveness for the operation of a public service or facility, most typically used when assessing the functioning level of road or street intersections or links. It is similar to a report card rating based on average vehicle delay. For example, with respect to roads, LOS A, B, and C indicate conditions where vehicles can move freely. LOS D and E are progressively worse. LOS F represents conditions where traffic volumes exceed the capacity of the facility or a specific movement.

Main Street. See "Design types."

Median household income. Divides income distribution into two equal groups, one having incomes above the median, and other having incomes below the median. Median income for an area can be calculated from U.S. Census Bureau statistics.

Metro. Regional government of the metropolitan area, the elected Metro Council as the policy setting body of government.

Metro Title 3 Requirements. Regional requirements adopted by Metro to protect water quality and fish and wildlife habitat, primarily through standards for riparian areas and floodplains.

Metropolitan Statistical Area (MSA). Used by the U.S. Bureau of the Census to define urban areas. According to the Census Bureau, an MSA consists of a "large population nucleus, together with adjacent communities having a

high degree of social and economic integration with that core." MSAs are defined by the U.S. Office of Management and Budget (OMB).

Mixed-use development. Combination of different types of uses. Most often refers to allowing homes and businesses to be located in the same area (e.g., apartments over shops or other businesses or apartments adjacent to grocery stores or other commercial establishments).

Natural resource. Functioning natural system such as a wetland, riparian corridor, or fish and wildlife habitat and associated vegetation, including significant trees.

Natural resource area. Land containing a natural resource that is to be protected.

Neighborhood. See "Design types."

Neighborhood park. A combination playground and park intended primarily for non-organized recreation. It is generally relatively small (3 to 7 acres) and serves people who live within one-half mile of the park. Typical facilities include children's playgrounds, picnic areas, trails, open, grassy areas for organized or passive activities, and outdoor basketball courts.

Neighborhood plan. Includes goals and policies that define and shape the unique characteristics of a neighborhood. It also includes specific improvement projects that enhance a neighborhood.

Neighboring City/Green Corridor. See "Design types."

Noise-sensitive use. An activity or building that is particularly negatively impacted by noise, such as a home, school, library, or hospital.

Non-point pollution. Pervasive and from multiple sources, such as carbon monoxide from automobiles and urban stormwater runoff.

Open space. Land that is undeveloped and planned to remain so indefinitely. Encompasses parks, forests, and farm land. May refer only to land zoned as available to the public, including playgrounds, watershed preserves, and parks.

Outer Neighborhood. See "Design types."

Out-of-direction travel. Travel that is not toward the eventual destination of a trip, often caused by a lack of adequate connections between destinations.

Passive recreation area. Suitable for unstructured uses and low intensity recreation. Passive spaces are planned landscapes that may vary from open meadows to areas with shrub plantings, trees, benches, tables and pathways.

Particulates. Small particles in the air that are a component of air pollution. They can be inhaled and when lodged in the lungs, may damage lung tissue and lead to respiratory problems.

Performance standards. Requirements that govern impacts or characteristics of facilities rather than uses. Standards may be related to building size, noise, air, and water pollution, traffic generation or other attributes. Can limit the kinds of uses based on these impacts or characteristics.

Planned Unit Development (PUD). A type of development based on a comprehensive design addressing the entire complex of land, structures, and uses as a single project. The design plan for the project takes the place of the general site development regulations of the zoning on the site, providing more flexibility in land use and site design.

Point source of pollution. Single, discrete facility or other source of air or water pollution such as a smokestack or sewage outfall pipe.

Public facilities plan. A plan for the sewer, water, and transportation facilities needed to serve a city. Less specific than a Capital Improvements Program and required by Oregon law for cities with a population of 2,500 or more.

Reclamation plan. Typically developed for sites formerly used for mining or waste disposal (e.g., landfills). Describes the proposed reclamation of land that has been adversely affected by a surface mining operation or exploration and how the land will be returned to a natural-appearing condition and potentially reused for another purpose (e.g., open space or recreational use or limited types of development). Plan must be submitted to and approved by the Oregon Department of Geological and Mineral Industries as required by Oregon statutes. Further defined in ORS 517.750.

Redevelopment. Additional or new residential, commercial, or industrial development on land that is already developed, but has the capacity for additional or more intensive development through remodeling or demolition and reconstruction.

Regional Center. See "Design types."

Regional park. A recreation area that serves people who live in and outside the City. Usually a large site with unique facilities or characteristics, often

offering opportunities for a variety of active and passive uses (e.g., playing fields, hiking trails, picnic area, bird-watching, etc.). Mary S. Young State Park is an example.

Reuse plan. Proposal to transform or redevelop a site for another use that may be similar to or different from the previous one. Examples are using a former mine site (once it has been "reclaimed") for a park or housing development, or converting a former warehouse into loft apartments.

Riparian area. Area associated with streams, lakes, and wetlands where vegetation communities are predominately influenced by their association with water.

Seismic hazard. Geologic condition that is potential danger to life and property that includes but is not limited to earthquake, landslide, liquefaction, tsunami inundation, fault displacement and subsidence.

Service District. Local government agency that provides one or more specific services to people within the district (e.g., water, sewer, or fire protection). May encompass or overlap multiple municipalities. Also used to describe the area served by the agency and sometimes used interchangeably with "special district," defined by Oregon Statute as "any unit of local government, other than a city, county, metropolitan service district formed under ORS chapter 268 or an association of local governments performing land use planning functions under ORS 195.025 authorized and regulated by statute."

Setback. Required separation between a structure and a road/right-of-way or property line (e.g., the distance from a sidewalk to the front of a house).

Special District. Any unit of local government, other than a city, county, metropolitan service district formed under ORS Chapter 268 or an association of local governments performing land-use planning functions under ORS 195.025, authorized and regulated by statute. Includes but not limited to water control districts, domestic water associations and water cooperatives, irrigation districts, port districts, regional air quality control authorities, fire districts, school districts, hospital districts, mass transit districts and sanitary districts. ORS 197.015.

Stormwater detention facility. Pond, swale, or other facility used to store and eventually disperse stormwater runoff from roads, parking lots, buildings, and other paved surfaces.

Stream. A body of running water moving over the earth's surface in a channel or bed, such as a creek, rivulet, or river. Flows at least part of the year and

may be perennial or intermittent. Dynamic in nature with a structure that is maintained by build-up and loss of sediment.

Sustainability. An approach to development wherein society balances its social and economic desires and actions with those of providing for long-term environmental health and quality (Northwest Regional Council of the President's Council on Sustainable Development).

Telecommuting. Working at home using a computer and telecommunications to access one's place of employment.

Telecommunity center. A conveniently located place where people can access computers, the Internet, and other technology that make it efficient to get work done or obtain services electronically that otherwise might require longer trips.

Transit street. Provides exclusive transit lanes and/or transit priority measures on streets to facilitate operations for bus and light rail over an identified corridor.

Transportation Demand Management. Process or set of techniques used to control or reduce the amount of traffic in a given area, or at a specific time of day. Tools often focus on employer-based programs such as flexible work hours, telecommuting (see definition above), and providing free transit passes or other incentives to use different modes of transportation or travel at different times of day.

Transportation System Plan (TSP). Provides an inventory and service assessment of a community's existing and planned 20-year multi-modal transportation system.

Urban Growth Boundary. Line encompassing an area that is adopted and planned for urban development and within which urban services (e.g., public sewer and water facilities) will be provided. Outside the boundary, the provision of services and the level of development are restricted and development is restricted in intensity. Oregon City's Urban Growth Boundary is part of the regional boundary administered by Metro.

Urban Growth Management Functional Plan. A set of regional requirements adopted by Metro for cities and counties to implement the Metro's 2040 Growth Concept. Addresses issues such as projected housing and job growth, parking management, water quality, and the regional road system.

Urban Reserve. Former label used for lands outside an Urban Growth Boundary identified as having the highest priority for inclusion within the

boundary when additional urbanizable land was needed, consistent with the requirements of Land Conservation and Development Commission Statewide Goal 14 (Urbanization). Metro discontinued using the term in 1999.

Watershed. Geographical unit defined by the flow of rainwater or snowmelt. All land in a watershed drains to a common outlet, such as a stream, river, lake, or wetland.

Wetland. Area inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and, under normal circumstances do support, vegetation primarily adapted for life in saturated soil. Generally include swamps, marshes, bogs, and similar areas. Areas identified and delineated by a qualified wetland specialist as set forth in the 1987 Corps of Engineers Wetland Delineation Manual.

Willamette River Greenway. Land along the banks of the Willamette River intended to be protected and conserved for its natural, scenic, historical, agricultural, economic, and recreational qualities. Cities and counties are responsible for administering the Willamette River Greenway Plan within their boundaries by restricting development and providing access for recreation.

Zoning (also base zone, zone district). Delineation of districts and establishment of regulations governing the use, placement, spacing, and size of land and buildings.

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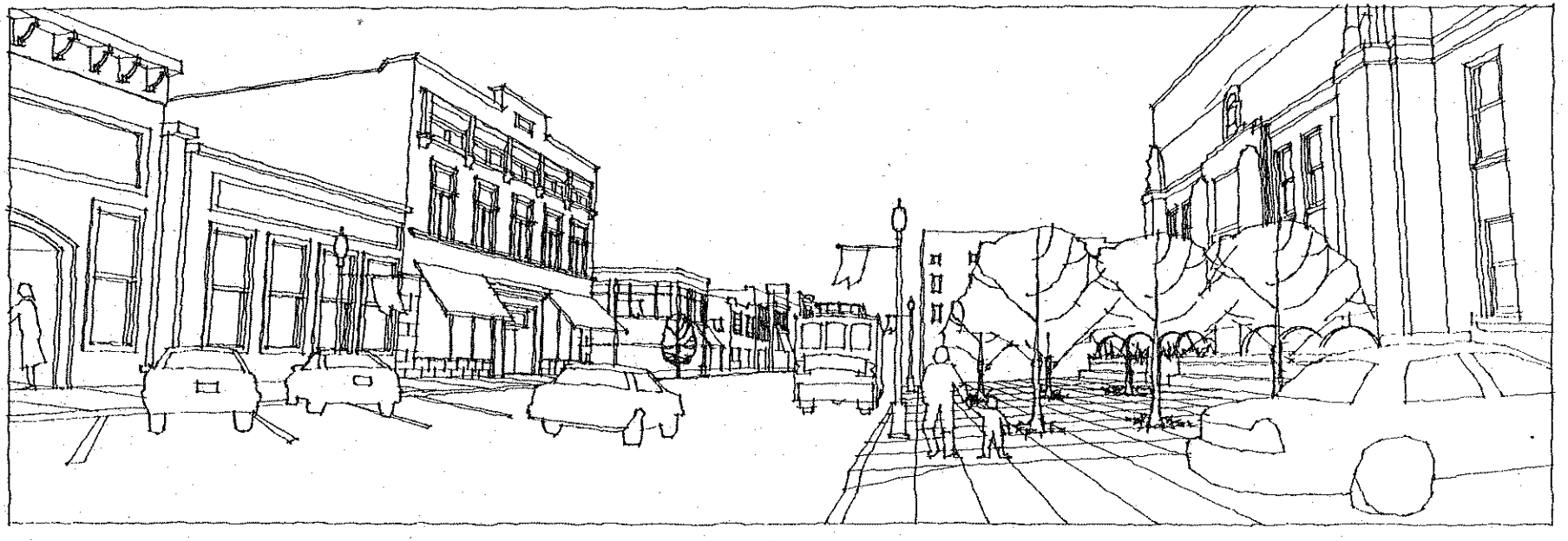
Uniform Building Code

Urban Growth Management Functional Plan (1998)

Willamette River Greenway Plan, pursuant to ORS 390.318

Oregon City Downtown Community Plan

Part I



Final Report

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August 6, 1999

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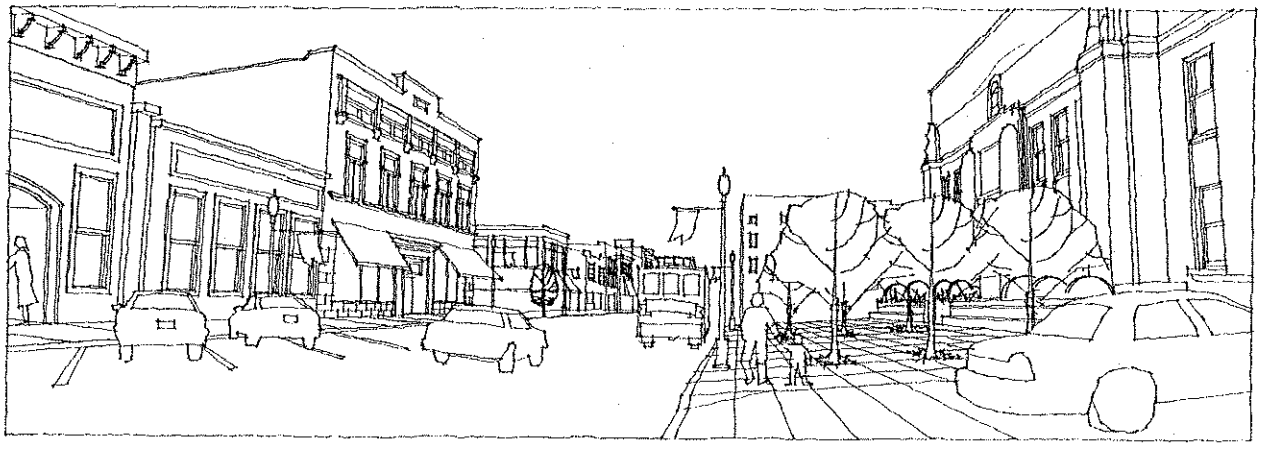
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A Plan to Enhance the Historical Heart of Oregon City

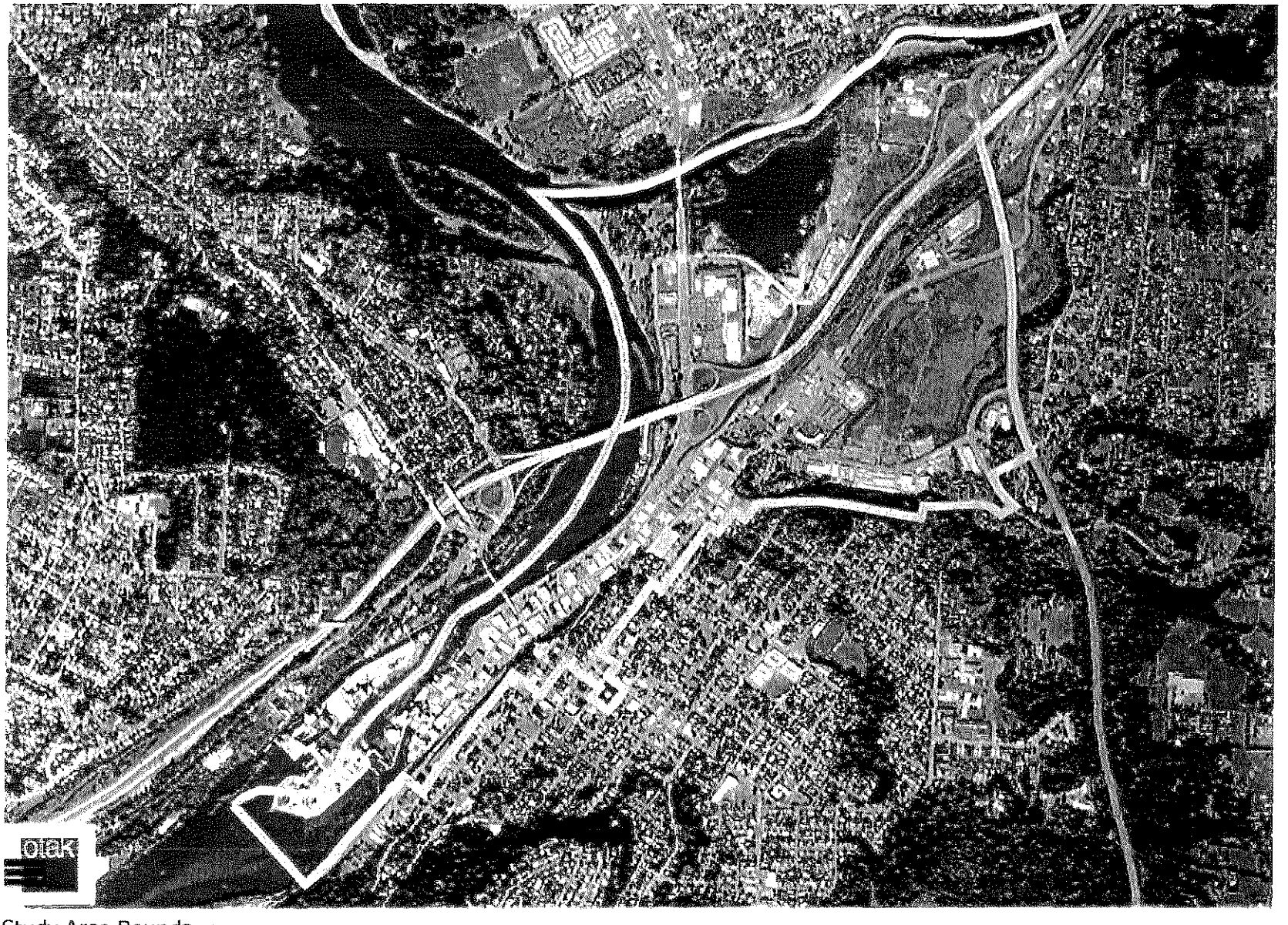
The Oregon City Downtown Community Plan is a first step in enhancing the historical heart of Oregon City. The vision describes a community that celebrates Oregon City's historic past while promoting a positive change for the future. The plan emphasizes the creation of pedestrian-friendly places, varied mixed use developments, new open space and civic amenities. It also strives to reestablish Oregon City's historical prominence by protecting and strengthening historic themes and features unique to Oregon City. Above all, the plan is a step toward a preferred future that has been identified by the residents of Oregon City.

Highlights of the plan include:

- Updated zoning and development standards to enhance the Historic Downtown Core
- Historic design guidelines to protect and enhance Oregon City's unique architecture
- A new Mixed Use Residential district to create an urban neighborhood in the North End
- New tourist commercial areas adjacent to the End of the Oregon Trail facility
- A Clackamette Cove Master Plan District that will create a mix of public open space, natural resource protection, and residential and employment uses
- Mixed use opportunities for all plan districts in the study area
- Recommendations to enhance McLoughlin Boulevard and create a riverfront promenade
- A detailed transportation analysis, with recommendations for automobile, pedestrian, bicycle, and transit improvements
- A new connection of 12th Street to McLoughlin Boulevard
- A complete pedestrian trail extending from the Clackamette Cove to the Historic Downtown, including a boardwalk overlooking the river
- Parking strategies
- Design guidelines to promote pedestrian-friendly development
- Draft comprehensive plan and zoning text and maps to implement the recommendations



New Plaza in Front of the Courthouse



Study Area Boundary

Purpose

The purpose of the Oregon City Downtown Community Plan is twofold:

- Update the comprehensive plan and zoning code (which was last updated in 1982)
- Establish a vision and implementing strategies for positive growth and improvement of the area

Planning Area

The planning area for the Oregon City Downtown Community Plan includes areas below the bluff and along the banks of the Willamette and Clackamas Rivers from the Willamette Falls to Gladstone. The planning area also includes areas above the bluff along the 7th Street corridor, and areas north of Abernethy Creek extending towards Highway 213 and Interstate 205. The area has been divided into six districts – the Historic Downtown District, the North End District, the Cove area, the End of the Oregon Trail District, the McLoughlin Commercial Corridor and the McLoughlin Neighborhood/7th Street corridor district. The total study area is approximately 763 acres.

Overview of the Process

The planning process was overseen by an 84-member Steering Committee. The large size of the committee was intended to create an open, participatory process that included a broad array of community interests. Meetings and workshops were conducted in "town hall" style. The major steps of process were as follows:

Goals and Objectives — Eleven project objectives were refined and prioritized.

Design Workshops — Two design workshops developed three plan alternatives. Over 120 people attended these workshops.

Evaluation of Alternatives — Three alternatives for the alignment of McLoughlin Boulevard were evaluated, resulting in a decision to retain the existing alignment, beautify the street and develop a boardwalk on the Willamette River side of the street.

Implementation Workshops — Workshops were held to review preliminary recommendations for parking and circulation, design standards, comprehensive plan designations and policies, and implementing zoning. The Steering Committee met jointly with the Historic Review Board and Planning Commission.

Review of the Draft Plan — The process concluded with a final Steering Committee meeting and comment period on the draft plan.

Next Steps

This report is the start for the update of the comprehensive plan and zoning code for the City of Oregon City. The recommended steps include:

- Review and endorsement of the recommendations in this report by the Historic Review Board, Planning Commission, and City Commission.
- Preparation and adoption of final zoning code and comprehensive plan amendments.

Introduction
Continued

Project/Plan Objectives

The following project/plan objectives were established by the Steering Committee to guide the Oregon City Downtown Community Plan. The objectives are listed in order of importance as identified in the community survey in July 1998.

Objective 1: Save the Past. Strengthen, preserve and protect the historic characteristics, themes, and features of Oregon City.

Objective 2: Build Upon Existing Assets. Enhance positive features and themes unique to Oregon City.

Objective 3: Manage Flooding. Develop an environmentally sensitive program for managing flooding. Protect important buildings, infrastructure, and amenities and ensure that opportunities and sites for future development are secure.



Petzold Building — building preservation and enhancement



Main Street – a key asset of downtown

Objective 4: Identify Catalyst Projects. Establish a program and process for success by identifying key projects and actions that will spur growth throughout the downtown.

Objective 5: Emphasize Pedestrian and Transit Services. Develop a setting that is conducive to walking, bicycling and transit while providing accessibility to regional automobile and freight networks.



Clackamette Cove — a new public use area



Main Street — pedestrian improvements

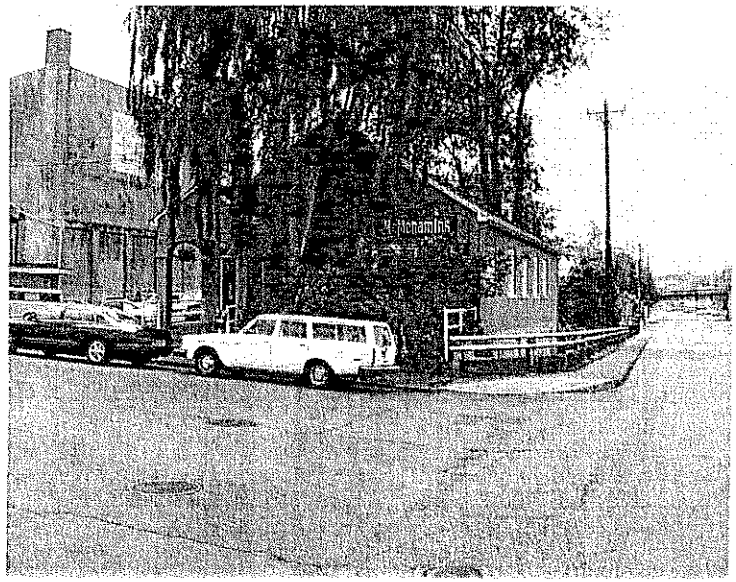
Introduction
Continued

Objective 6: Provide for Jobs and Services. Protect and strengthen the existing employment base while developing a diverse blend of new market wage jobs and services.

Objective 7: Provide Retail Services. Provide appropriate space for a full range of competitively priced essential goods and services within walking distance of all downtown residents and employees.



Main Street — office over retail

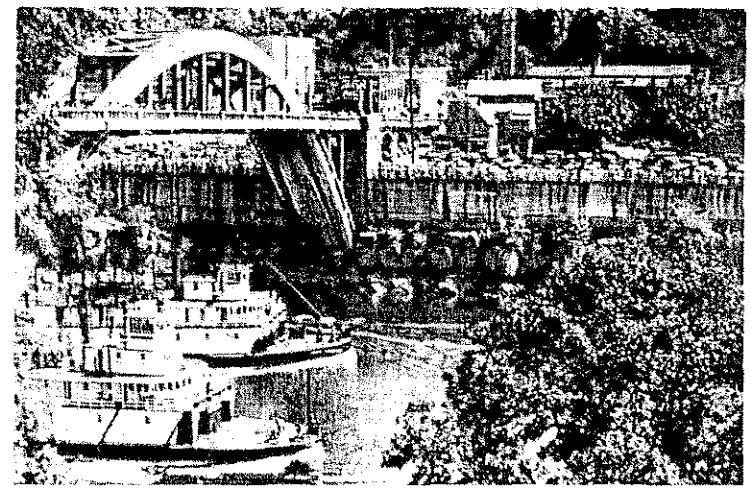


Eatery — within walking distance to downtown residents and employees

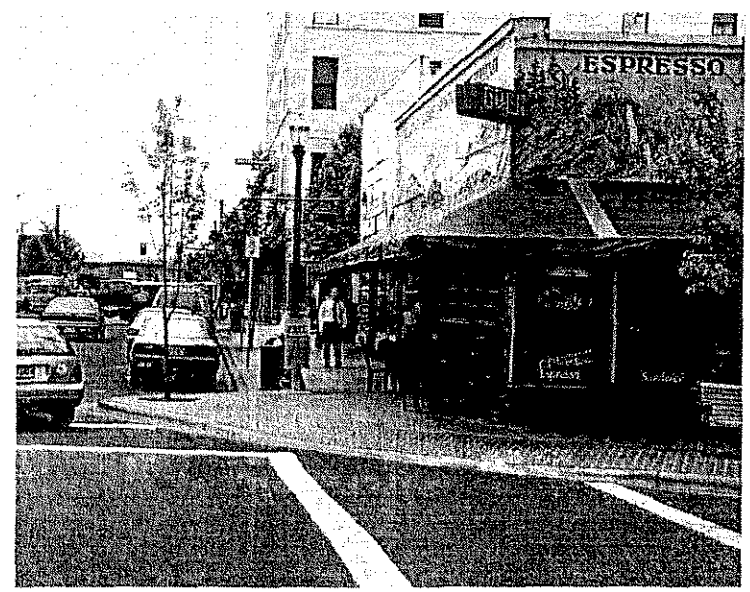
Objective 8: Meet Community and Regional Goals and Expectations. Set a high standard for quality and livability that will become a benchmark that other downtowns will be measured against.

Objective 9: Reconnect to the River. Provide safe access to and use of the rivers and waterways.

Objective 10: Restore a Vibrant, Unique and Attractive City Center. Develop regional attractions that together form a lively and vibrant cultural and social hub.



Riverfront Activity— steamboat races, 1936



Social gathering place

Objective 11: Provide for Appropriate Residential Uses. Provide, in close proximity to jobs and services, housing for a broad range of incomes that respond to regional housing trends and prices.

Other Evaluation Factors

- Transportation costs are relative to land use benefits
- The least impact to unique geographic features
- Minimize traffic problems in the Downtown and McLoughlin Neighborhood
- Parking strategies are provided to ensure adequate parking

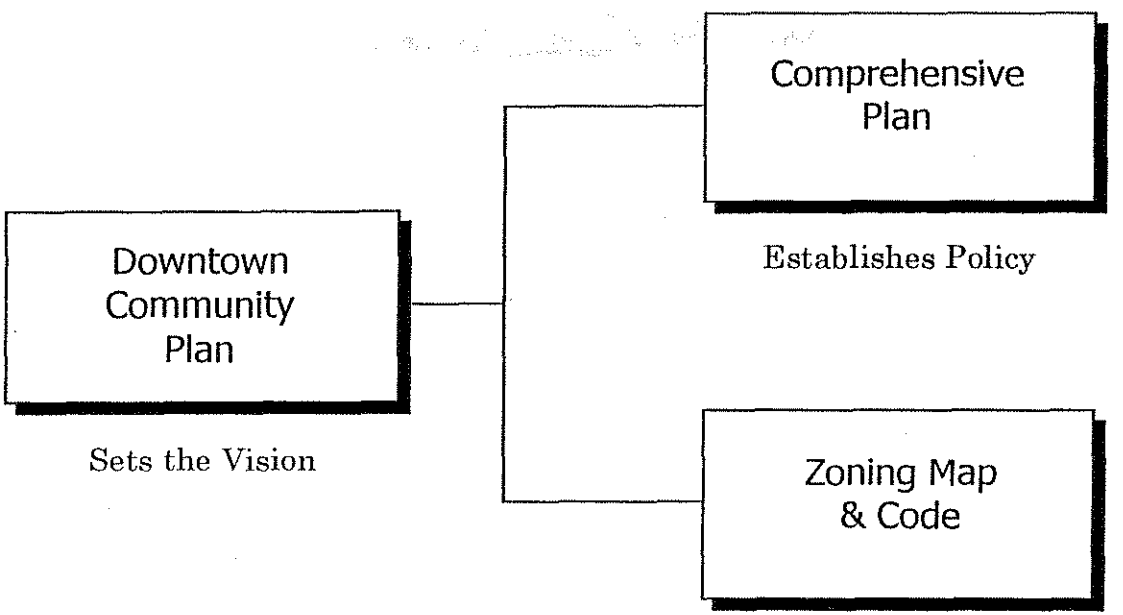


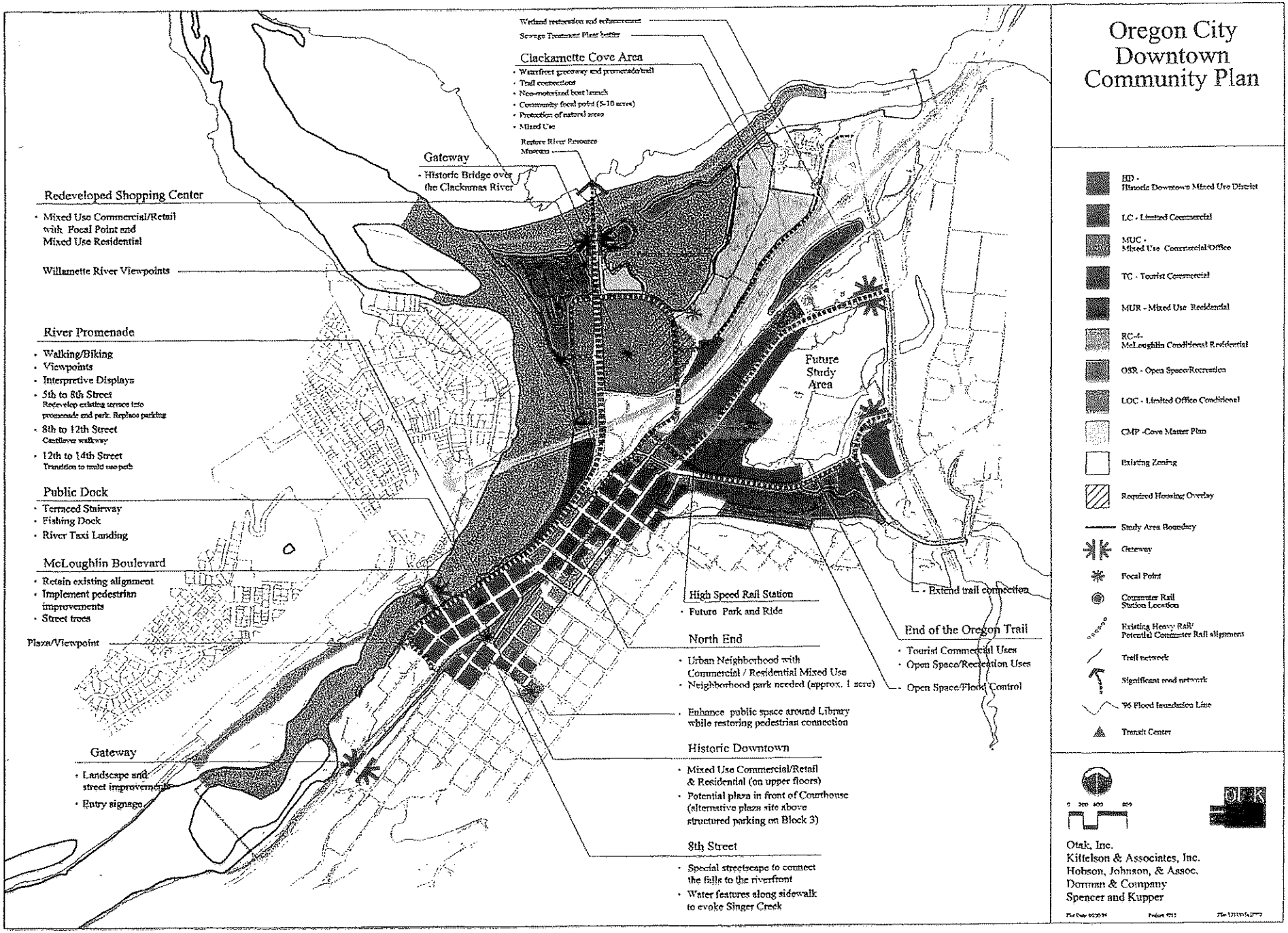
Mixed Use — housing over retail

The Downtown Community Plan Overview

The Downtown Community Plan is the overall vision for the downtown districts and neighborhoods. Originally called the "Framework Plan", it was developed by the project steering committee as the basis for the regulating comprehensive plan and zoning recommendations.

It describes a community that celebrates the City's historic past while adding diverse uses that will reinforce and enrich Oregon City. The plan creates a community of distinct yet interrelated neighborhoods, new open space and civic uses. The plan also provides opportunities for more residents, visitors and employees and creates areas for new commercial uses. Furthermore, the plan ensures continued protection and enhancement of the Historic Downtown by establishing preservation policies and historic design guidelines.




Oregon City Downtown Community Plan
Wetland restoration and enhancement
Sewage Treatment Plant berm
Clackamette Cove Area
• Waterfront greenway and promenade/trail
• Trail connections
• Non-motorized boat launch
• Community focal point (5-10 acres)
• Protection of natural areas
• Mixed Use
Restore River Resource Missions
Gateway
• Historic Bridge over the Clackamas River
Redeveloped Shopping Center
• Mixed Use Commercial/Retail with Focal Point and Mixed Use Residential
Willamette River Viewpoints
River Promenade
• Walking/Biking
• Viewpoints
• Interpretive Displays
• 5th to 8th Street
Redevelop existing terrace into promenade and park. Replace parking
• 8th to 12th Street
Cantilever walkway
• 12th to 14th Street
Transition to multi use path
Public Dock
• Terraced Stairway
• Fishing Dock
• River Taxi Landing
McLoughlin Boulevard
• Retain existing alignment
• Implement pedestrian improvements
• Street trees
Plaza/Viewpoint
Gateway
• Landscape and street improvements
• Entry signage
Future Study Area
• Extend trail connection
High Speed Rail Station
• Future Park and Ride
North End
• Urban Neighborhood with Commercial / Residential Mixed Use
• Neighborhood park needed (approx. 1 acre)
• Enhance public space around Library while restoring pedestrian connection
Historic Downtown
• Mixed Use Commercial/Retail & Residential (on upper floors)
• Potential plaza in front of Courthouse (alternative plaza site above structured parking on Block 3)
8th Street
• Special streetscape to connect the falls to the riverfront
• Water features along sidewalk to evoke Singer Creek
End of the Oregon Trail
• Tourist Commercial Uses
• Open Space/Recreation Uses
• Open Space/Flood Control
HD - Historic Downtown Mixed Use District
LC - Limited Commercial
MUC - Mixed Use Commercial/Office
TC - Tourist Commercial
MUR - Mixed Use Residential
RC-4- McLoughlin Conditional Residential
OSR - Open Space/Recreation
LOC - Limited Office Conditional
CMP -Cove Master Plan
Existing Zoning
Required Housing Overlay
Study Area Boundary
Gateway
Focal Point
Commuter Rail Station Location
Existing Heavy Rail/ Potential Commuter Rail alignment
Trail network
Significant road network
'96 Flood Inundation Line
Transit Center
0 200 400 800
Otak, Inc.
Kittelson & Associates, Inc.
Hobson, Johnson, & Assoc.
Dorman & Company
Spencer and Kupper

Overview

The Land Use Plan is organized around nine districts. The districts are:

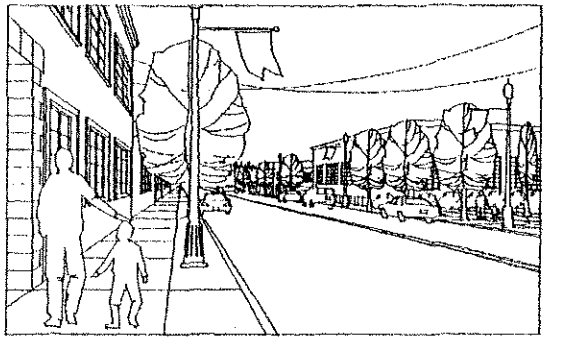
- Historic Downtown
- Mixed Use Commercial/Office
- Mixed Use Residential
- Clackamette Cove Master Plan
- McLoughlin Conditional Residential
- Tourist Commercial
- Open Space/Recreation
- Limited Office Conditional
- Limited Commercial

The Land Use Plan sets the stage for...

Mixed use opportunities...



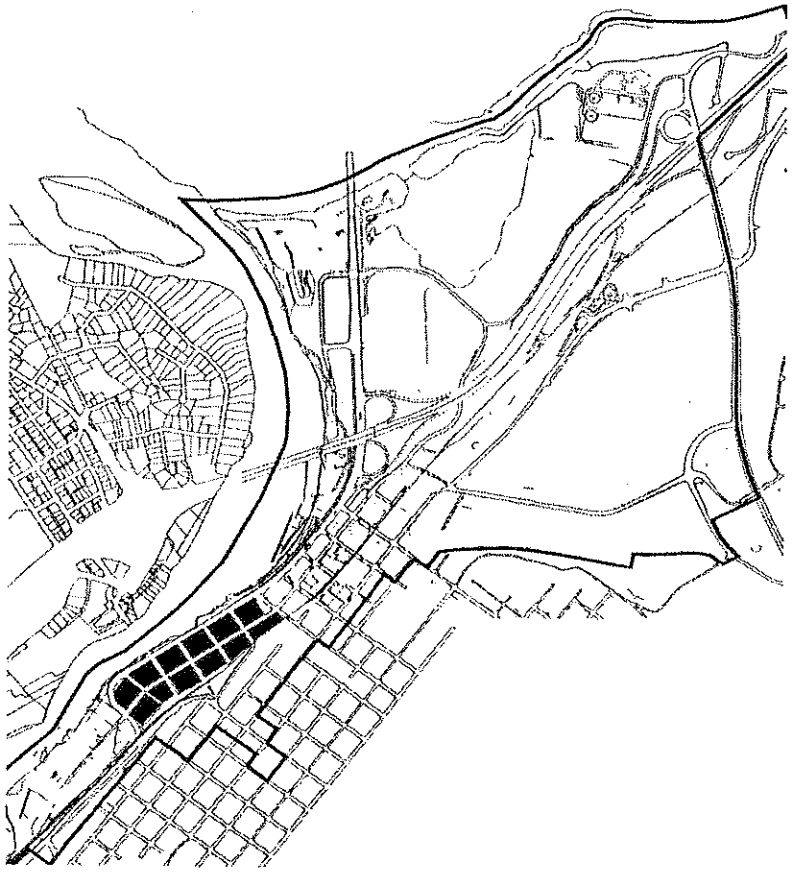
...places for people



...linking land use with transportation.



Land Use
Continued



Historic Downtown District

The Historic Downtown District contains the majority of significant historic buildings within the study area. This district covers a two block wide area extending from 5th Street to about 10th Street. One key assumption for this district is that the existing buildings in this district would be enhanced, rehabilitated and reused. Pedestrian-oriented retail uses will be focused in this district, with opportunities for office and housing development on upper floors. Any new construction and building improvements will be guided by a set of historic design guidelines. The Willamette River frontage is designated park space, and would be part of a seven-block long river promenade. Parking in the downtown will be provided both in private and public lots or parking structures. A typical building in this district will have three to four stories with many buildings having a mix of uses. Existing uses are "grandfathered," however, new auto-oriented uses will not be permitted.

Proposed Plan District: Mixed Use Commercial (MUC)
Proposed Zoning: Historic Downtown District (HD)
Proposed Transportation Improvements:

- McLoughlin Boulevard intersection improvements
- McLoughlin Boulevard bicycle/pedestrian improvements
- Main Street/10th Street left-turn pockets and signal
- Main Street/7th Street modifications
- Main Street/McLoughlin Boulevard bicycle/pedestrian improvements

McLoughlin Boulevard Enhancements:

- Pedestrian crossings
- Street furniture
- Wider sidewalks
- River viewpoints
- Decorative, see-through railings



Mixed-Use Commercial/Office District

The Mixed Use Commercial/Office District encompasses properties that are oriented to McLoughlin Boulevard. A range of commercial, office, and residential uses are envisioned for this area. Parking will be provided on site and in structures. Boulevard enhancements will improve the visual character of McLoughlin Boulevard, and provide a link to the waterfront and adjacent districts.

The Oregon City Shopping Center, envisioned as a mixed use center, is intended to redevelop, intensify, and transition towards a more pedestrian oriented center that is connected with Clackamette Cove. One- to three-story buildings are envisioned, which will contain a mix of retail, office and senior housing.

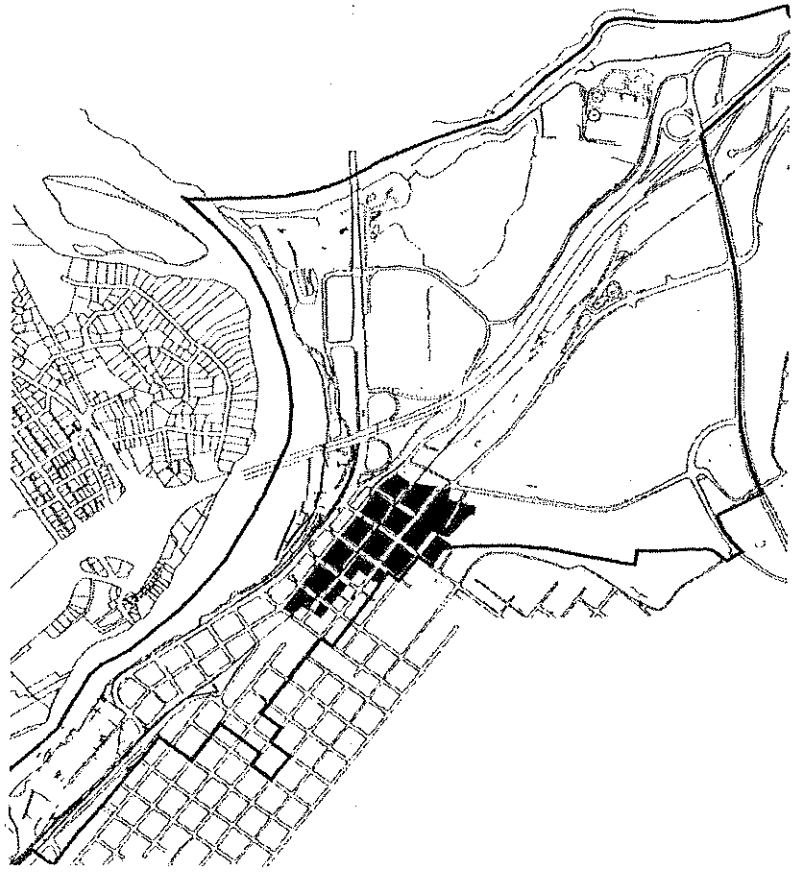
Proposed Plan District: Mixed Use Commercial (MUC)
Proposed Zoning: Mixed Use Commercial/Office (MUC)
Proposed Transportation Improvements:

- 14th Street/McLoughlin Blvd. intersection improvements
- 13th Street/McLoughlin Blvd. intersection improvements
- 12th Street connection to McLoughlin Boulevard
- McLoughlin Blvd. pedestrian and bicycle improvements
- Main Street/14th Street improvements
- Washington St. pedestrian, bicycle and transit improvements
- I-205 southbound on-ramp improvements

McLoughlin Boulevard Enhancements:

- Pedestrian crossings
- Street furniture
- Wider sidewalks
- River viewpoints
- Decorative, see-through railings

Land Use
Continued



Mixed Use Residential Neighborhood

The North End of downtown is proposed as the Mixed-Use Residential District and will contain the majority of new housing within the study area. Small retail uses such as dry cleaners, coffee shops, etc. are also located within buildings. Residential uses are required as part of all new developments. Existing uses are "grandfathered" but new auto-oriented uses are not permitted. Two-to four-story buildings are assumed for this area with parking provided on-site or in structures. It is intended that the two- to four-story buildings in this area will comprise a new, pedestrian oriented, urban neighborhood. A small neighborhood park is recommended and will need to be sited as part of the plan's implementation.

Proposed Plan District: Mixed Use Residential (MUR)
Proposed Zoning: Mixed Use Residential (MUR)
Proposed Transportation Improvements:

- Main Street/14th Street intersection improvements
- Main Street pedestrian, bicycle, and transit improvements
- 12th Street connection from Main to McLoughlin Boulevard
- 12th Street/Main Street intersection improvements
- 12th Street pedestrian, bicycle and transit improvements
- Washington Street/Abernethy Road intersection improvements
- Washington Street improvements
- Washington Street pedestrian, bicycle, and transit improvements

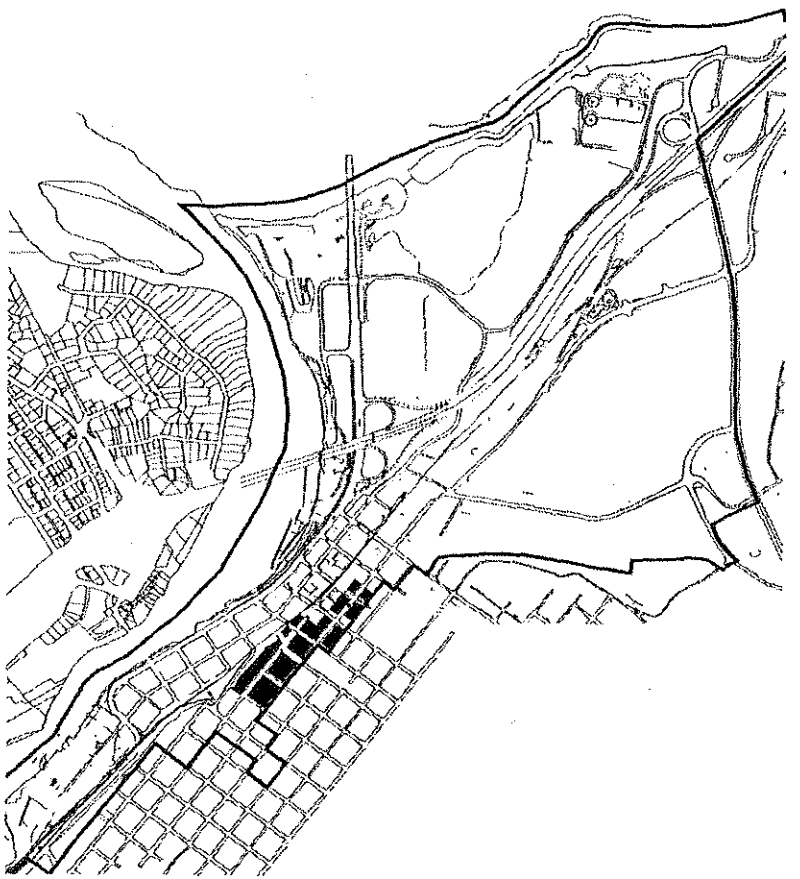


Clackamette Cove Area

Clackamette Cove is currently an underutilized and inaccessible area within the study boundary. The plan envisions a variety of public recreation and access to the entire waterfront, natural resource protection, and a mix of residential, commercial and offices uses. Buffers will be provided to the existing and potentially expanded sewerage treatment plant. The proposed zoning is based on a master plan review process, where proposed master plans must demonstrate consistency with the public policy objectives, uses, and resource protection requirements that are described in the plan and code. This is intended as a public review process that ensures fulfillment and protection of the public goals, while providing flexibility for the specific master plan.

Proposed Plan District: Cove Master Plan (CMP)
Proposed Zoning: Cove Master Plan (CMP)
Proposed Transportation Improvements:

- McLoughlin Boulevard pedestrian, bicycle, and transit improvements
- Clackamette Cove pedestrian improvements

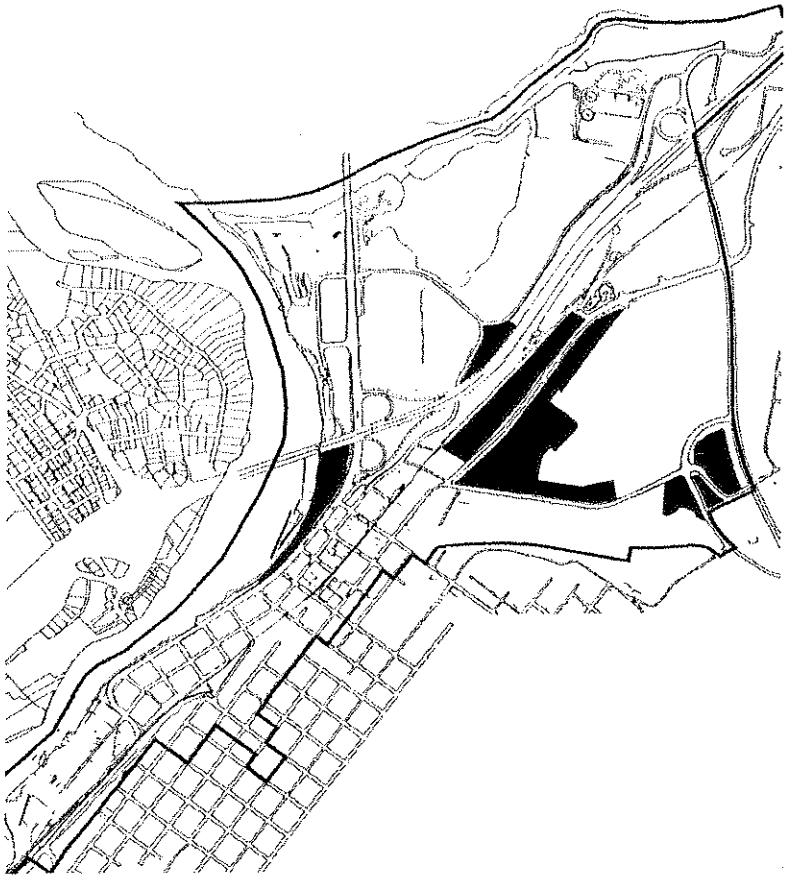


McLoughlin Conditional Residential

This area retains the existing McLoughlin Conditional Residential designation and is primarily located within the existing McLoughlin Historic District. It is assumed that historic properties in the McLoughlin District would not redevelop at greater densities other than what the existing zoning designation would allow. No significant changes are proposed in this district.

Proposed Plan District: McLoughlin Conditional Residential (MCR) (existing district)
Proposed Zoning: McLoughlin Conditional Residential (RC-4) (existing zoning)
Proposed Transportation Improvements:

- Washington Street pedestrian, bicycle, and transit improvements
- 12th Street/Washington Street improvements



Tourist Commercial District

The Mixed Use Tourist Commercial District is mainly located at the End of the Oregon Trail facility, along the north side of Abernethy Road and the intersection of Abernethy Road and Redland Road. The district is intended to provide supporting commercial uses for the End of the Trail area, along with supplying some office space. The established range of uses in the existing Tourist Commercial district has not changed with the exception of adding office uses to the list of permitted uses.

New construction in the End of the Oregon Trail District will be guided by the End of the Oregon Trail Master Plan.

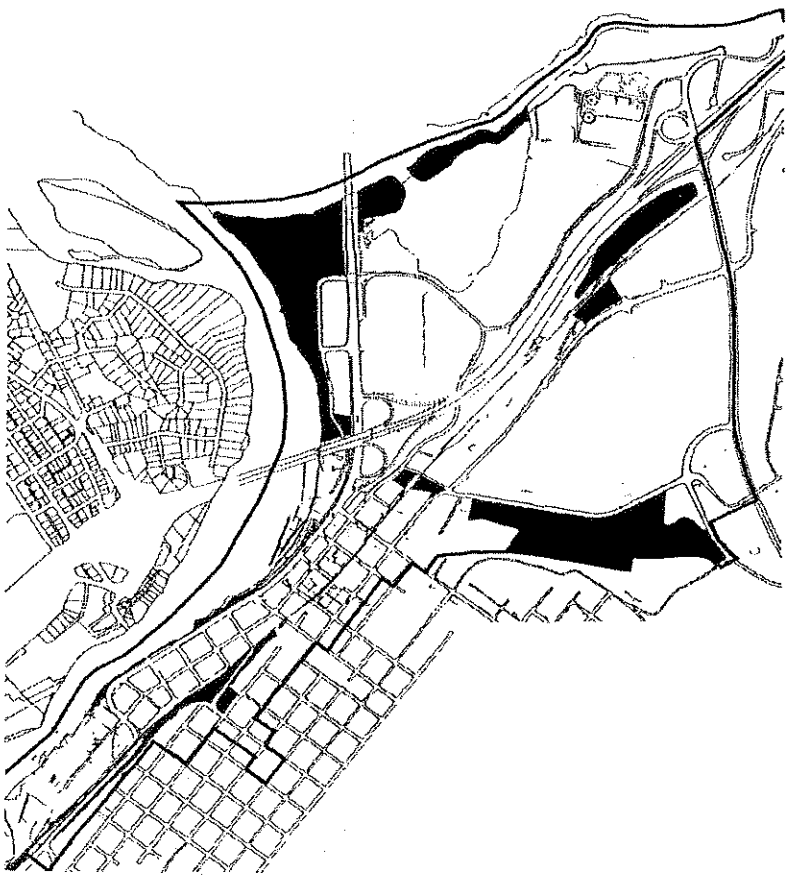
Proposed Plan District: Mixed Use Commercial (MUC)
Proposed Zoning: Tourist Commercial (TC)
Proposed Transportation Improvements:

- McLoughlin Boulevard/14th Street improvements
- McLoughlin Boulevard/13th Street improvements
- McLoughlin Boulevard/12th Street improvements
- McLoughlin Boulevard pedestrian, bicycle, and transit improvements
- Washington Street/Abernethy Road intersection improvements
- Washington Street pedestrian, bicycle, and transit improvements

McLoughlin Boulevard Enhancements:

- Pedestrian crossings
- Street furniture
- Wider sidewalks
- River viewpoints
- Decorative, see-through railings

Land Use
Continued

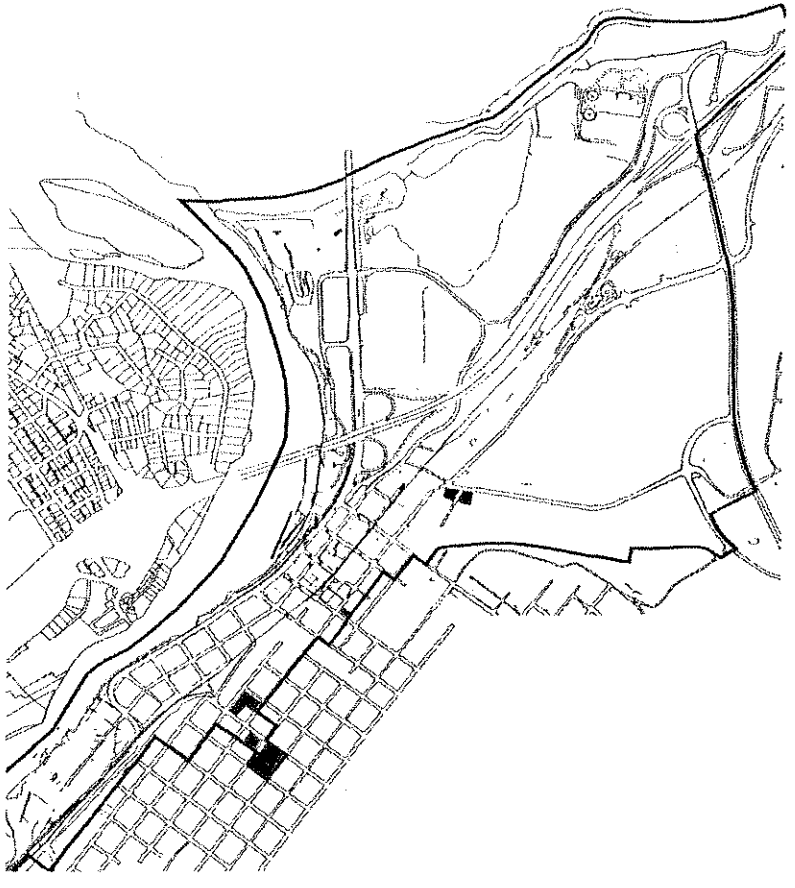


Open Space

Large amounts of greenspace are provided within the study area. The steering committee has expressed the desire to convert the Clackamas County offices on Abernethy Road to open space. Open space is also found in the Clackamette Cove Area, Clackamette Park, and the waterfront. A continuous trail is envisioned starting from the Old Gladstone Bridge and continuing along the river frontages to 12th Street. At this point, a cantilevered boardwalk could continue south towards the 7th Street Bridge, providing a continuous connection to the downtown, and up to the elevator. The pedestrian connection that once linked the Carnegie Center with the Esplanade is also proposed to be restored to complete the link between the elevator and the Carnegie Center.

Proposed Plan District: Park (P)
Proposed Zoning: Open Space Recreation (OSR)
Proposed Transportation Improvements:

- Washington Street pedestrian, bicycle, and transit improvements

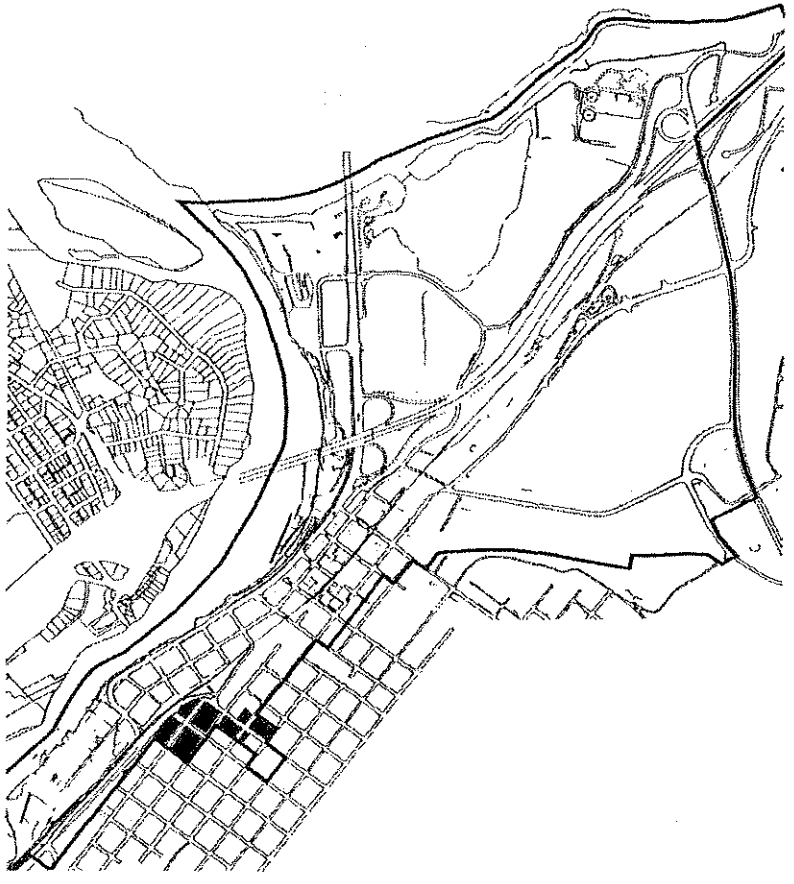


Limited Office Conditional

This area retains the Limited Office Conditional designation. It encompasses a small area near the 7th Street Corridor and by the End of the Trail facility on Abernethy Road. The district is established to recognize existing limited office uses. The established list of uses permitted in the Limited Office Conditional designation remains unchanged.

Proposed Plan District: Mixed Use Commercial (MUC)
Proposed Zoning: Limited Office Conditional (LOC) (existing zoning)
Proposed Transportation Improvements:

- Washington Street/Abernethy Road intersection improvements



Limited Commercial District

This area retains the existing Limited Commercial designation. The Limited Commercial District is intended to provide a mix of commercial and residential uses. The 7th Street Corridor contains the majority of Limited Commercial areas. This area will provide commercial uses within walking distance of McLoughlin residents and will be designed to complement the McLoughlin Historic District. Parking is assumed to be on street in this district.

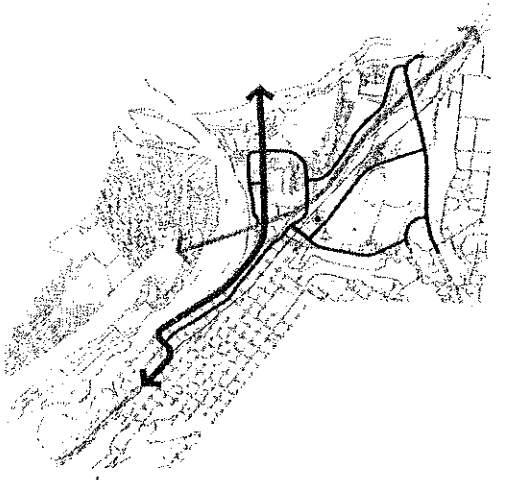
Proposed Plan District: Mixed Use Commercial (MUC) and McLoughlin Conditional Residential (MCR)
Proposed Zoning: Limited Commercial (LC) (existing zoning)
Proposed Transportation Improvements:

- Washington Street pedestrian, bicycle, and transit improvements
- Washington Street improvements

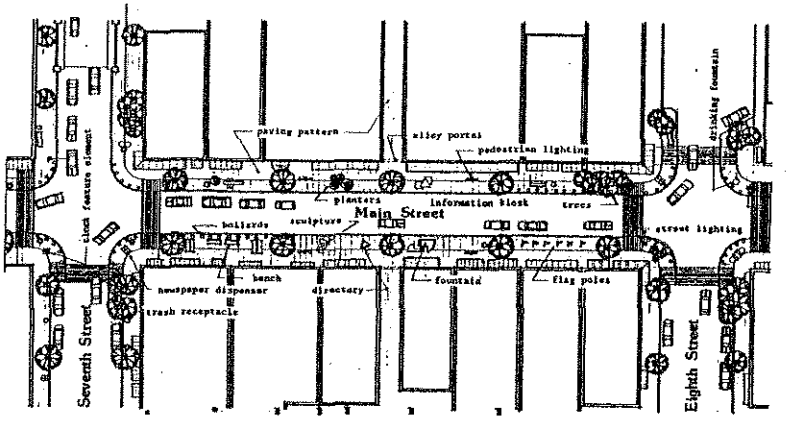
Overview

The transportation plan anticipates:

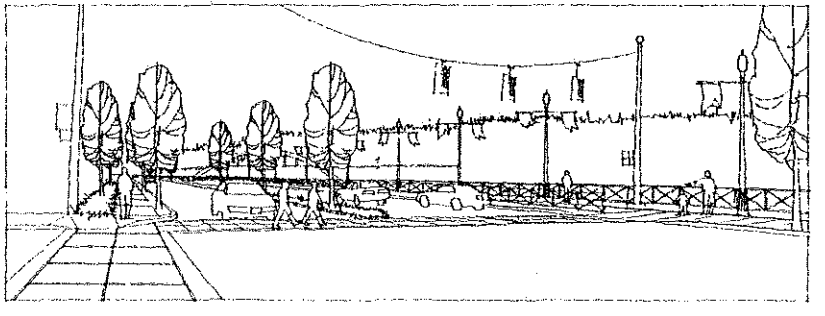
a hierarchy of connected streets...



pedestrian and bicycle facilities...



and the enhancement of McLoughlin Boulevard.



Transportation
Continued

Summary

Due to the strong grid that was originally platted and developed within Oregon City, the transportation system is well-developed and comprehensive. The most significant limitation to travel within the area is the topography. Other physical barriers exist including the I-205 Freeway, Highway 213, Willamette and Clackamas Rivers, and Abernethy Creek. As development and redevelopment occur to implement the Downtown Community Plan, key transportation improvements can be made that will ensure adequate mobility and accessibility are maintained.

These key improvements include:

- selected widening of McLoughlin Boulevard near I-205;
- widening the I-205 southbound on-ramp;
- connecting 12th Street to McLoughlin Boulevard;
- modifying the Main Street/7th Street intersection;
- widening 14th Street;
- improving and signalizing several intersections;
- creating new linkages that improve local circulation in the landfill area;
- creating McLoughlin Boulevard and Washington Street as bicycle corridors;
- creating Main Street and Washington Street as primary pedestrian corridors;
- constructing the multi-purpose pathway from the Cove to downtown;
- preserving pedestrian facilities and completing missing links;
- enhancing local transit service to the study area and other parts of Oregon City; and,
- establishing a Transportation Management Association with assistance from Tri-Met.

These transportation system improvements work in concert with other planned improvements in the Oregon City area and provide balanced opportunities for travel across multiple modes. Metro's operating standards for areas similar to Oregon City's Downtown Community Plan can be achieved at the acceptable level, through completion of this list of transportation improvements.

Transportation Analysis

This section summarizes the transportation analysis and findings for the Downtown Community Plan. Issues addressed include:

- Total Trips Generated by the Downtown Community Plan
- Transportation Network Elements

Total Trip Generation

Table 1 contains a summary comparison of the total vehicle trips generated by development of the current Comprehensive Plan, and the Downtown Community Plan. As shown in Table 1, there is a measurable increase in total trips generated by the Downtown Community Plan, as compared with the current Comprehensive Plan.

Table 1
Vehicle Trip Generation Comparison

Generator	*Current Comprehensive Plan*	*Oregon City Downtown Community Plan*
Households	587	950
Retail Jobs	1,780	2,419
Non-Retail Jobs	1,631	2,593
Total	**3,958**	**5,962**

The Downtown Community Plan results in an approximately 51 percent increase in total vehicle trips generated, as compared with the current Comprehensive Plan.

Transportation Networks

The elements contained in the proposed transportation system are presented first in this section, followed by a discussion of mode split results.

Transportation Network Elements

Transit System

The transit system that has been assumed in the modeling for this project does not include light rail transit (LRT). The type of transit service that Tri-Met envisions for this area in the *Transit Choices for Livability* study (exclusive of LRT), is what has been assumed in Metro's travel demand model. A review and evaluation of the proposed transit improvements included in the *Transit Choices for Livability* study confirmed the appropriateness of the modeled transit service and the reasonableness of the resulting transit mode share.

Current transit service to the study area has been deemed adequate by Tri-Met, with no transit lines operating near or at capacity. A transit center exists in downtown Oregon City, on the block bounded by Main Street, 10th Street, Moss Avenue, and McLoughlin Boulevard. In addition to the transit service provided by Tri-Met, a trolley service is provided by the City and operates as a "fareless square" along the Main Street corridor.



LEGEND

- (TC) TRANSIT CENTER
- TRANSIT ROUTE
- OREGON CITY TROLLEY ROUTE

NORTH
(NOT TO SCALE)

TRANSIT CIRCULATION PLAN

DOWNTOWN COMMUNITY PLAN
CITY OF OREGON CITY, OREGON

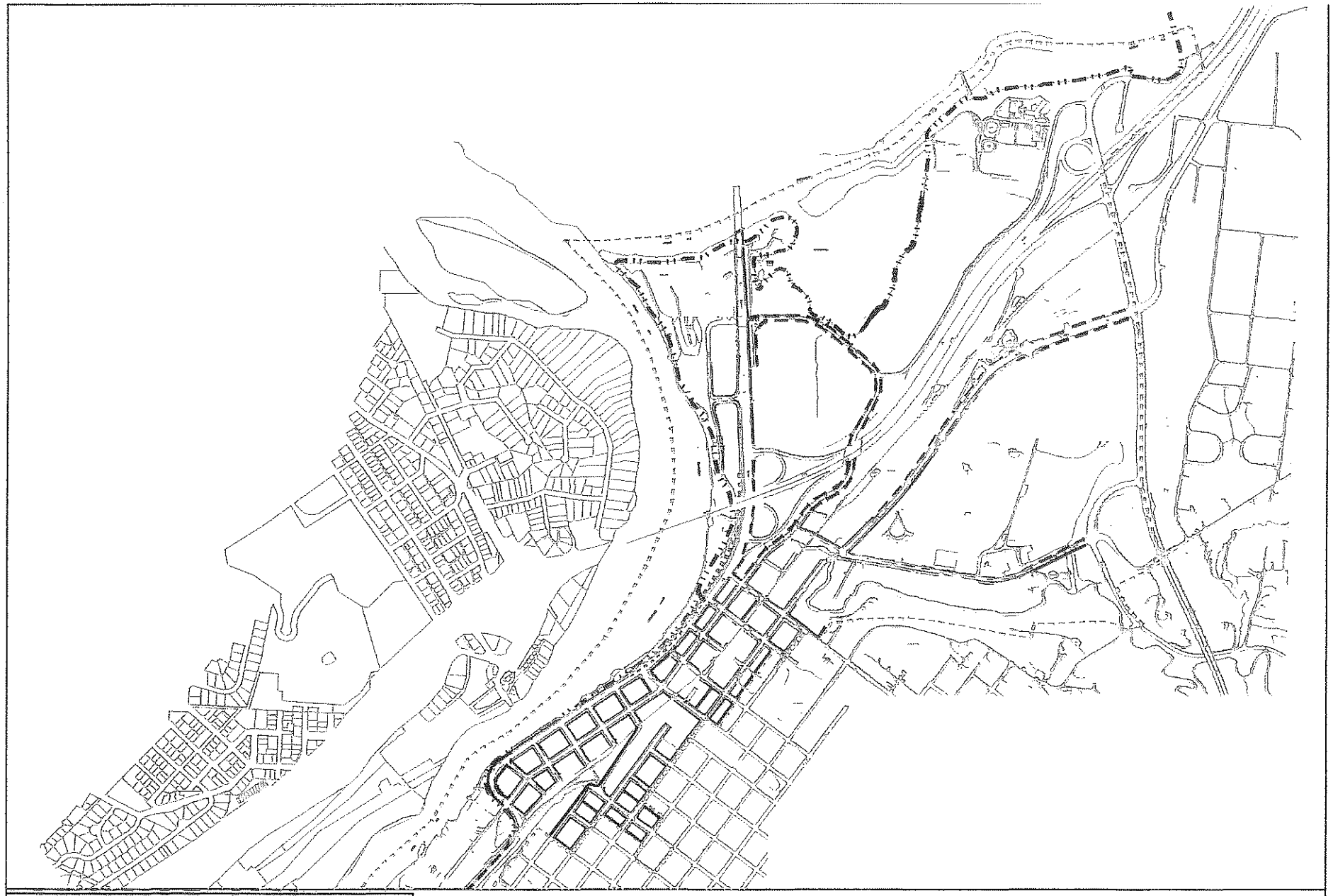
MAY 1999

Pedestrian System

The pedestrian system is nearly complete in much of the study area. The few missing links that exist do not measurably inhibit pedestrian movements. There are two reasons for this lack of impact to pedestrian movements. First, the missing links are located in areas that are not considered to be "pedestrian generators". Secondly, the grid network of sidewalks that exists in the area is almost complete such that if a sidewalk link is missing, a nearby alternative is likely available.

The area that has virtually no pedestrian facilities is located in the Oregon City Shopping Center/Clackamette Cove area. This area is isolated from the remainder of the study area; separated by physical features such as the I-205 Freeway, the Clackamas River, McLoughlin Boulevard, and the Willamette River. As development/redevelopment occurs in this area, an improved pedestrian system will likely increase the pedestrian demand. However, it is unlikely that significant increases in pedestrian travel can be expected between this isolated area and the remainder of the study area. This is due to the above described barriers that will remain and the sheer distance that must be overcome in crossing those barriers.

The pedestrian facilities associated with the McLoughlin Boulevard corridor can be described as marginal. There are existing discontinuities and inconsistencies in treatments that exacerbate major pedestrian environment deficiencies of high volume, higher speed, and heavy vehicle traffic. Improvements to the pedestrian facilities along this corridor are necessary to provide a reasonable opportunity for increased pedestrian activity and attractive connections to the riverfront.



LEGEND

- EXISTING SIDEWALK
- MULTI–USE PATH
- PROPOSED SIDEWALK
- PROPOSED MULTI–USE PATH

NORTH
(NOT TO SCALE)

PEDESTRIAN CIRCULATION PLAN

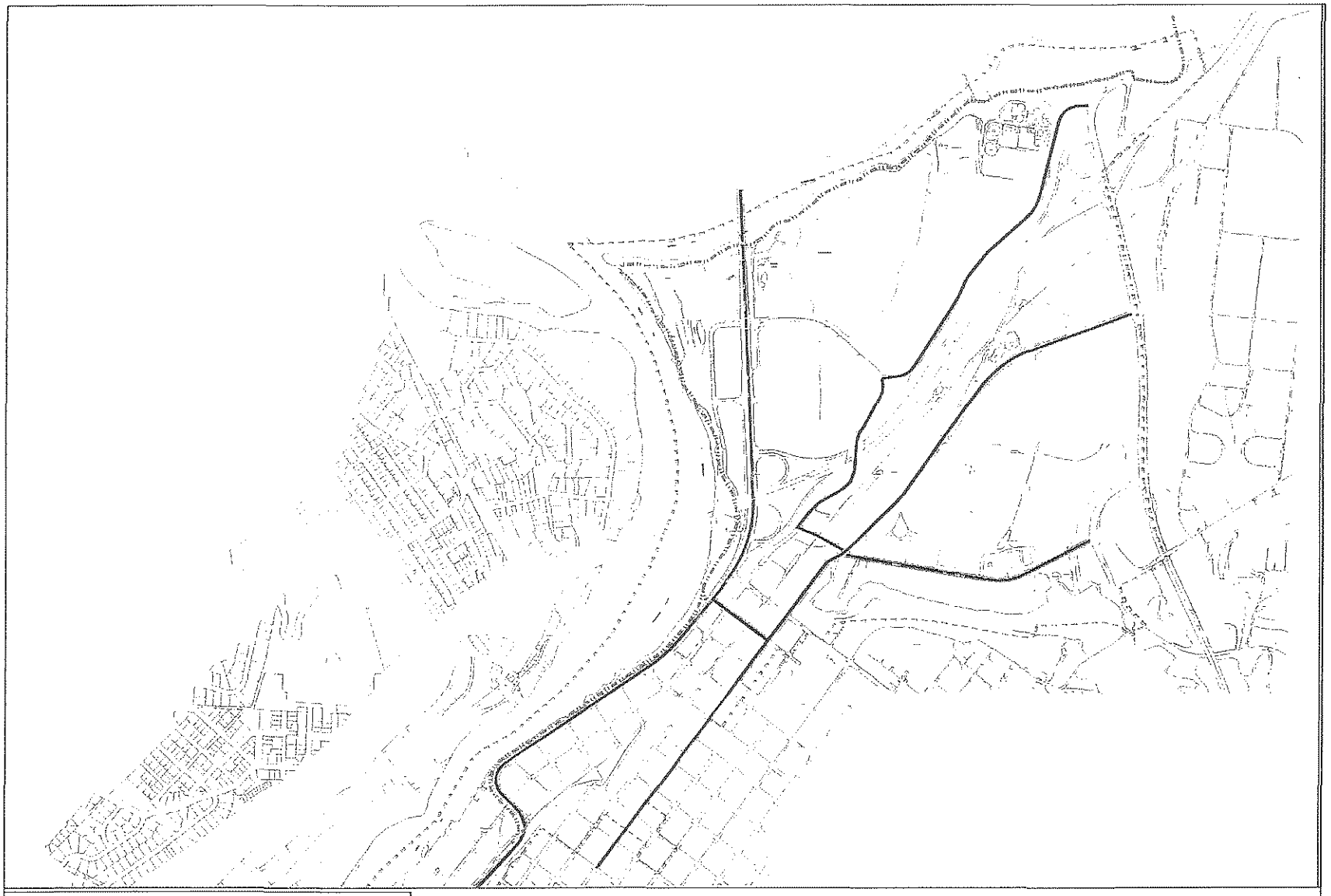
DOWNTOWN COMMUNITY PLAN
CITY OF OREGON CITY, OREGON

MAY 1999

Bicycle System

The bicycle system within the study area is almost entirely dependent on shared roadway facilities. The only facilities within the study area that provide on-street striped bicycle lanes are Abernethy Road and Highway 213. There are segments of bicycle paths that exist in the Clackamette Park area; however, it is not a complete pathway and relies on connections via shared roadway facilities. The only facility in the study area where bicycling might be considered unsafe due to speed and volume of vehicle traffic is the shared roadway facility associated with McLoughlin Boulevard. Speeds and traffic volumes on all other local, collector, and arterial streets in the study area are such that shared facilities would be considered safe and adequate.

Safe bicycle facilities are necessary along the McLoughlin Boulevard corridor to serve longer distance bicycle travel through the area and provide adequate access between subareas of the study area. On-street striped bike lanes on the Washington Street corridor is the only other bicycle improvement identified as necessary to support the plan concept. Therefore, these two major bicycle facility improvements were assumed to exist, as a part of the vehicle travel demand forecast.



LEGEND

- EXISTING BICYCLE LANE
- PROPOSED BICYCLE LANE
- MULTI-USE PATHWAY
- SHARED FACILITY

NORTH
(NOT TO SCALE)

BICYCLE CIRCULATION PLAN

DOWNTOWN COMMUNITY PLAN
CITY OF OREGON CITY, OREGON

MAY 1999

Mode Split Results

Densities and intensities of use projected to occur under the Downtown Community Plan, through the 20-year demand model horizon, effect a measurable change in non-auto mode share. Present density and activity levels in the Oregon City area result in a combined (transit/pedestrian/bicycle) mode share of approximately seven percent, for all trips. It was assumed that through implementation of the plan, the combined non-auto mode share for all trips would increase to approximately 15 percent.

This more than doubling of non-auto mode share is directly attributable to the development of land uses that are more interdependent (i.e., mixed) than currently exist or are expected to exist under the current Comprehensive Land Use Plan. The mixed-use concepts that are inherent to the Downtown Community Plan, create the opportunity for trip linkages that are more favorable to non-auto modes (particularly pedestrian and bicycle) and more attractive. The intensification of activity proposed within the area enables transit to be more competitive with the convenience of auto travel, thus attracting more person-trips to this non-auto mode.

The commitment to provide safe, interconnected, and complete non-auto modes in the area is another component of the increased non-auto mode share. Increased transit frequency and coverage through the combination of services provided by Tri-Met and the City's own trolley system, is vital to the successful shift to this particular mode.

It is conceivable that a 65/35 mode split between single-occupant-vehicle trips and all other person-trips can be achieved with implementation of the Downtown Community Plan. This is achievable if an average auto occupancy of approximately 1.24 persons per vehicle is realized within the study area. This would only require a three percent increase over the 1.2 persons per vehicle auto occupancy that is estimated to occur today. A probable explanation for this being accomplished is as a result of the intensification of use. By placing more origin-destination pairs in close proximity to one another, the opportunity for and practicality of carpooling increases.

McLoughlin Boulevard

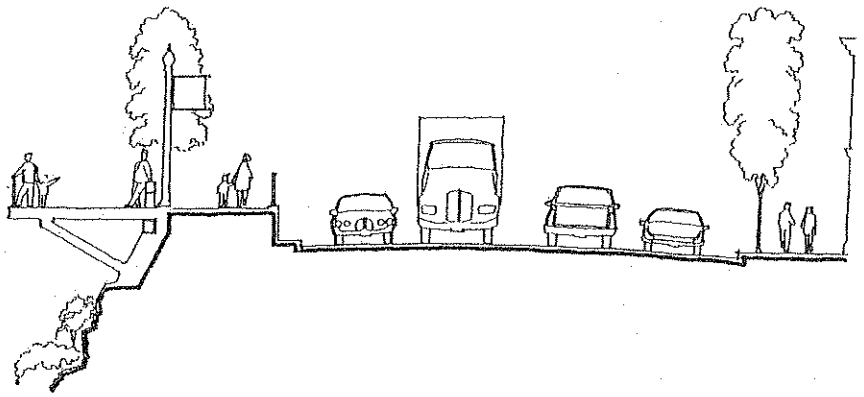
McLoughlin Boulevard currently provides limited physical and visual access to the Willamette River. Part of the problem is due to the lack of safe pedestrian crossing areas. The other issue is that the existing narrow sidewalk, with no street trees or buffering from the roadway, provides an unsafe situation for pedestrians.

In order to change the "character" of McLoughlin, the plan proposes an enhanced McLoughlin Boulevard to include street trees and pedestrian improvements. These improvements will provide safe crossings, draw attention to the river front and encourage a setting that is more conducive to walking. Improvements include:

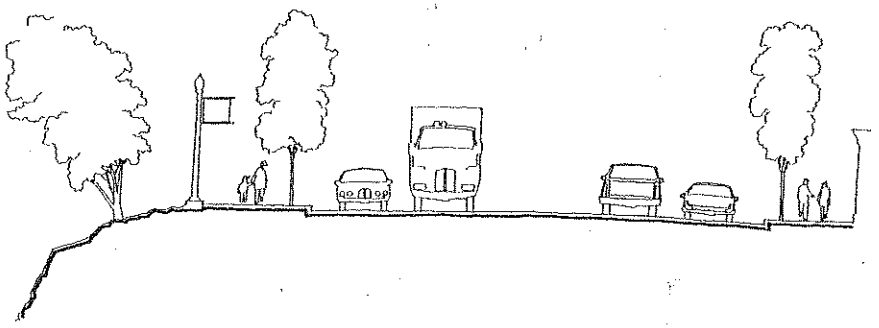
- pedestrian crossings at signalized intersections
- street furniture
- wider sidewalks
- river viewpoints
- ornamental streetlights
- decorative, see-through railings

McLoughlin Boulevard Improvements — Planning Level Cost Estimate

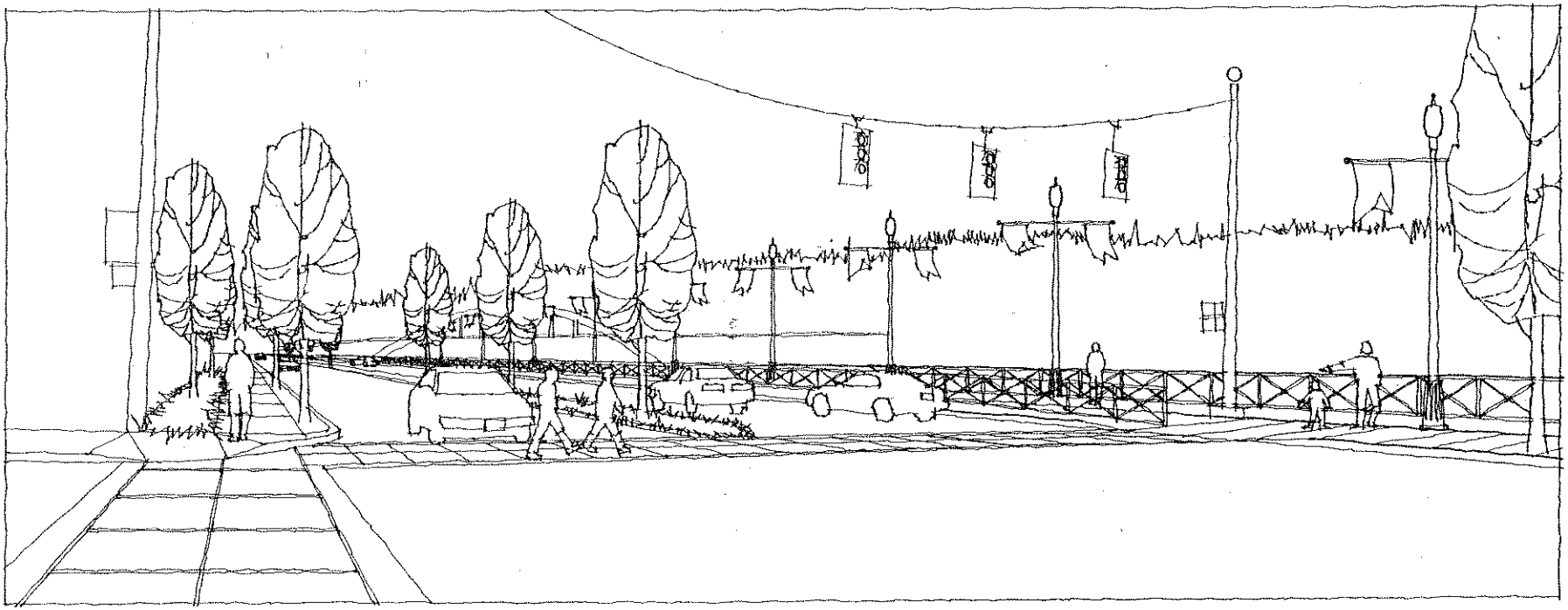
Category	*Cost*
McLoughlin Roadway Improvements	$3.3 million
McLoughlin Beautification	$3.7 million
Total	$7.0 million



Cantilevered Section of Promenade



At-grade Section of Promenade



Enhanced McLoughlin Boulevard

Parking

Summary

Future parking demands were studied to determine the amount of spaces needed to support the Downtown Community Plan concept. In March 1999 an inventory of existing on- and off-street parking supply was conducted for the study area. A total of 4,293 spaces were counted. Much of the existing off-street parking supply is comprised entirely of private, surface parking lots provided for employees and customers of specific businesses and enterprises. Many of these parking areas specifically prohibit general, public use.

There is a future need of approximately 9,482 parking spaces to support buildout of the Downtown Community Plan. This number assumes the benefit of shared parking arrangements and that the City will choose to apply Metro's Title 2 parking ratios for determining the minimum amount of parking required. By preserving the on- and off-street parking supply of 4,293 spaces, there is likely to be the need to develop approximately 5,189 new parking spaces over the period of time required to build out the land use plan.

There are four key components to realizing the future parking supply levels:

- Preserving the existing parking supply (or replacing when redevelopment occurs).
- Realizing a net gain through redevelopment (nominal benefit).
- Construction of new surface parking lots associated with the development of existing undeveloped land (significant gain).
- Parking Structures — either stand alone or components of mixed use developments.

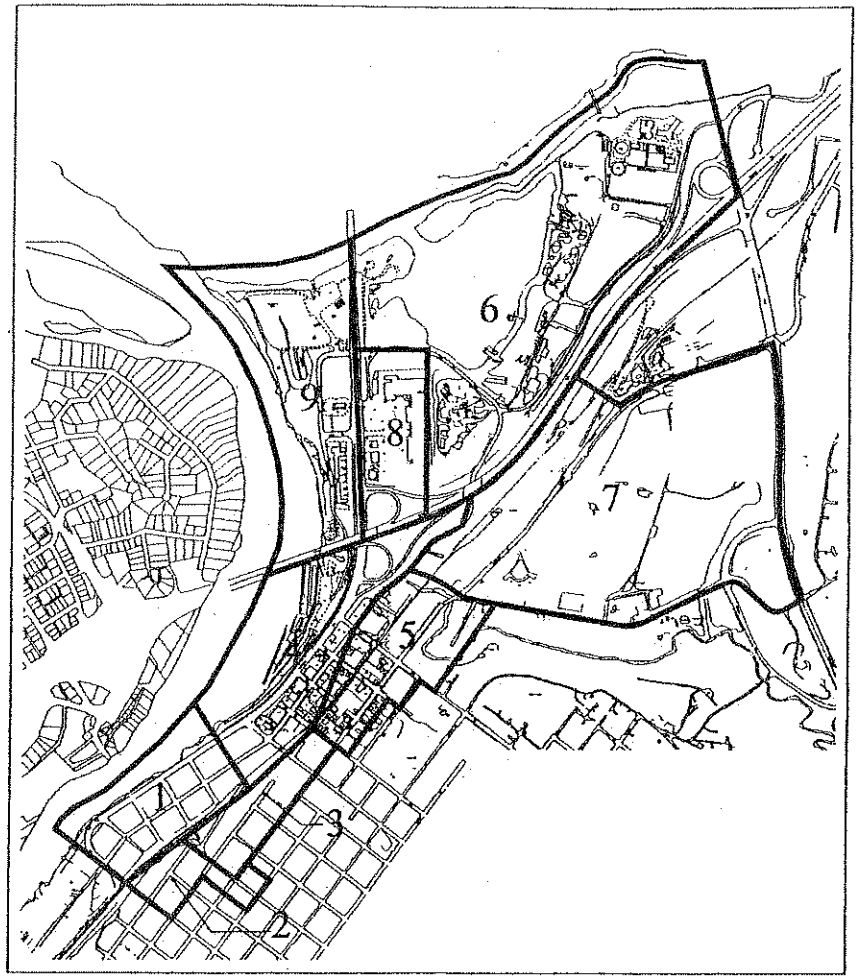
Various combinations of each of the above components are likely to apply within the plan boundary. Recommendations for the type and location of additional parking supply have been prepared based on consideration of three primary factors. First, the historical significance or current mix of uses was evaluated to determine the appropriateness of various parking forms (on-street, off-street, structured). Second, the expected forms of development/redevelopment were considered for their potential to include or accommodate additional parking. Third, the synergistic relationship between parking subareas was considered for the potential to share parking facilities of various forms.

Parking Structure Locations

Parking structure location recommendations are discussed below. Figure 1 identifies those subareas where parking structures are likely to occur, based on the projected parking needs of the subarea and consideration of the primary factors described above. No structures are recommended for Subareas 2 and 3 as they would not likely fit with the historic residential character of the areas.

Subarea 1– Subarea 1 includes the Historic Downtown District and represents the downtown historic core. The existing land use is characterized by historic buildings with parking supplied either by on-street spaces or off-street surface parking lots. No structured parking or underground parking exists in this area. Due to the historic nature of this area, the limited amount of redevelopment that is expected to occur, and the inappropriateness of surface parking lots for this area, the provision of a single parking structure located somewhere within this area is recommended. Such a structure would include ground-floor retail/commercial development with three floors of parking above, creating a four-story structure.

Subarea 2 – Subarea 2 includes the Limited Commercial District and Limited Office Conditional District. Located above the bluff, the vast majority of existing parking supply in this Subarea is in the form of off-street parking lots. These are primarily under private control and are, therefore, not likely to be available for use by the general public. In addition, a percentage of available on-street spaces are likely taken by people parking in Subarea 2, and using the elevator to access Subarea 1. In combination, these factors may contribute to the perception of an existing parking shortfall.



PARKING SUBAREAS

DOWNTOWN COMMUNITY PLAN CITY OF OREGON CITY, OREGON MAY 1999	FIGURE 1

Parking
Continued

One key to solving parking deficiencies in this Subarea lies in making privately controlled off-street parking supply available to the general public, as well as providing additional parking to assist in meeting the projected need in Subarea 1. Shared parking agreements and conversion of lots from private to public use would be two components of the recommended parking management plan the City should prepare. No structures are proposed in this Subarea due to the historic residential character of the neighborhood.

Subarea 3 – Subarea 3 includes the McLoughlin Conditional Residential District and a portion of the Limited Office Conditional District. This Subarea captures the historic residential portion of the study area, and has a predicted parking surplus. No changes are considered necessary nor prudent, as they would likely not fit with the historic character of the area.

Subarea 4 – This Subarea includes a portion of the Mixed Use Residential and Mixed Use Commercial/Office districts, and offers a number of opportunities for gaining parking spaces through both redevelopment and the construction of multi-story parking structures. Located adjacent to the historic downtown core in Subarea 1, it is possible that parking supply in this Subarea could be used for a variety of purposes, including partially offsetting the parking need within Subarea 1.

There are far greater opportunities for development and redevelopment in this Subarea, as compared with the first three. Any residential development can be expected to provide parking supply to be not only self-sufficient, but also to support other uses in a shared parking environment. Mixed use development forms can also be expected to supply net new parking either in surface or structured form. Finally, structured parking that comprises the majority of a building, but includes retail, commercial office, and/or residential, would also be appropriate in this Subarea.

The following are proposed to be reasonable future improvements within this Subarea:

- redevelopment of five blocks with ground floor parking and
- construction of two structures with three-stories of parking.

Additional redevelopment beyond the five blocks identified above, would reduce the shortfall that will otherwise exist in the area represented by Subareas 1 through 4.

Subarea 5 – Subarea 5 contains the majority of the Mixed Use Residential District along with small portions of the McLoughlin Conditional Residential and Limited Office Conditional Districts. This area is already seeing the benefit of redevelopment and could experience significant change and revitalization through implementation and eventual buildout of the Downtown Community plan. Redevelopment will result in a significant increase in parking demand that will require additional parking supply. As this area evolves over time to preserve and expand on what the community desires, the provision of parking will be a key component.

The following are proposed:

- redevelopment of eight blocks with ground floor parking and
- construction of one, four-story parking structure.

Maintaining a four-story limit on all proposed structures would require that this parking structure not contain ground floor

retail and be dedicated strictly to parking. An additional four-story, dedicated structure plus two more blocks of redevelopment would be required to meet the projected needs within the Subarea.

Subarea 6 – This area contains the Cove Master Plan District and a portion of the Mixed Use Commercial/Office District. Largely undeveloped, the land in this Subarea allows the opportunity to provide future parking supply specific to, and integrated with the proposed future development contained in it. It is anticipated that the required parking supply can be successfully accommodated with the future development as appropriate, and that specific discussion of the appropriate forms is not necessary at this time. Likely forms will include ground-floor parking with residential above, surface parking associated with new development, and the potential for some structured parking in the most intensely developed retail portion of the area.

Subarea 7 – Subarea 7 contains the Tourist Commercial District and existing Rossman's Landfill. Largely overlaying areas of landfill, flood plain, and other undeveloped lands, development in this area must be considered carefully and located with sensitivity to the existing environmental restrictions. As with Subarea 6, changes in this area will be predominantly in the form of new development, providing parking that is both appropriate to the use and the character of the area.

This Subarea does also provide the opportunity to provide a large-scale, public, structured parking supply to service deficiencies in the downtown core. If located close to the western end of the Subarea, it may be possible to connect a number of public parking structures in this Subarea with the downtown core via the downtown trolley. This would assist in alleviating the shortfall in parking supply in Subarea 1 and Subarea 5. In addition, it would potentially reduce vehicular demand in the downtown area and enhance the pedestrian/transit-orientation being sought for the downtown core.

The following are proposed:

- construct the equivalent of 15 city blocks of new buildings with ground floor parking and
- construct three four-story parking structures.

Such a significant and centrally located parking supply could be used not only to supplement the supply in other areas, but also as a supporting park & ride facility for transit. The City should consider the effect of placing such a significant supply of parking under public control and the benefits that can be realized.

Subareas 8 & 9 – Subareas 8 and 9 contain the Mixed Use Commercial/Office and Open Space District. It is not anticipated that any parking structures would be required in either Subarea, and that any additional parking required for development could be accommodated by surface parking lots, or ground-floor parking garages associated with the specific development.

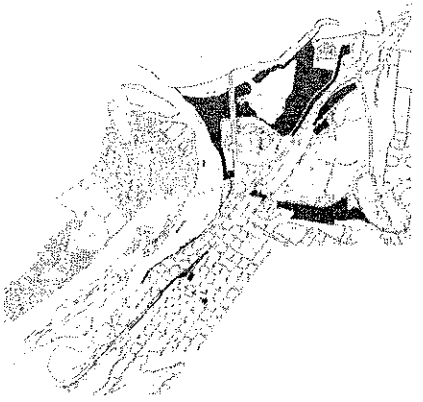
Public Amenities

Overview

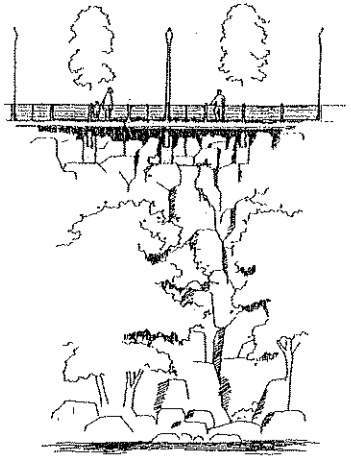
Oregon City's downtown community enjoys one of the great landscape alliances of Oregon: a historic city next to a beautiful river surrounded by a spectacular natural setting. The parks, open spaces, focal points, and waterfront improvements of the plan are intended to preserve and enhance this relationship as the city grows and changes.

The public amenities plan calls for:

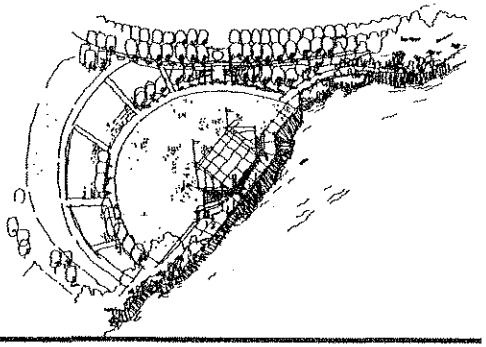
Parks and open space...



a River Promenade...



and Clackamette Cove public amenities.



Parks, Open Space, and Focal Points

Four parks are included in the plan:

- Clackamette Park (existing)
- Clackamette Cove park
- North End neighborhood park (location to be determined), and
- The "park" portion of the River Promenade (between 5th and 8th Streets)

The Clackamette Cove park will be a 10- to 15-acre community park that is integrated into (and created through) the Cove Master Plan process. The North End neighborhood park is envisioned to be a small urban park of one-half to one acre in size that will serve the future residents in this area. The site identification and acquisition process should occur early in the redevelopment stages of this area. The park portion of the River promenade is discussed further in this section.

The key open spaces in the plan follow the natural features of the area: Clackamette Cove, the Clackamas River, Clackamette Park, the Willamette River, the bluff overlooking downtown, Abernethy Creek, and the wetland areas near the Metro South Transfer Station. These spaces provide a green "frame" to the area. Additional public access and natural area enhancements are needed. The trail network should eventually link all of these areas.

The Downtown Community Plan identifies a number of focal points that are within or adjacent to open spaces. These are the viewpoint and seating areas where benches, interpretive displays and similar improvements should be made. The plan identifies a beginning number of key focal points – it is not meant to preclude other focal points from being established.

A potential plaza is identified for the space in front of the Clackamas County Courthouse. The existing space in front of the courthouse is currently comprised of landscaping and is not suitable for public gatherings. Conversion of the space to a small urban plaza would enhance this key block on Main Street. Another plaza opportunity may be available when the parking area and western side of Block 3 (bounded by 7th, 8th, Main, and McLoughlin) redevelops.

Public Amenities
Continued

The Willamette Waterfront

Previous planning efforts for the downtown have identified the need for a river front promenade. The Downtown Community Plan carries forward this idea and integrates it with the land use and transportation recommendations.

The plan organizes the Promenade into four sections, as described below.

Plaza and Viewpoint — The southern terminus of the Promenade will be a plaza and viewpoint located at 5th Street and McLoughlin. This site is a key viewpoint to the Willamette Falls.

5th Street to 8th Street — The terrace on west side of McLoughlin is currently used for fishing and parking. Following the replacement of parking elsewhere in the downtown, this area will be available for improvement as a public use area. The narrow width of the area lends itself to a 25-foot wide walkway with viewing/fishing extensions along the edge. The area could be designed with a variety of paved and planted areas that provide separation and buffering from McLoughlin Boulevard, and create a mini-park along this section of the Promenade. A small parking area and passenger drop-off could potentially be included in the design.

A public dock in the vicinity of the 8th Street Dock is also recommended. This dock has also been included in previous plans, envisioned to be a place for fishing, small craft tie-up, the Willamette river taxi, and potentially a floating restaurant.

8th Street to 12th Street — This section of the Promenade will need to be a cantilevered or pile supported walkway due to the Singer Creek bridge and steepness of the bank. The Promenade should be raised slightly above the roadway grade of McLoughlin Boulevard to provide a sense of separation. The Promenade would ideally be 20 feet wide – a minimum width of 12 feet is recommended.

12th Street to 14th Street — This section is envisioned as a transition area where the Promenade would change to be a 12-foot wide multi-use path. The path would then extend along existing grades to continue through the marina area and on to Clackamette Park and the cove.

Comprehensive Plan

The Downtown Community Plan is focused on preserving and strengthening the historic character of Oregon City, refining the mix of land uses and emphasizing pedestrian oriented design in areas currently designated for *Commercial* use on the Oregon City Comprehensive Plan Map. The new *Mixed Use Commercial, Mixed Use Residential and Cove Master Plan* designations are recommended to replace the existing *Commercial* designation within the Downtown Community Plan Area. The new plan designations will be implemented with five different zones to reflect varied land uses, densities and urban design character planned for specific geographic areas as summarized below:

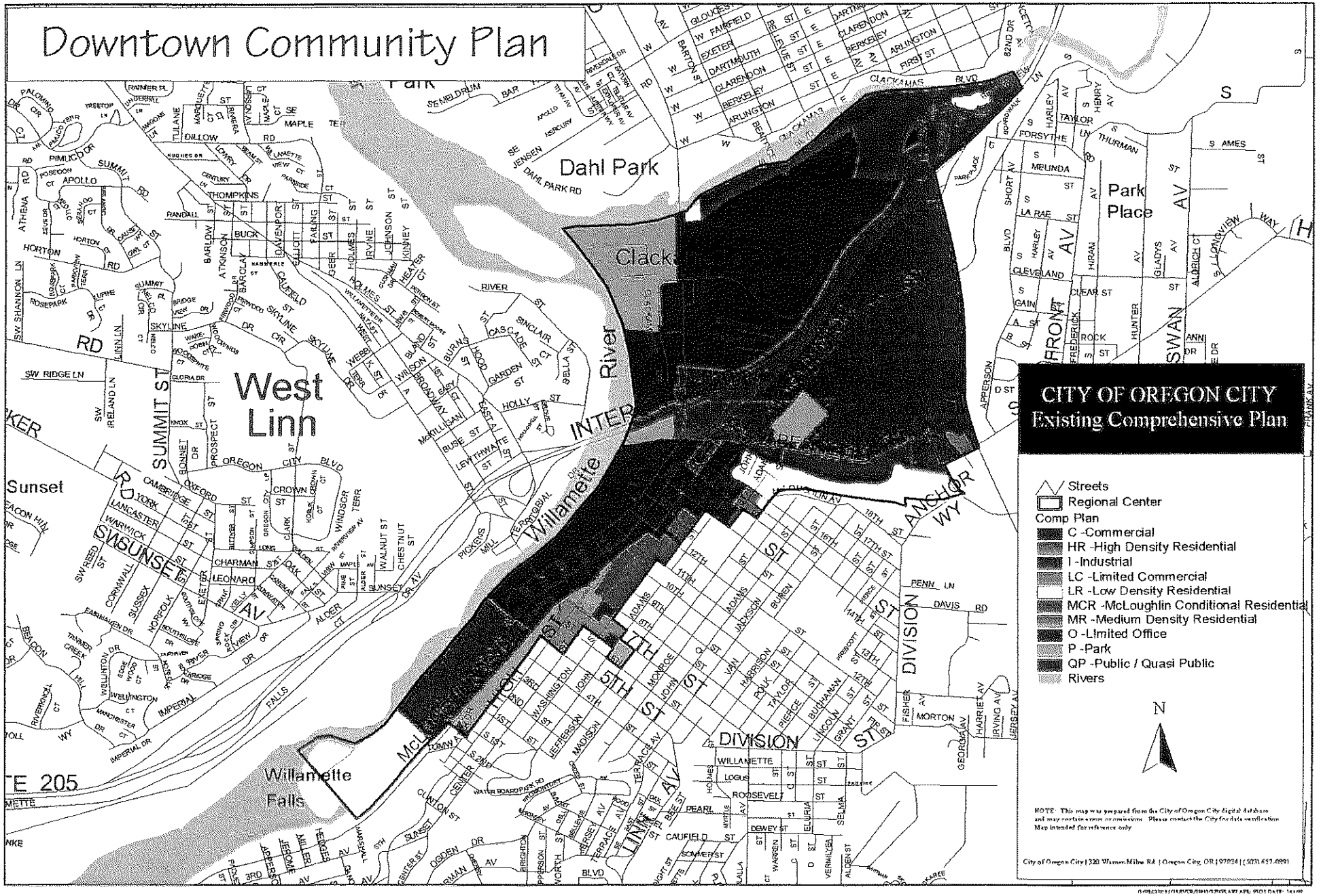
Plan Designation	***Zone(s)***	***Geographic Area***
Mixed Use Commercial	Historic Downtown Mixed Use Commercial Tourist Commercial	Downtown core McLoughlin corridor End of the Trail
Mixed Use Residential	Mixed Use Residential	North Downtown
Cove Master Plan	Cove Master Plan	Clackamette Cove

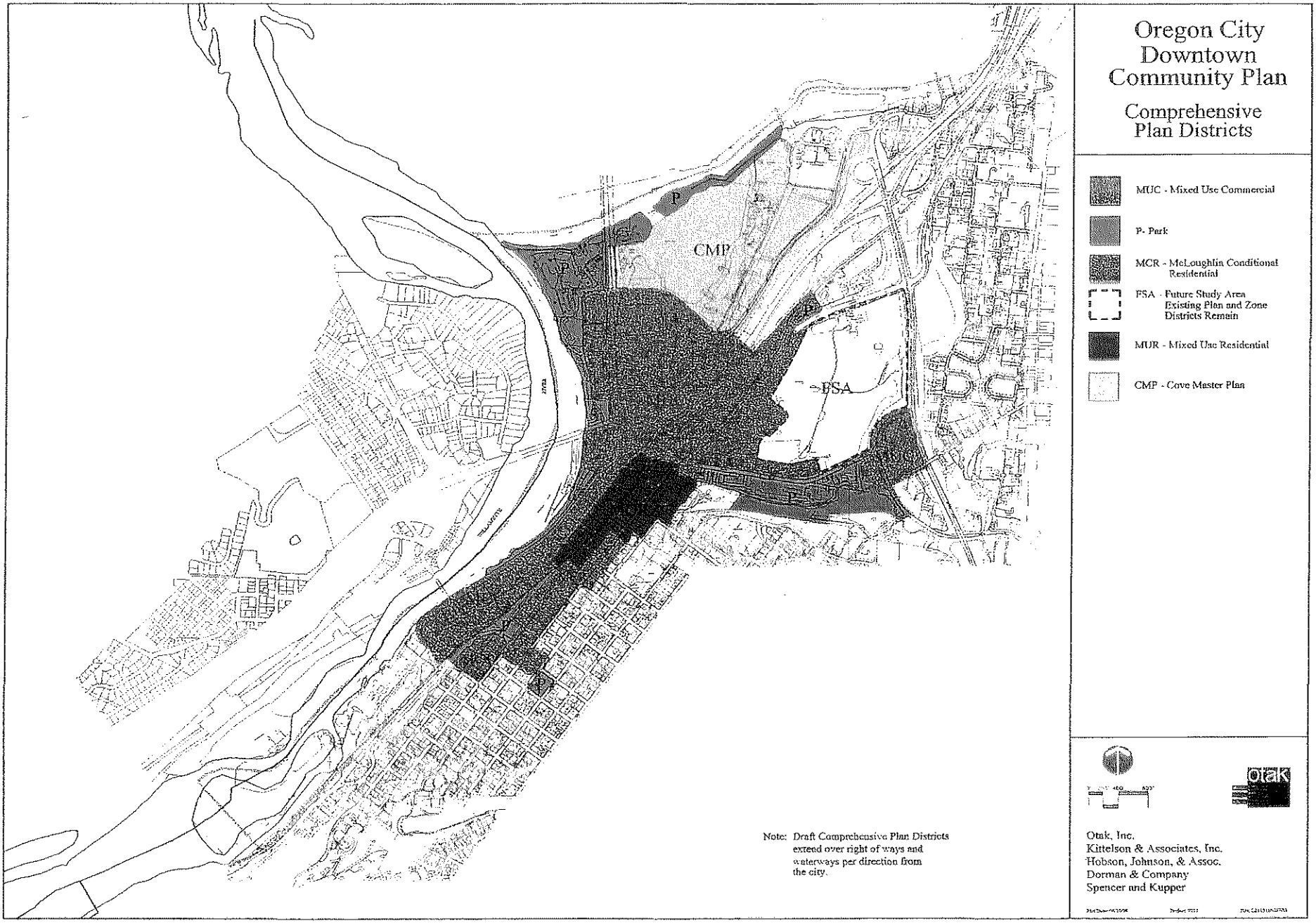
Other geographic areas will retain existing plan designations, including the McLoughlin Conservation District (*MCR District*) and the *Limited Office* and *Limited Commercial* parcels south of Abernethy Road and in the 7th Street Corridor. The Landfill is identified as a *Future Study Area* in the Downtown Community Plan and no changes in comprehensive plan or zoning designations are recommended at this time. Specific development, transportation and flooding studies are underway for this area and changes to comprehensive plan and zoning designations would be premature.

Areas that are currently designated *Park* on the Comprehensive Plan Map will be retained. New areas in public ownership are recommended for the *Park* designation to convey the public support for an expanded, interconnected park and open space network.

Comprehensive plan policies and detailed descriptions of the above-cited districts have been prepared — please see the Technical Appendix.

Downtown Community Plan





Oregon City Downtown Community Plan

Comprehensive Plan Districts

- MUC - Mixed Use Commercial
- P- Park
- MCR - McLoughlin Conditional Residential
- FSA - Future Study Area Existing Plan and Zone Districts Remain
- MUR - Mixed Use Residential
- CMP - Cove Master Plan

Note: Draft Comprehensive Plan Districts extend over right of ways and waterways per direction from the city.

otak

Otak, Inc.
Kittelson & Associates, Inc.
Hobson, Johnson, & Assoc.
Dorman & Company
Spencer and Kupper

Implementation
Continued

Zoning Districts

The purpose of the Downtown Plan Zoning Districts is to implement the Oregon City Downtown Community Plan and to reinforce the historic role of the downtown as the civic, government and business center. Five new downtown sub-districts are designated to reflect the distinctions between different areas of the Downtown Plan and to focus pedestrian-oriented retail uses to the traditional downtown core along Main Street. Specific design guidelines are adopted for the downtown sub-districts to enhance an active and attractive pedestrian environment for shoppers, employees, and residents.

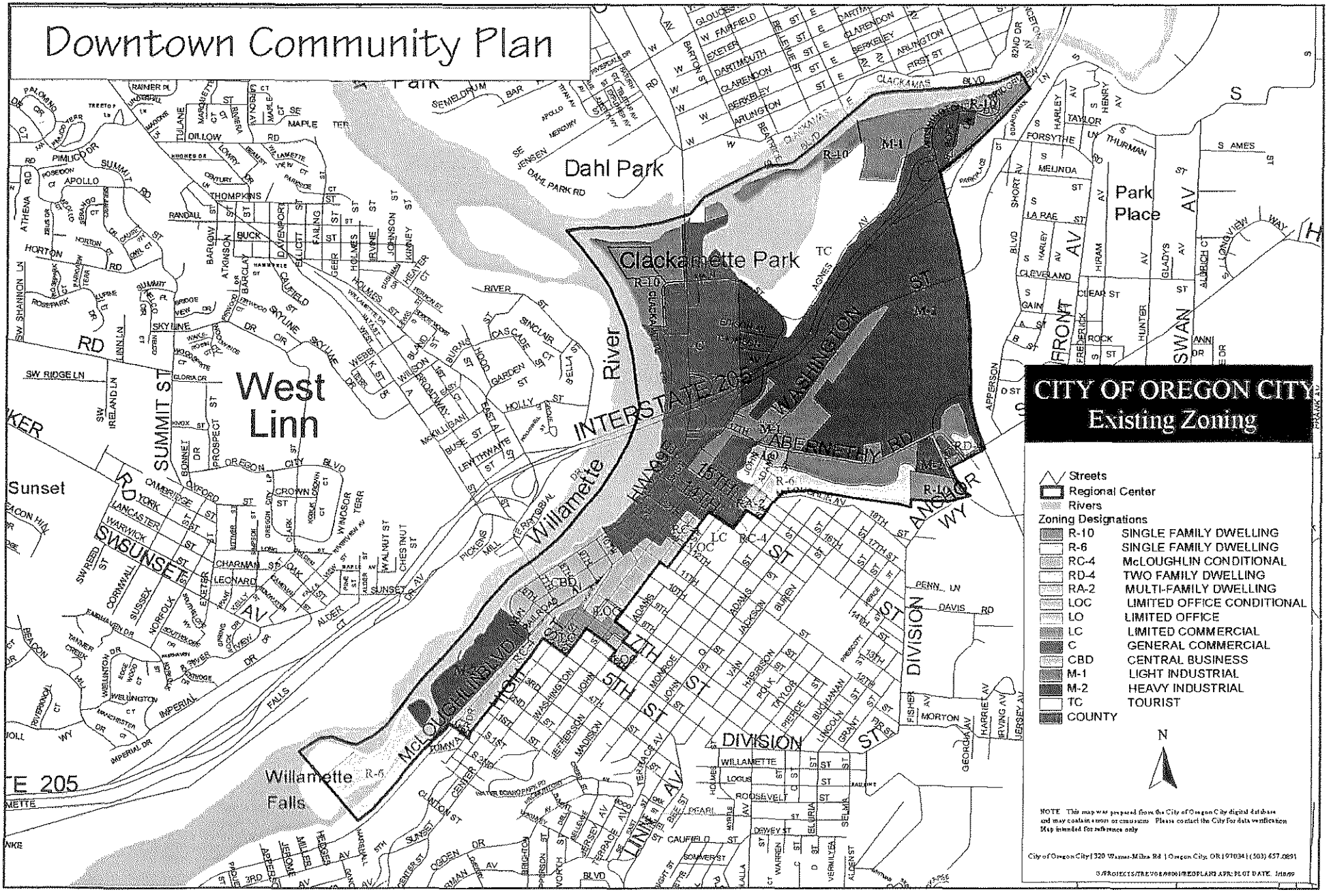
Characteristics of Downtown Zoning Districts

Five specific sub-districts are adopted for the Downtown Community Plan area. The sub-districts reflect the varied land uses, densities and urban design character planned for the following geographic areas:

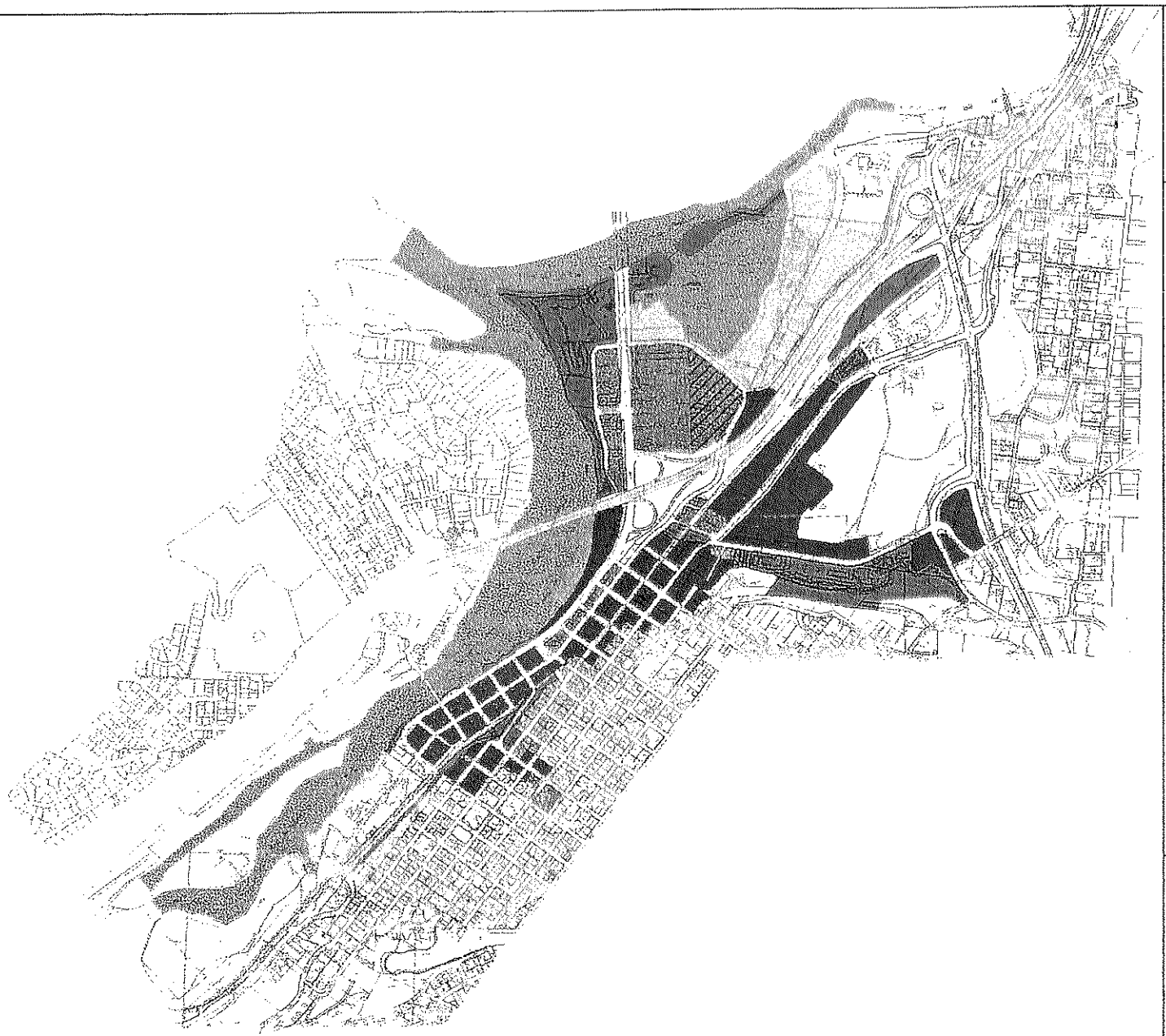
Geographic Area	*District Name*
Historic Downtown	Historic Downtown District
North Downtown	Mixed Use Residential District
McLoughlin Boulevard	Mixed Use Commercial/Office District
End of the Trail	Tourist Commercial District
Clackamette Cove	Cove Master Plan District

Other areas within the Downtown Community Plan boundary will retain existing zoning, including the McLoughlin Conditional Residential District (RC-4) and the Limited Commercial (LC) and Limited Office Conditional (LOC) districts along the 7th Street Corridor.

New zoning text has been prepared — please see the Technical Appendix.


Downtown Community Plan
CITY OF OREGON CITY
Existing Zoning
Streets
Regional Center
Rivers
Zoning Designations
R-10 SINGLE FAMILY DWELLING
R-6 SINGLE FAMILY DWELLING
RC-4 McLOUGHLIN CONDITIONAL
RD-4 TWO FAMILY DWELLING
RA-2 MULTI-FAMILY DWELLING
LOC LIMITED OFFICE CONDITIONAL
LO LIMITED OFFICE
LC LIMITED COMMERCIAL
C GENERAL COMMERCIAL
CBD CENTRAL BUSINESS
M-1 LIGHT INDUSTRIAL
M-2 HEAVY INDUSTRIAL
TC TOURIST
COUNTY
N
West Linn
Willamette Falls
Dahl Park
Clackamette Park
Park Place
Sunset
Willamette River
INTERSTATE 205
NOTE This map was prepared from the City of Oregon City digital database and may contain errors or omissions Please contact the City for data verification Map intended for reference only
City of Oregon City | 320 Warner-Milne Rd | Oregon City, OR 97045 | (503) 657-0891
G:/PROJECTS/TRE'00/98001/REGPLANT APR PLOT DATE: 3/18/99

Oregon City Downtown Community Plan Zoning



- HD - Historic Downtown District
- LC - Limited Commercial
- MUC - Mixed Use Commercial/Office
- TC - Tourist Commercial
- MUR - Mixed Use Residential
- RC-4- McLoughlin Conditional Residential
- OSR - Open Space/Recreation
- LOC - Limited Office Conditional
- CMP -Cove Master Plan
- Existing Zoning
- Required Housing Overlay
- Study Area Boundary

Otak, Inc.
Kittelson & Associates, Inc.
Hobson, Johnson, & Assoc.
Dorman & Company
Spencer and Kupper

Design Guidelines

Two types of design guidelines are included in the plan. One set pertains to new development and alterations in the Historic Downtown District. The other set of design guidelines are considered general guidelines and pertain to elsewhere within the study boundary. Both sets of design guidelines are summarized below — please see the Technical Appendix for the full text. A third set of guidelines, the *End of the Oregon Trail District Guidelines, 1991,* are incorporated by reference.

Historic Design Guidelines

Design guidelines for the Historic Downtown District were first developed in 1980 in a publication called the *Downtown Oregon City Building Improvement Handbook.* These guidelines were updated with recent work by the Historic Review Board. It is intended that design review in the Historic Downtown District be guided by the Historic Review Board's standards, with the standards found in the 1980 document be used as a reference. The new standards require a discretionary review process that will require the expertise of the Historic Review Board. Historic design guidelines address the following elements:

- Retention of Original Construction
- Height
- Width
- Roof Form
- Commercial Front
- Cornices and Architectural Detail
- Awnings
- Signs
- Visual Integrity of Structure
- Scale and Proportion
- Building Setback
- Streetscape



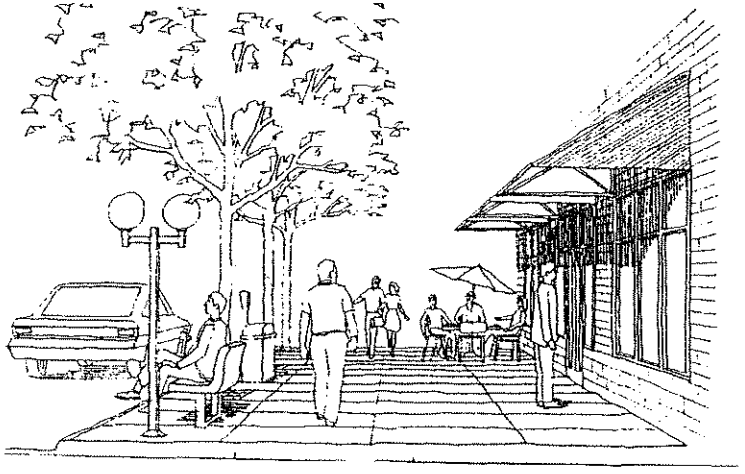


Historic Building Rehabilitations

Design Guidelines and Standards – Generally

A separate set of design guidelines and standards have been created to apply to all districts within the Downtown Community Plan boundary except for the Historic Downtown District and the McLoughlin Conditional Residential district. The general guidelines address the following elements:

- Coordinated Development
- Building Orientation and Maximum Setbacks
- Corner Building Entrances
- Weather Protection
- Landscaping and Screening
- Street Connectivity and Internal Circulation
- Pedestrian Amenities
- General Building Design Standards
- Neighborhood Compatibility



Weather Protection



Corner Building Entrance

From:	James Nicita
To:	Pete Walter
Subject:	Re: 2nd Comment: August 14th Planning Commission hearing on CP 17-02, DP 17-03, and NR 17- 04
Date:	Monday, August 14, 2017 2:42:14 PM

Hi Pete,

Thanks very much for your email below.

I think there is a notice issue here. The Oregon City Comprehensive Plan, the 1999 Oregon City Downtown Community Plan, and the 1991 End of the Oregon Trail District Guidelines are all mandatory approval criteria for this development proposal.

Whether comprehensive plan policies are approval criteria depends on the function the plan assigns the provision. Von Lubken v. Hood River County, 104 Or. App. 683, 689 (1990), 803 P.2d 750; Downtown Community Ass'n v. City of Portland, 80 Or. App. 336, 341, 722 P.2d 1258 (1986). Respondent's Comprehensive Plan is clear and strict. Whether or not the goal or policy is described in hortatory or mandatory language, it is a mandatory approval criterion and must be addressed as evidenced by this statement on p. 4 of the OCCP:

"Goals and policies are official statements from the City Commission that provide standards for applying land-use plan designations to real property and making decisions about specific development. Because this plan is by law and necessity a comprehensive land-use plan, there is no hierarchy implied in the order of the sections and none of the goals or policies has priority except as stated in particular policies. When used to make decisions, all relevant goals and policies must be accounted for and considered."

Although the three plans referenced above are mandatory approval criteria, they are not mentioned in the Notice for this proceeding. To comply with ORS 197.763(3)(b), a notice of hearing must identify the applicable approval criteria by code number or similar means of identification sufficient to direct the recipient to the actual code or plan provisions that the city deems to be approval criteria. Reference to a code provision that itself merely requires "conformance with the comprehensive plan" is insufficient to provide effective notice of any comprehensive plan provisions. Kingsley v. City of Sutherlin, 49 Or LUBA 242 (2005). Since the staff report does not address the 1991 End of the Trail District Guidelines, there has not been constructive notice either.

And, certainly, if the 1991 Guidelines are missing, that certainly falls into a lack of notice as to what those guidelines say. I am unable to make comments on these approval criteria, which violates my substantial rights to a full and fair hearing. ORS 197.835(9)(a)(B). Siporen v. City of Medford, 55 Or LUBA 29 (2007).

Kindly place our email exchange here into the record of this proceeding.

Thanks, Pete.

James Nicita

Oregon City

On Mon, Aug 14, 2017 at 10:42 AM, Pete Walter <pwalter@orcity.org> wrote:

> Thank you, I will include these. We were not been able to locate the 1991 End of the Oregon Trail Guidelines either during the staff report drafting, but I will make this a formal PRR and see what we can turn up.
>
> Pete
>
> **From:** James Nicita [mailto:james.nicita@gmail.com]
> **Sent:** Monday, August 14, 2017 10:15 AM
> **To:** Pete Walter <pwalter@orcity.org>
> **Subject:** 2nd Comment: August 14th Planning Commission hearing on CP 17-02, DP 17-03, and NR 17- 04
>
> Pete,
>
> Here is a second comment on the above referenced file.
>
> Page 11 of the attached 2004 Oregon City Comprehensive Plan incorporates by reference the attached 1999 Oregon City Downtown Community Plan. I respectfully request that these two documents be placed into the record of this file.
>
> P. 45 of the Downtown Community Plan, in turn, incorporates by reference the 1991 End of the Oregon Trail District Guidelines.
>
> Neither the applicant's narrative nor the staff report address the 1991 End of the Oregon Trail District Guidelines. I have not been able to find a copy of this latter document on the City's website.
>
> I respectfully request under the Oregon Public Records Act a digital copy of the 1991 End of the Oregon Trail District Guidelines. I also request that a copy of these guidelines be entered into the record as part of this proceeding.
>
> Thanks, Pete.

James Nicita

Oregon City

From: Tom Sisul
To: Pete Walter
Cc: Lloyd Hill
Subject: Abernethy Place - CP-17-002, DP 003. NR 17-004
Date: Monday, August 14, 2017 1:08:34 PM

Hello Pete,

To follow up on our discussion about Proposed COA # 41 with regards to the DSL and USCOE, we are requesting this condition be eliminated based on the following responses to OCMC #17.49.060(B).

17.49.[0]60 - Consistency and relationship to other regulations.

B. Compliance with Federal and State Requirements.

a. If the proposed development requires the approval of any other governmental agency, such as the Division of State Lands or the U.S. Army Corps of Engineers, the applicant shall make application for such approval prior to or simultaneously with the submittal of its development application to the City. The planning division shall coordinate City approvals with those of other agencies to the extent necessary and feasible. Any permit issued by the City pursuant to this chapter shall not become valid until other agency approvals have been obtained or those agencies indicate that such approvals are not required. ***No wetlands exist on the subject parcels, therefore no cut/fill permits or other types of permits are required of, or from, the Division of State Lands or US Army Corps of Engineers.***

b. The requirements of this chapter apply only to areas within the NROD and to locally significant wetlands that may be added to the boundary during the course of development review pursuant to Section 17.49.035. If, in the course of a development review, evidence suggests that a property outside the NROD may contain a wetland or other protected water resource, the provisions of this chapter shall not be applied to that development review. However, the omission shall not excuse the applicant from satisfying any state and federal wetland requirements which are otherwise applicable. Those requirements apply in addition to, and apart from the requirements of the City's comprehensive plan and this code. ***This code section is not applicable to the subject site as the site has been thoroughly inspected by a qualified Professional Wetland Scientist and no wetlands were found on-site.***

Please let us know if you have questions about this.

Thank you,

Tom Sisul

From:	Mark J. Matheson
To:	Pete Walter; Kattie Riggs; Christina Robertson-Gardiner
Cc:	Laura Terway; Gordon Wilson; Miranda Sierra; Gary Avery; chris.bailey@grandronde.org; DanF@abernethycenter.com; John Williams; Tom O"Brien; Mike Simon; Al Snell
Subject:	Re: Oregon City Planning Commission Agenda for August 14, 2017 (Note: Revised Location)
Date:	Monday, August 14, 2017 2:26:49 PM
Attachments:	image001.png

Pete

For the record.... Public Hearing /Abernethy Place Hotel and Mixed Use Development - Planning Files CP-17-0002, DP-17-0003, and NR-17-00

I don't see the letter from Two Rivers.... there is item on the agenda that indicates a letter that gives Two Rivers their approval. In my opinion, Two Rivers Neighborhood Association is inactive, other than Bryon Boyce being the Chair. Mr. Boyce has stated that no one comes to the meetings, and has been an issue for over a year. The fact of the matter is a NA represents business's and resident's and Mr. Boyce should not have problems recruiting members. Mr. Boyce relentlessly tries to recruit people without success, but a contributory factor is he is easily overshadowed by the Oregon City Business Alliance and the Chamber of Commerce opinions.

The CIC has tried to address the recruitment issue, and we've concluded that we're very uncomfortable about representing an opinion with less than 20 people attending the meetings. It is not a good public sample and the City staff knows this, but continues to hide behind an obscure thought process to give the appearance it follows a legal course of action. Doing something because its not illegal, or the because the State doesn't say you can't, is not the threshold of ethical behavior the community expects when tax payer money is involved.

Also, Two Rivers Neighborhood Association hasn't participated in mandatory meetings or organized public meeting for this project. This project should have been pushed up to the CIC for a review. In my professional opinion, this project is the example I have expressed in the past about bait-n-switch. The neighborhood associations are being inappropriately used as "stand-ins" for a public process and subject to being stacked with the Mayor's sycophants. By referring to the NA in the agenda it gives people the impression the public is involved, when in reality they are not.

I am going to ask a simple risk management / business question. Is the current hotels on the Willamette and the Clackamas rivers booked to warrant another hotel? In the hotel business, the proposed 99 rooms, what is the percentage of occupancy does his business model use? How many hotels has Dan Fowler built, and as far as I know the hotel business is not within his scope of work or expertise. Very risky.

I also noticed a letter from the Clackamas Heritage Partner board. A board that a Nancy Ide, a City Commissioner (aka council member) and Dan Fowler are members of. Considering their personal local history, the letter should not be included. Recusing themselves from the process doesn't remove their influence, and they should be excluded from being on the board for this process and be removed from the Board.

It seems the City is willing to hand over tax payer money for something they don't need. How much has Dan Fowler paid the City for its review project, so far? It looks like Phase I and Phase II will run about $15 to $20 million (plus plus) and the City should be collecting fees upfront for both phases and a surety bond.

This project is being fast tracked and is another Dan Fowler per-approved wink-wink nod-nod project, and a reason the City of Oregon City has a reputation for being corrupt. Anyone living in Oregon City for more than 15 years can't be surprised, and some of us are tired of keeping Dan Fowler in business. The record speaks for themselves, like the number of properties Dan Fowler owns within the Urban Renewal District. Over 30 of his properties are eligible for subsidies if the URD had passed last year. Now it seems he'll be getting more tax subsidies through the enterprise zones that can be sold to other companies for cash without anyone from the government knowing about it.

For the record to make a point, and because Tony Konkol has shown a lot of ignorance in this area, I'll use my plan to build a National Disaster Response Complex on the Blue Heron site. A standard might be to offer $10 million a year in tax abatement for 10 years, (Facebook was given $10 million for 15 years to build the data warehouse in Prineville Oregon). That guarantees the company $100 million dollars in tax credits, on expenditures that are already

tax deductible. If the complex cost $15 million to build the structure, and the rest is phased in the credits come in handy for hiring people and paying them well as part of the agreement for a solid implementation. That is the primary directive behind enterprise zones, investment in jobs along side an investment in business. Others use the opportunities to liquidate any real value for cash, pay low wages, and stack liabilities against the property that makes the property too expensive to build on. The other option is to sell it off to a faceless corporation who will null and void any previous arrangements, and still nothing gets done. This not speculation on my part, it comes from having over 30 years working with and for the public sector and fighting against inequality.

This is a 2 phased project... 99 room hotel plus 131 apartments, within a flood plain. As anyone who has worked in emergency management, recovery funds are allocated to the most expensive properties first, which makes the development very very suspicious. Dan Fowler has benefited from disasters relief funds more than once, and when a good reporter investigates the record they'll find the special arrangements Dan Fowler has with the City that no one else seems to be getting.

Last note, the Tribe is against it, so why do it? The opportunity for the hotel shouldn't be touted as a success but as a failure to attract better opportunities.

For reference, I wrote this article over a year ago... and it still holds true today.

http://portlandtribune.com/cr/28-opinion/317807-196806-mayor-should-demonstrate-economic-expertise

Sincerely,

Mark J. Matheson - 2018 candidate for Mayor of City of Oregon City

Vice Chair / CIC member representing Barclay Hills Neighborhood Association

On 2017-08-07 17:11, Pete Walter wrote:

> Good afternoon,
>
> Please find attached the August 14, 2017 Agenda for the Oregon City Planning Commission.
>
> **PLEASE NOTE REVISED LOCATION. THIS MEETING WILL BE HELD AT THE OREGON CITY PUBLIC LIBRARY, 606 JOHN ADAMS ST, OREGON CITY.**
>
> -
>
> All Oregon City Board and Commission agendas, packets, minutes and videos are available on line at https://oregon-city.legistar.com/Calendar.aspx
>
> Planning Commission regular meetings are held on the second and fourth Monday of each month unless cancelled.
>
> Please forward and post as required.
>
> ---
>
> **Pete Walter, AICP, Planner**



pwalter@orcity.org

Community Development Department

Planning Division
221 Molalla Avenue, Ste. 200
Oregon City, Oregon 97045
503-496-1568 Direct
503-722-3789 Front Desk
503-722-3880 Fax

Website: www.orcity.org

New Hours(Sept 2): 8:30 AM – 3:30 PM, M-F

Need Zoning and other Tax Lot Information? - Generate a Property Report

Online Mapping is available at OCWebMaps

Please consider the environment before printing

PUBLIC RECORDS LAW DISCLOSURE: This e-mail is subject to the State Retention Schedule and may be made available to the public.

OREGON'S MT. HOOD TERRITORY
explorers welcome

August 14, 2017

Oregon City Planning Commission
c/o Pete Walter, Staff Liaison
625 Center Street
Oregon City, OR 97045

RE: Support for Hotel Development Proposal

Chair and Members of the Planning Commission,

The Tourism Development Council of Oregon's Mt. Hood Territory (Clackamas County Tourism) wishes to offer its support for the proposal to build a 99-room hotel at the north end of Washington Street near the Oregon City Train Station. New lodging facilities in the City will be needed to accommodate the anticipated increase in tourism activity that will come with the completion of the River Walk and redevelopment of the former Blue Heron site in Oregon City's historic downtown.

In addition to creating increased lodging capacity in Oregon City, the proximity of the proposed hotel to the Amtrak Station and the End of the Oregon Trail Interpretive Center will create opportunities for carless travelers to visit Oregon City. We also believe that establishing a hotel at this location will serve as a catalytic project for future development at the north end of Washington Street.

Sincerely,

John Erickson
Chair, Clackamas County Tourism Development Council

JAMES J. NICITA

302 Bluff Street
Oregon City, OR 97045
E-mail: james.nicita@gmail.com

Comments on Abernethy Place Hotel and Mixed Use Development – Planning Files CP-17-0002, DP-17-0003, and NR-17-0004

August 14, 2017

Comments Concerning the Acknowledged Oregon City Goal 5 Inventory and Resource List

Oregon City Municipal Code Section *17.65.050.C.6* requires the Applicant to demonstrate consistency with the Oregon City Comprehensive Plan (OCCP) Goals and Policies. This includes the Goals and Policies of Chapter 5 of the OCCP, which implements Statewide Planning Goal 5.

However, it is not possible to address these Goals and Policies without the information provided by Oregon City's acknowledged Goal 5 inventory and resource list. Recently, in the case *Nicita v. Oregon City,* LUBA No. 2016-045 the Land Use Board of Appeals (LUBA) remanded the Bus Barn case in part because neither the City nor the applicant had placed the acknowledged Oregon City Goal 5 inventory and resource list in order that the information could be used in assessing conflicts and impacts with the proposed development.

Therefore, I request that the Planning Commission and staff place the acknowledged Oregon City Goal 5 inventory and resource list, as well as the acknowledgment order by the Land Conservation & Development Commission and/or the Department of Land Conservation and Development, into the record of this file, with sufficient time for review by all parties, particularly as it applies to Abernethy Creek, Clackamette Cove, into which the storm water of this development will be discharged, the Clackamas River, and the Willamette River at its confluence with both Abernethy Creek and the Clackamas River.

Furthermore, I respectfully request under the Oregon Public Records Act, the opportunity to inspect the acknowledged Oregon City Goal 5 inventory and resource list, as described above, as well as the acknowledgment order, prior to the next hearing on this matter.

Thank you for your consideration.

James Nicita
Oregon

BEFORE THE LAND USE BOARD OF APPEALS

OF THE STATE OF OREGON

JAMES J. NICITA,
Petitioner,

and

ELIZABETH GRASER-LINDSEY,
CHRISTINE KOSINSKI,
and PAUL EDGAR,
Intervenors-Petitioners,

vs.

CITY OF OREGON CITY,
Respondent,

and

HISTORIC PROPERTIES, LLC,
Intervenor-Respondent.

LUBA No. 2016-045

FINAL OPINION
AND ORDER

Appeal from City of Oregon City.

James J. Nicita, Oregon City, filed a petition for review and argued on his own behalf.

Elizabeth Graser-Lindsey, Beavercreek, Christine Kosinski, Oregon City and Paul Edgar, Oregon City, filed a petition for review. Elizabeth Graser-Lindsey argued on her own behalf.

Carrie A. Richter, Portland, filed the response brief and argued on behalf

Given the casual, broadly stated nature of petitioner's December 2, 2015 inquiry, and petitioner's failure to expressly tie his request to this map amendment proceeding, we do not agree with petitioner that the city's slow response to that inquiry and ultimate response that the inquiry should be made via a more specific public records request violates Goal 1 or OCCP Goal 1.4.

The second assignment of error is denied.

NICITA THIRD ASSIGNMENT OF ERROR

As noted earlier, Goal 5 requires the county to inventory and apply a planning process to protect "Natural Resources, Scenic and Historic Areas, and Open Spaces." Under ORS 197.175(2)(a), comprehensive plan amendments must comply with the statewide planning goals. LUBA is required to reverse or remand a comprehensive plan or land use regulation amendment if it does not comply with the statewide planning goals. ORS 197.835(6); 197.835(7).[9] However, under OAR 660-023-0250(3), the city was not required to apply Goal 5 to the disputed post-acknowledgment comprehensive plan map amendment and zoning map amendment (PAPA) "unless the PAPA affects a Goal 5 resource."[10] Under OAR 660-023-0250(3)(b), the disputed "PAPA affects a

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[9] Under ORS 197.835(7)(b), the statewide planning goals do not apply directly to acknowledged land use regulation amendments, so long as the comprehensive plan has "specific policies or other provisions which provide the basis for the regulation[.]" Respondents do not argue that ORS 197.835(7)(b) applies here.

[10] OAR 660-023-0250(3) provides:

Goal 5 resource" if it "allows new uses that could be conflicting uses with a particular significant Goal 5 resource site on an acknowledged resource list."[11]

Apparently the city's acknowledged Goal 5 resource lists, or inventories, for the subject property are not in the record and no party has provided LUBA with copies of the relevant acknowledged Goal 5 resource lists and asked that LUBA take official notice of them.[12] However, it appears to be undisputed the portion of Newell Creek that crosses the southern portion of the property is included on the city's Goal 5 "acknowledged resource list," within the meaning

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> "Local governments are not required to apply Goal 5 in consideration of a PAPA unless the PAPA affects a Goal 5 resource. For purposes of this section, a PAPA would affect a Goal 5 resource only if:
>
> "(a) The PAPA creates or amends a resource list or a portion of an acknowledged plan or land use regulation adopted in order to protect a significant Goal 5 resource or to address specific requirements of Goal 5;
>
> "(b) The PAPA allows new uses that could be conflicting uses with a particular significant Goal 5 resource site on an acknowledged resource list; or
>
> (c) The PAPA amends an acknowledged UGB and factual information is submitted demonstrating that a resource site, or the impact areas of such a site, is included in the amended UGB area."

[11] In this opinion we assume the terms "Goal 5 resource list" and "Goal 5 inventory" mean approximately the same thing.

[12] As noted in our discussion of Nicita's second assignment of error, he asked the city where he could review "Oregon City's Goal 5 inventory."

of OAR 660-023-0250(3). Following oral argument, the city provided LUBA with maps that show a Natural Resource Overlay District applied to the southern part of the property where Newell Creek is located. Response to Request for Additional Documents. Those maps also show a small portion of the property adjacent to Maple Lane Ct. is subject to a Geologic Hazards and Natural Resources Overlay District which suggests there are inventoried geologic hazards on or near the subject property. Response to Request for Additional Documents.

Petitioner contends that the disputed PAPA authorizes commercial uses that are not allowed under the existing residential map designations and allows significantly higher density development. Petitioner contends that by authorizing these commercial and higher intensity uses, "[t]he PAPA allows new uses that could be conflicting uses with a particular significant Goal 5 resource site," and under OAR 660-023-0250(3)(b) the city must apply Goal 5 in approving the PAPA. However, the city found that Goal 5 does not apply to the PAPA:

> "**Goal 5 – Open Spaces, Scenic and Historic Areas, and Natural Resources**
>
> "**Finding: Not Applicable.** The Oregon City Municipal Code implements the principles of protecting fish and wildlife habitat as well as scenic vistas though the Natural Resource Overlay District as well as the Geologic Hazards Overlay District, which includes protection of sensitive lands. Portions of the subject site are within each overlay district which will be addressed upon submittal of a future application for development of the site. The development proposal does not include construction onsite. Future development

> will include a public review process to verify compliance with all applicable standards within the Oregon City Municipal Code. There are no historic structures or resources located on or adjacent to the subject site. This goal is not applicable." Record 21 (bold type in original).

Nicita contends that because the disputed PAPA authorizes uses "that could be conflicting uses" with Newell Creek and any other inventoried Goal 5 resources on the site, the city erred in finding that Goal 5 does not apply. We agree with Nicita.

In a nutshell, the city's error was in assuming that because no particular development plan has been submitted for approval at this time, and because the Geologic Hazards and Natural Resources Overlay districts have been applied to the property to protect inventoried Goal 5 resources, the city can assume that the Goal 5 resources those overlay districts presumably were applied to protect from the lower density residential uses allowed under the previously applied map designations will be adequately protected from the commercial, higher density development that is now possible by virtue of the PAPA. That may well turn out to be the case. But the city may not simply *assume* that is the case, because OAR 660-023-0250(3)(b) requires that the city conduct an initial inquiry to determine whether new uses allowed under the PAPA "could" conflict with Goal 5 resources. Only if the answer to that question is "no" may the city conclude that Goal 5 does not apply. As part of that initial inquiry, the city could consider whether the city's existing program to protect the inventoried resources from the lower density residential development allowed

under the prior map designations is also adequate to ensure that new more intensive uses will not conflict with protected resources. If a finding to that effect, supported by substantial evidence, can be made, then no further inquiry is needed. However, if the city's initial inquiry cannot eliminate the possibility of conflicts from the new uses allowed by the new map designations, the city must repeat any of the steps in the Goal 5 planning process that are necessary to ensure that the city's Goal 5 obligations with respect to protected resources continue to be met.[13]

We also note that in its brief, intervenor disputes petitioner's contention that the commercial, higher density uses made possible by the new map designations will result in an increased volume and velocity of stormwater and that the storm water will have increased levels of contaminants. However, the challenged decision does not address that question and there is nothing in the record cited to us that would allow us to question petitioner's contention that the commercial, higher density development made possible by the map amendments "could be conflicting uses" with inventoried Goal 5 resources on the property.

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[13] The Goal 5 planning process is set out in significant detail at OAR chapter 660, division 23. OAR 660-023-0040 requires, among other things, identification of uses that may conflict with inventoried significant Goal 5 resources and analysis of the consequences of allowing, limiting or prohibiting those conflicting uses. OAR 660-023-0050 then requires the city to use that analysis of consequences to adopt a program to achieve the goal of protecting Goal 5 resources.

The third assignment of error is sustained.

NICITA FOURTH ASSIGNMENT OF ERROR

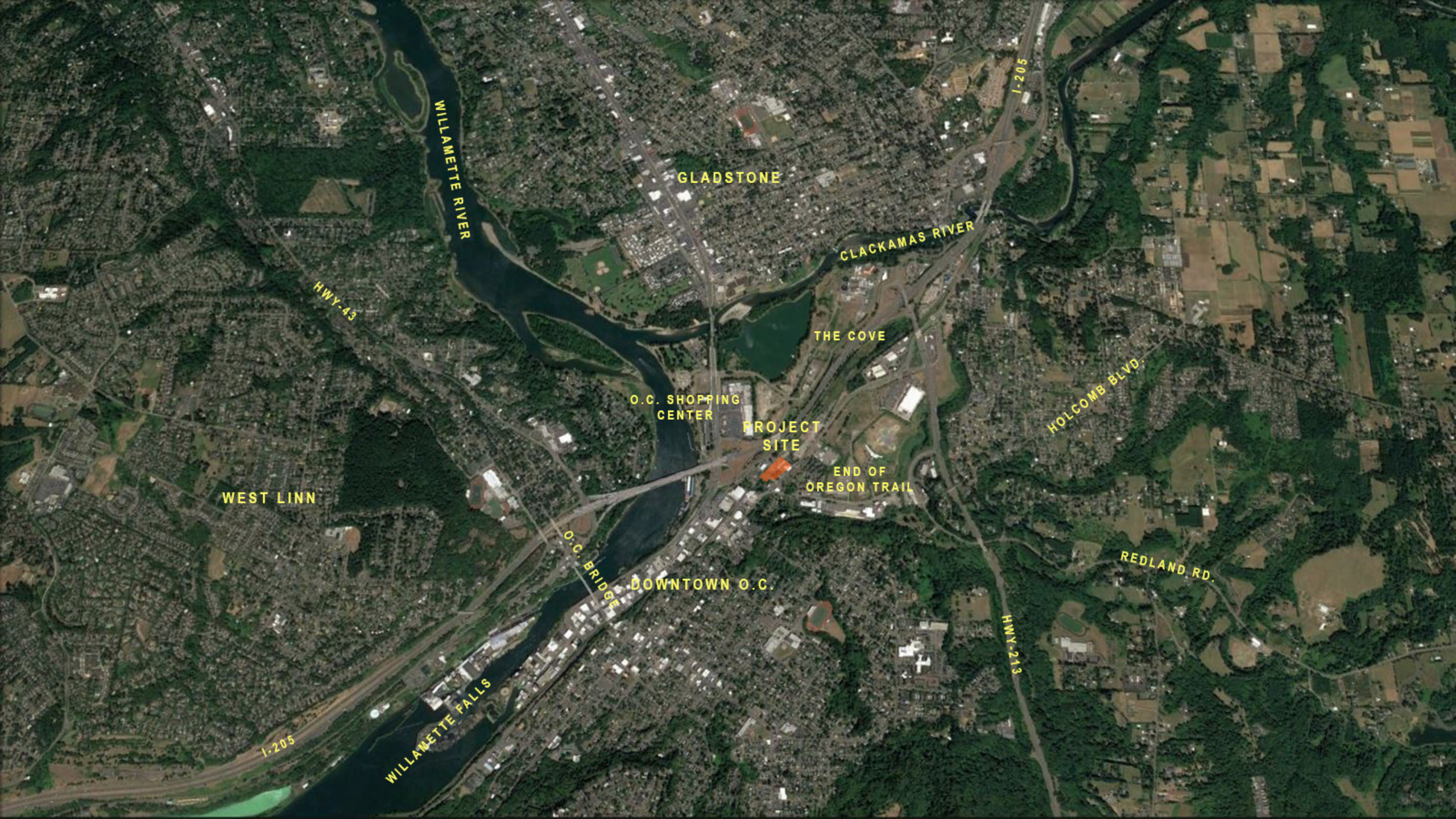
Nicita argues that the city's decision does not comply with Statewide Planning Goal 6 (Air, Water, and Land Resources Quality). Goal 6 requires in relevant part that "discharges from future development, when combined with such discharges from existing developments shall not threaten to violate, or violate applicable state or federal environmental quality statutes, rules and standards."[14] LUBA is required to remand or reverse a comprehensive plan amendment if it is not in compliance with the Statewide Planning Goals. ORS 197.835(6). Remand or reversal is also appropriate if the local government improperly construed the applicable law. ORS 197.835(9)(a)(D).

Petitioner's lengthy assignment of error contains several sub-assignments of error, although not clearly delineated as such, and many of

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[14] Goal 6 is "[t]o maintain and improve the quality of the air, water and land resources of the state" and provides in relevant part:

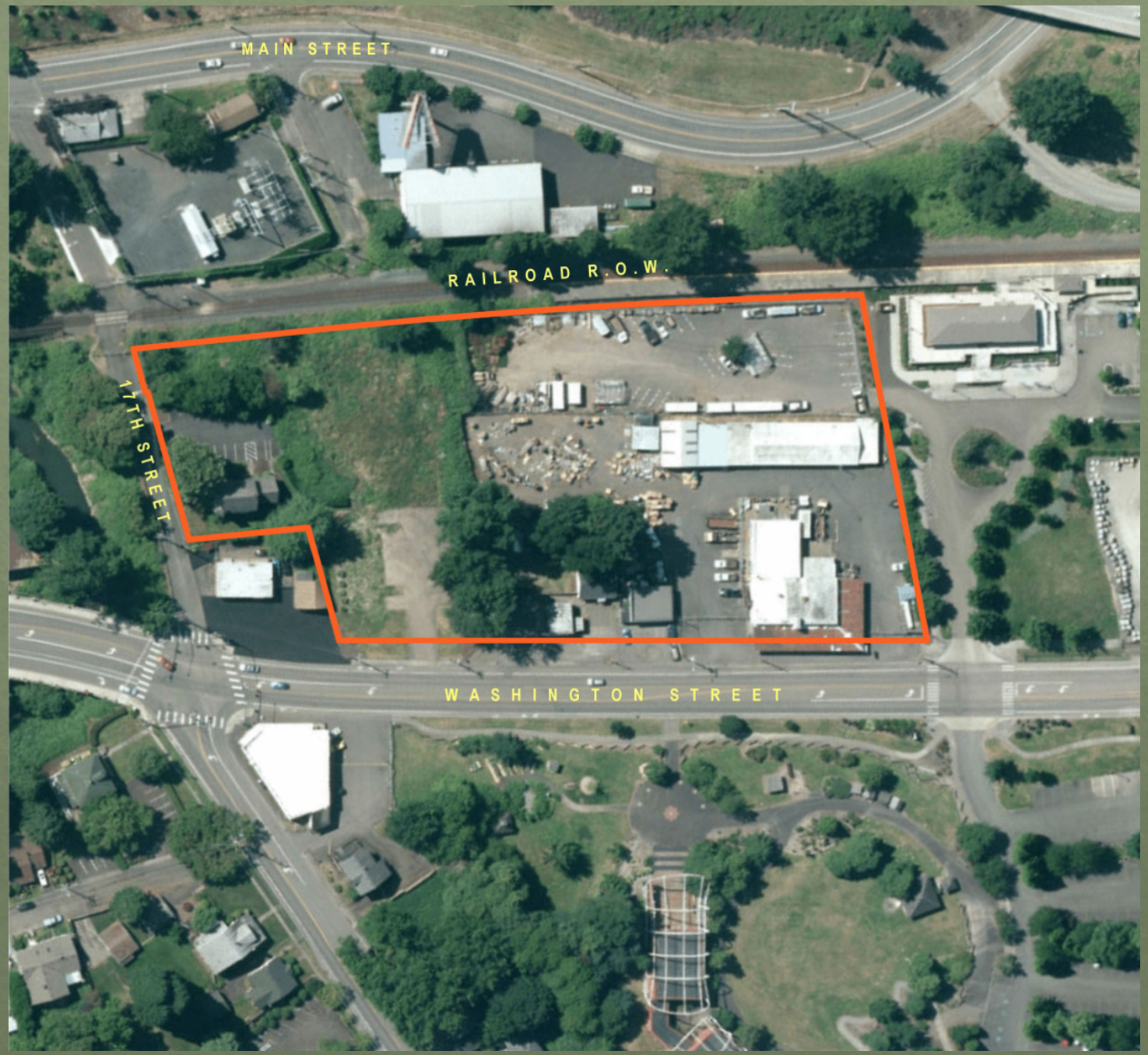
> "All waste and process discharges from future development, when combined with such discharges from existing developments shall not threaten to violate, or violate applicable state or federal environmental quality statutes, rules and standards. With respect to the air, water and land resources of the applicable air sheds and river basins described or included in state environmental quality statutes, rules, standards and implementation plans, such discharges shall not (1) exceed the carrying capacity of such resources, considering long range needs; (2) degrade such resources; or (3) threaten the availability of such resources."

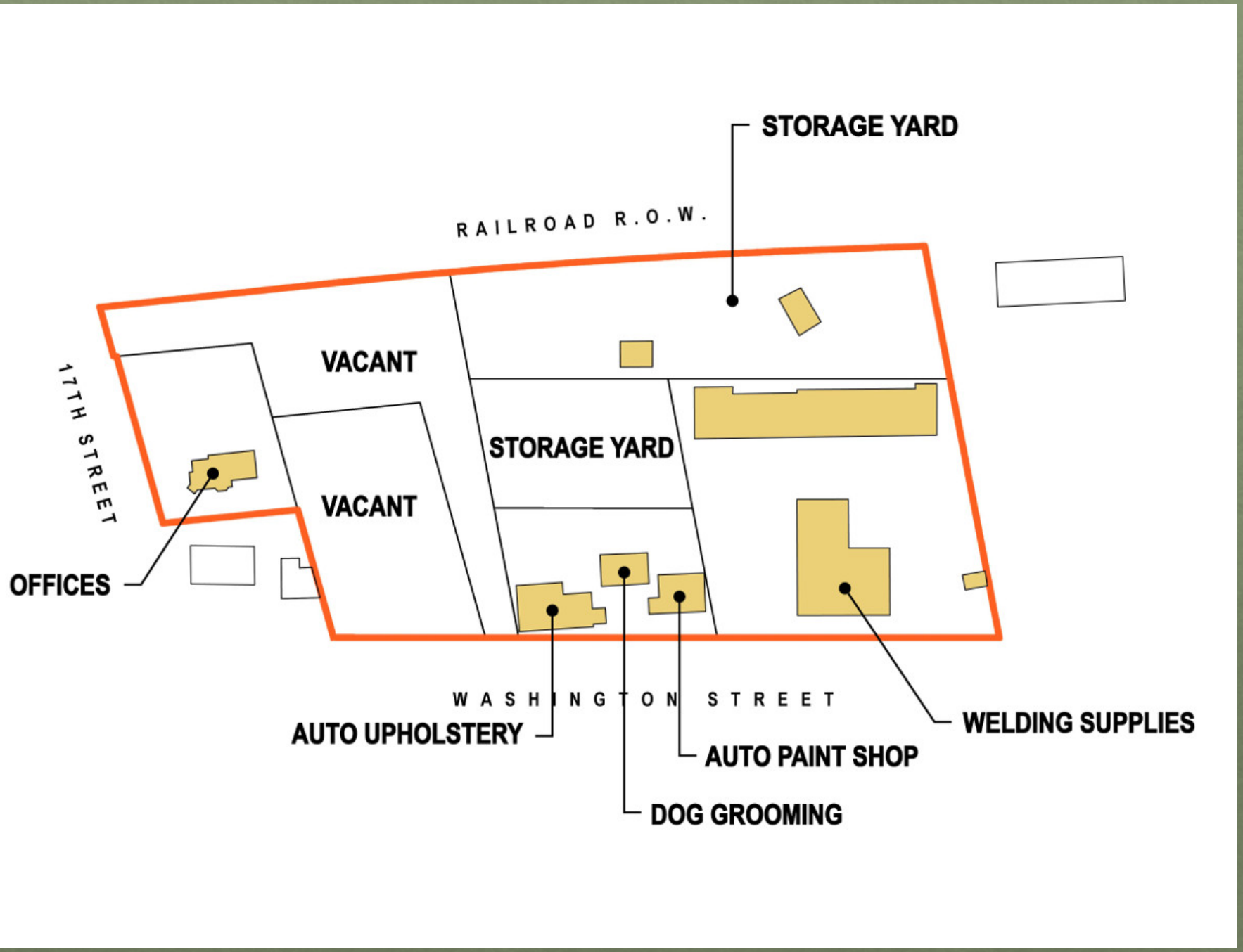

WILLAMETTE RIVER
GLADSTONE
I-205
CLACKAMAS RIVER
HWY-43
THE COVE
HOLCOMB BLVD.
O.C. SHOPPING CENTER
PROJECT SITE
END OF OREGON TRAIL
WEST LINN
O.C. BRIDGE
DOWNTOWN O.C.
REDLAND RD.
HWY-213
I-205
WILLAMETTE FALLS

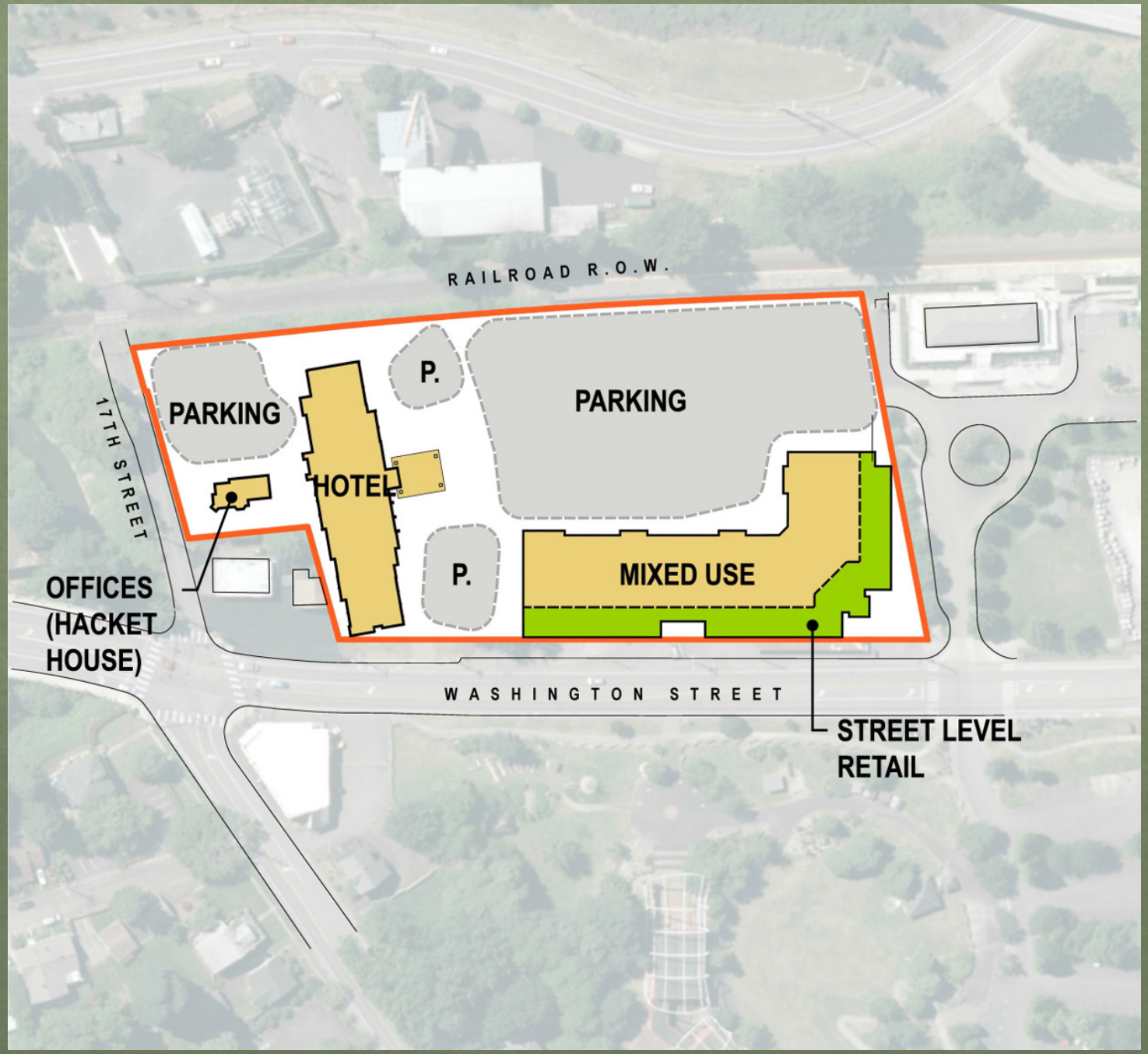

SITE
Clackamette Dr
Dunes Dr
McLoughlin Blvd
Agnes Ave
Main St
Washington St
205
213
Sinclair St
Bella St
River St
Holly St
17th St
Abernethy Rd
John Adams St
16th St
15th St
14th St
13th St
12th St
11th St
10th St
9th St
Center St
Jefferson St
Madison St
JQ Adams St
Jackson St
Van Buren St
Harrison St
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Apperson Blvd
D St
Elm St

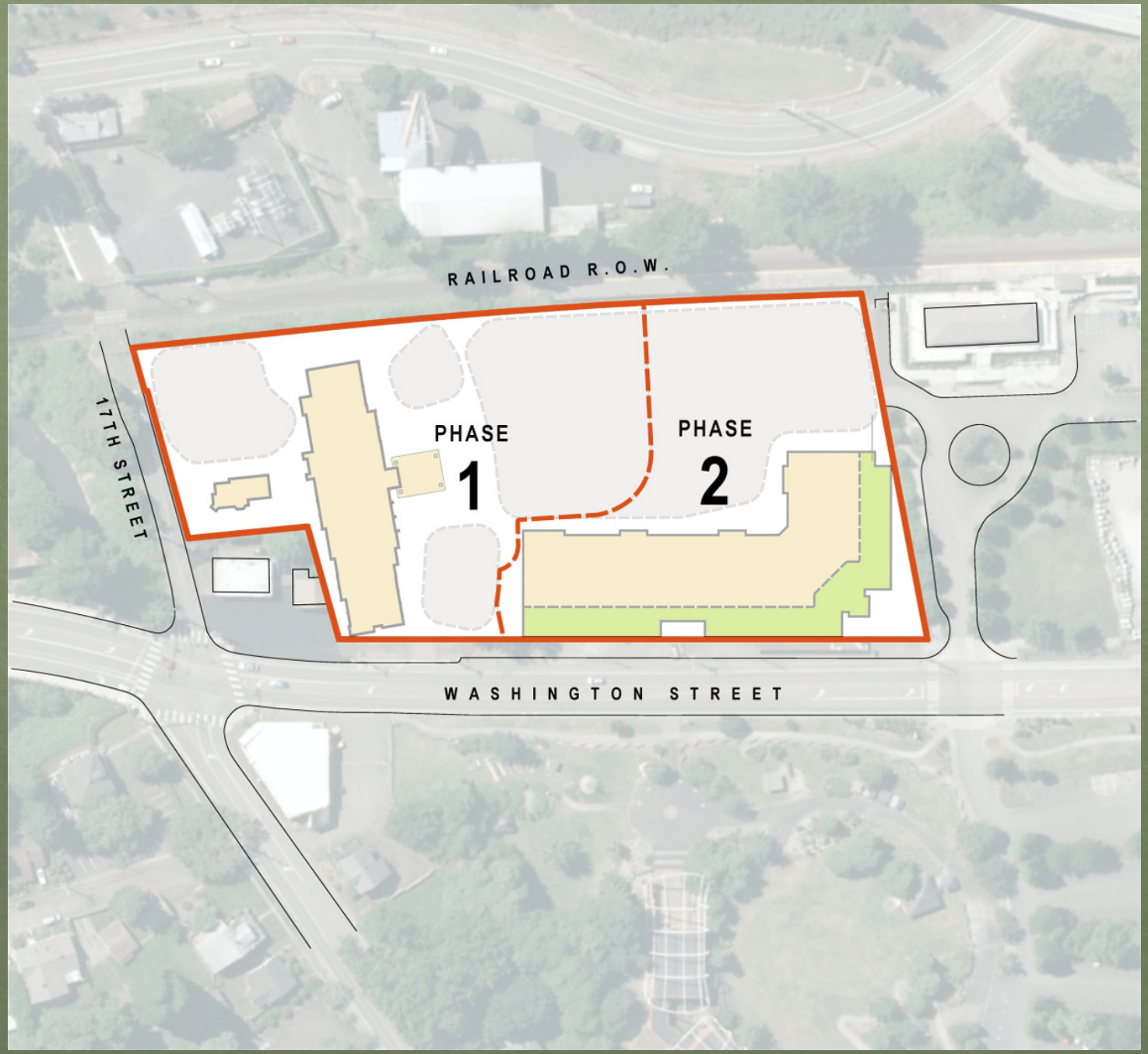

SITE


I-205
OREGON CITY TRAIN STATION
LANDSCAPE SUPPLY
MAIN STREET
METAL FABRICATOR
RAILROAD R.O.W.
PROJECT SITE
ELECTRICAL SUBSTATION
WASHINGTON STREET
END OF THE OREGON TRAIL
17TH STREET
AUTO REPAIR
ABERNETHY CREEK
STORE
STORE
ROOFING MATERIALS
TRUCK PARTS SHOP
ABERNETHY RD
OFFICE

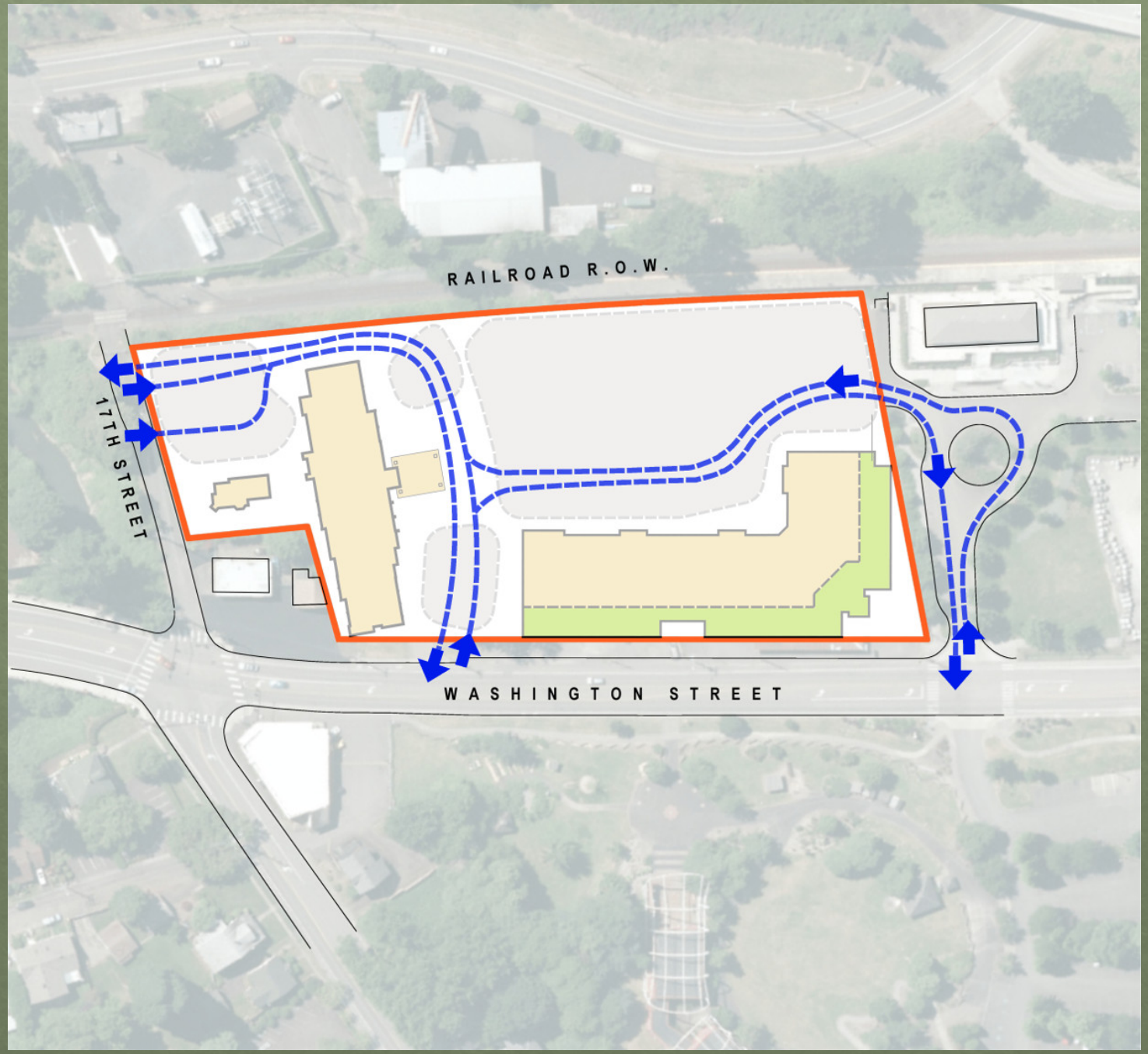

MAIN STREET
RAILROAD R.O.W.
17TH STREET
WASHINGTON STREET

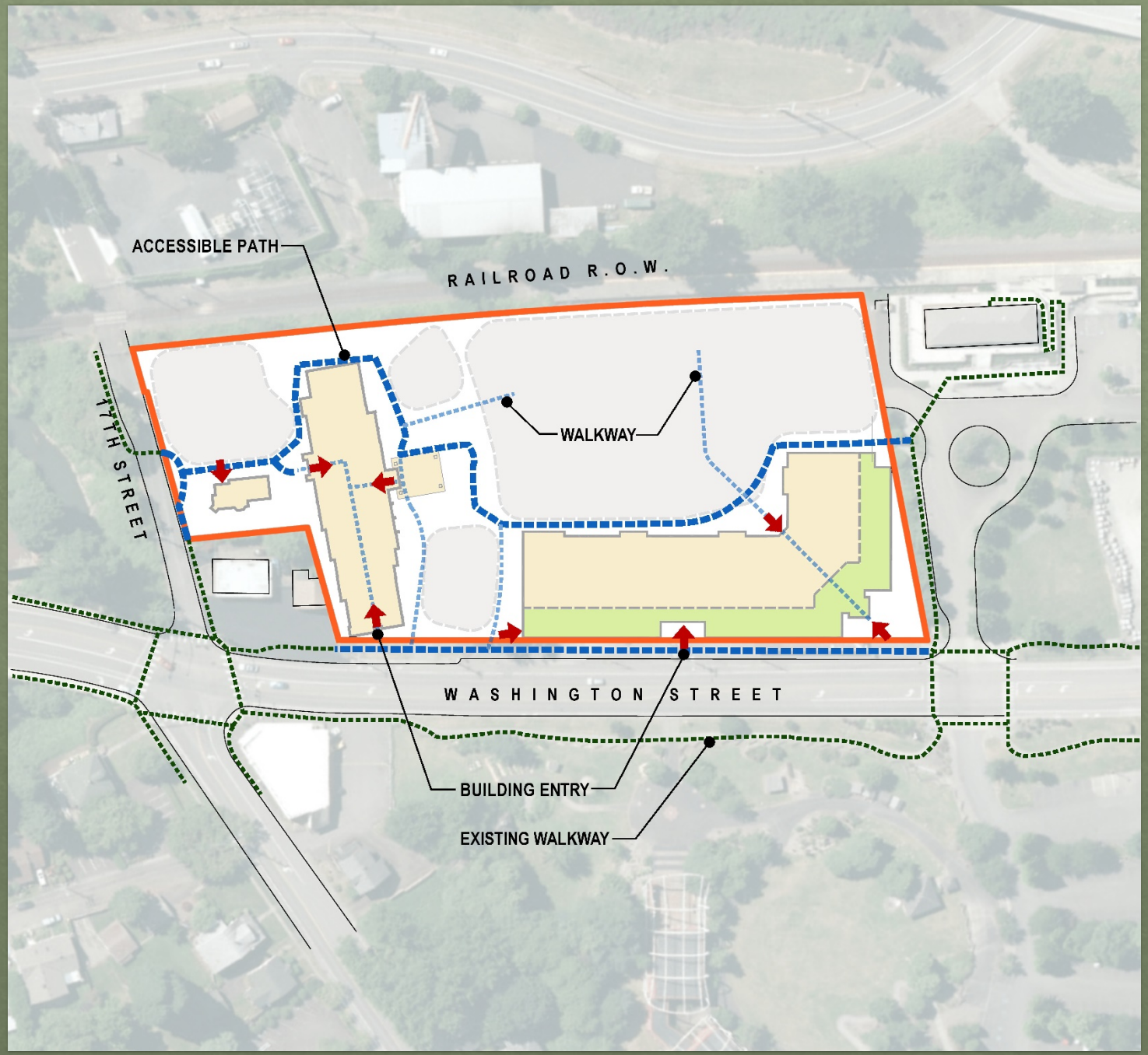

STORAGE YARD
RAILROAD R.O.W.
VACANT
17TH STREET
STORAGE YARD
VACANT
OFFICES
WASHINGTON STREET
AUTO UPHOLSTERY
WELDING SUPPLIES
AUTO PAINT SHOP
DOG GROOMING

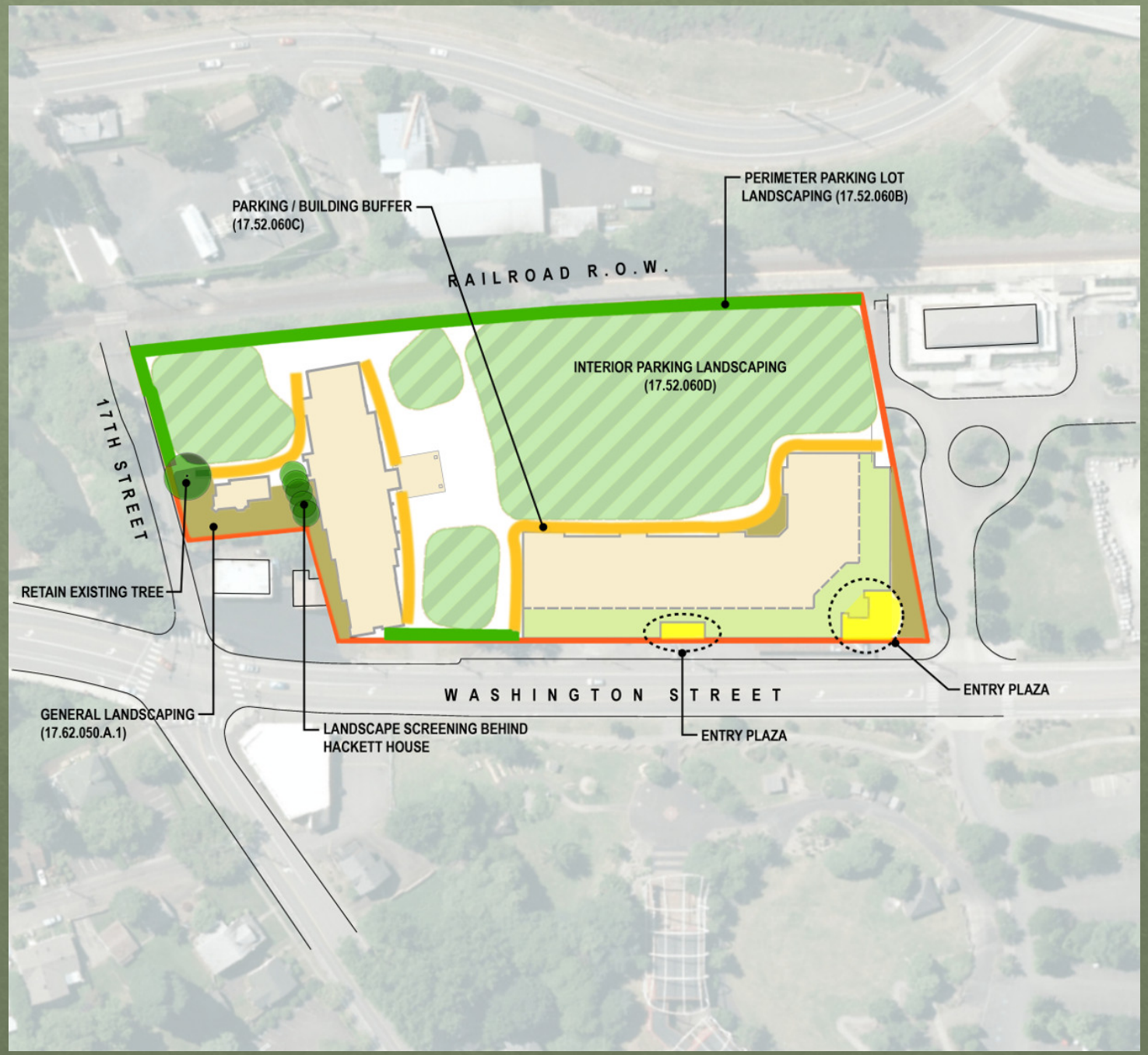

RAILROAD R.O.W.
PARKING
P.
PARKING
17TH STREET
HOTEL
P.
MIXED USE
OFFICES
(HACKET
HOUSE)
WASHINGTON STREET
STREET LEVEL
RETAIL


RAILROAD R.O.W.
17TH STREET
PHASE
1
PHASE
2
WASHINGTON STREET

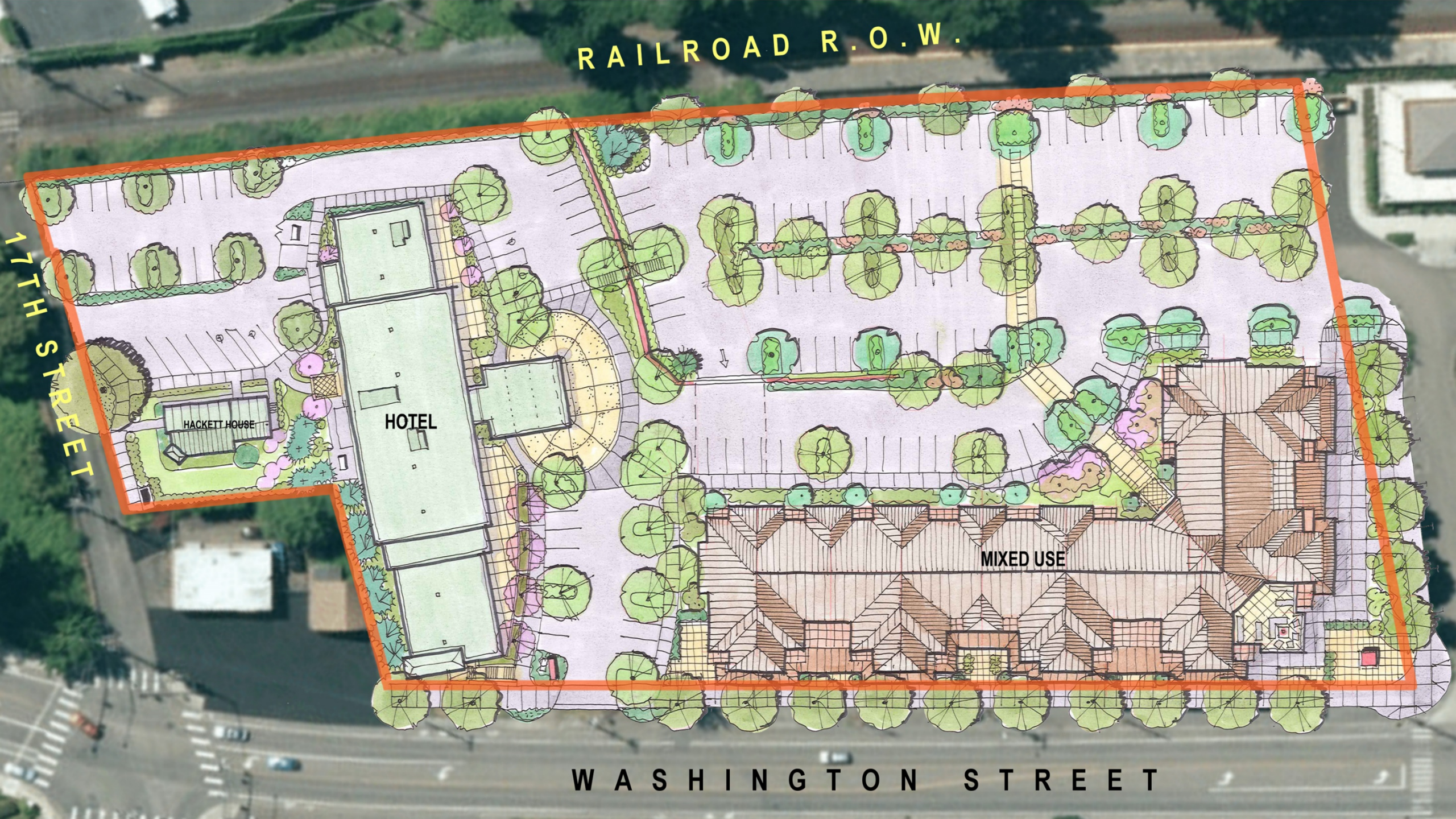

& Suites

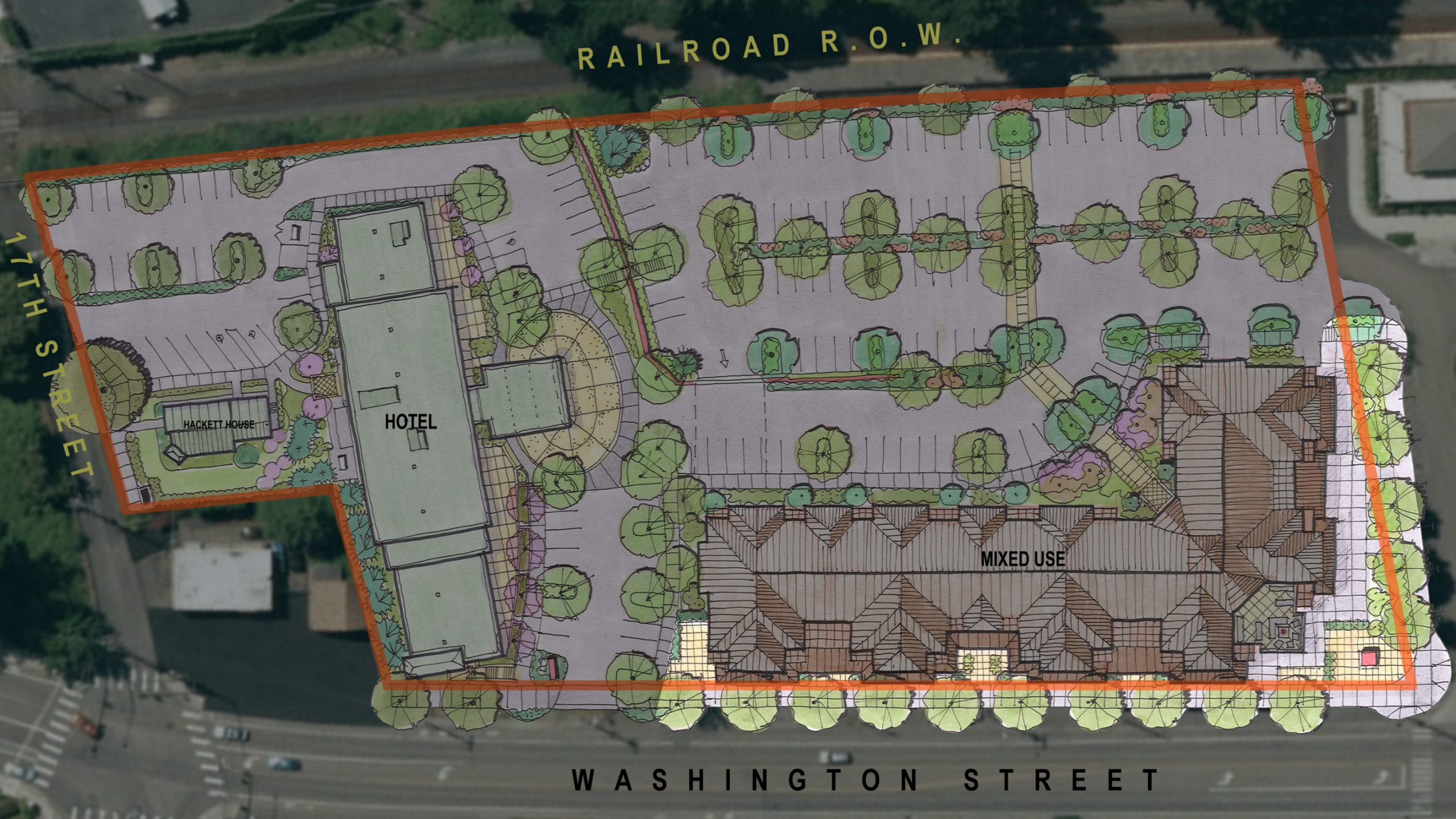

RAILROAD R.O.W.
17TH STREET
WASHINGTON STREET

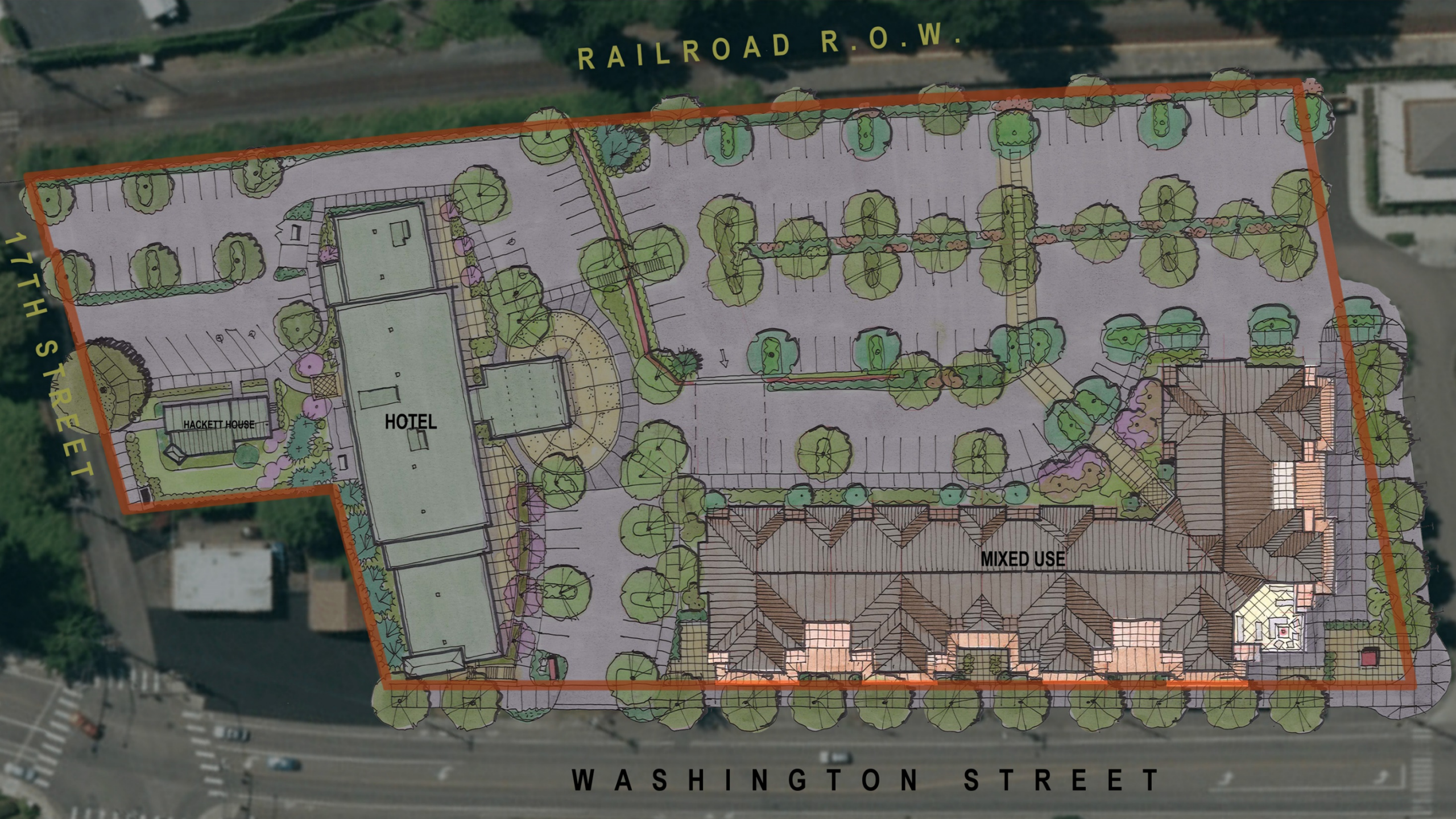

ACCESSIBLE PATH
RAILROAD R.O.W.
WALKWAY
17TH STREET
WASHINGTON STREET
BUILDING ENTRY
EXISTING WALKWAY

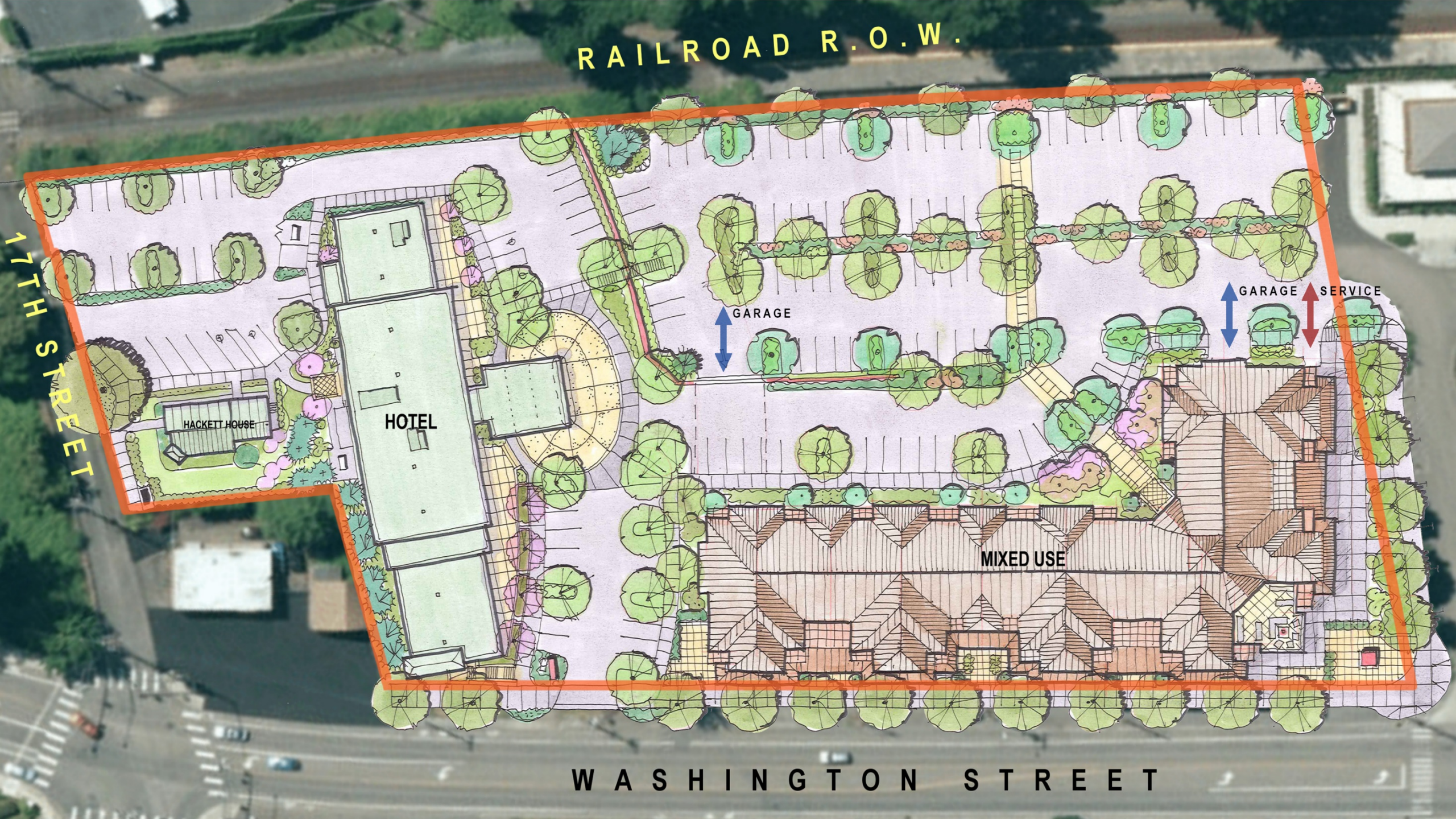

PARKING / BUILDING BUFFER
(17.52.060C)
PERIMETER PARKING LOT
LANDSCAPING (17.52.060B)
RAILROAD R.O.W.
INTERIOR PARKING LANDSCAPING
(17.52.060D)
17TH STREET
RETAIN EXISTING TREE
GENERAL LANDSCAPING
(17.62.050.A.1)
LANDSCAPE SCREENING BEHIND
HACKETT HOUSE
WASHINGTON STREET
ENTRY PLAZA
ENTRY PLAZA

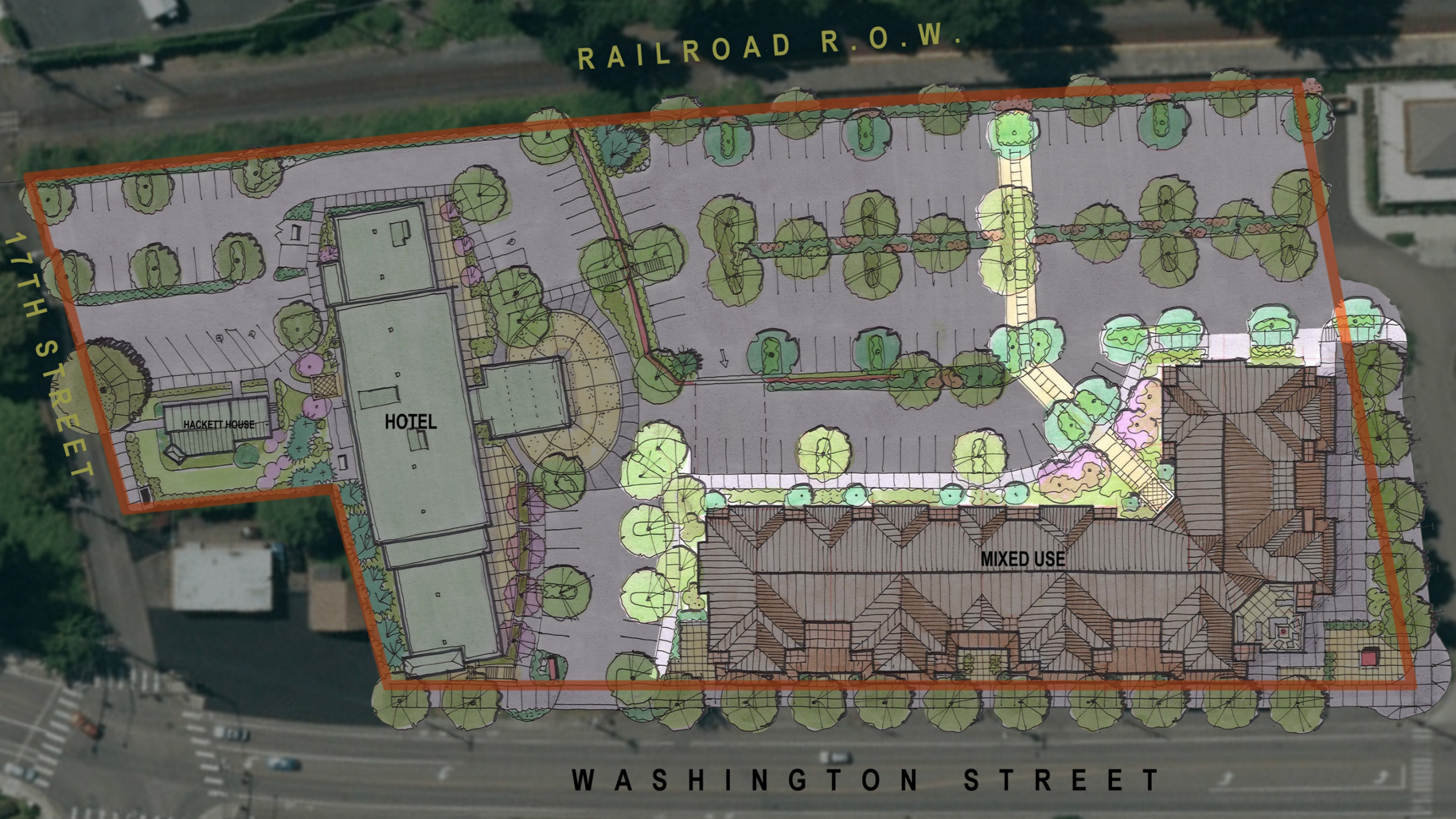

MAIN STREET
RAILROAD R.O.W.
RAILROAD STATION
17TH STREET
HACKETT HOUSE
HOTEL
MIXED USE
WASHINGTON STREET

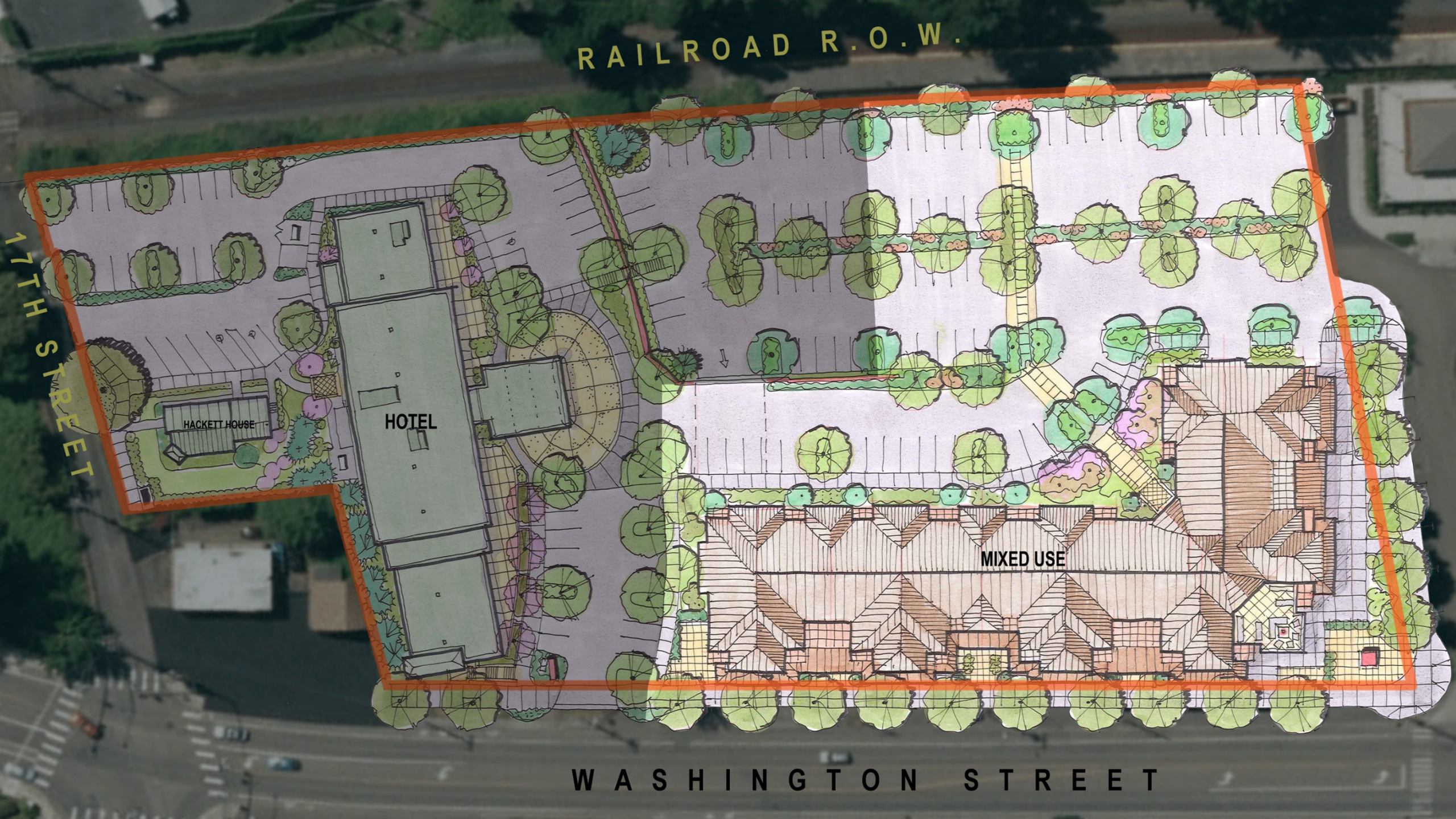

RAILROAD R.O.W.
17TH STREET
HACKETT HOUSE
HOTEL
MIXED USE
WASHINGTON STREET

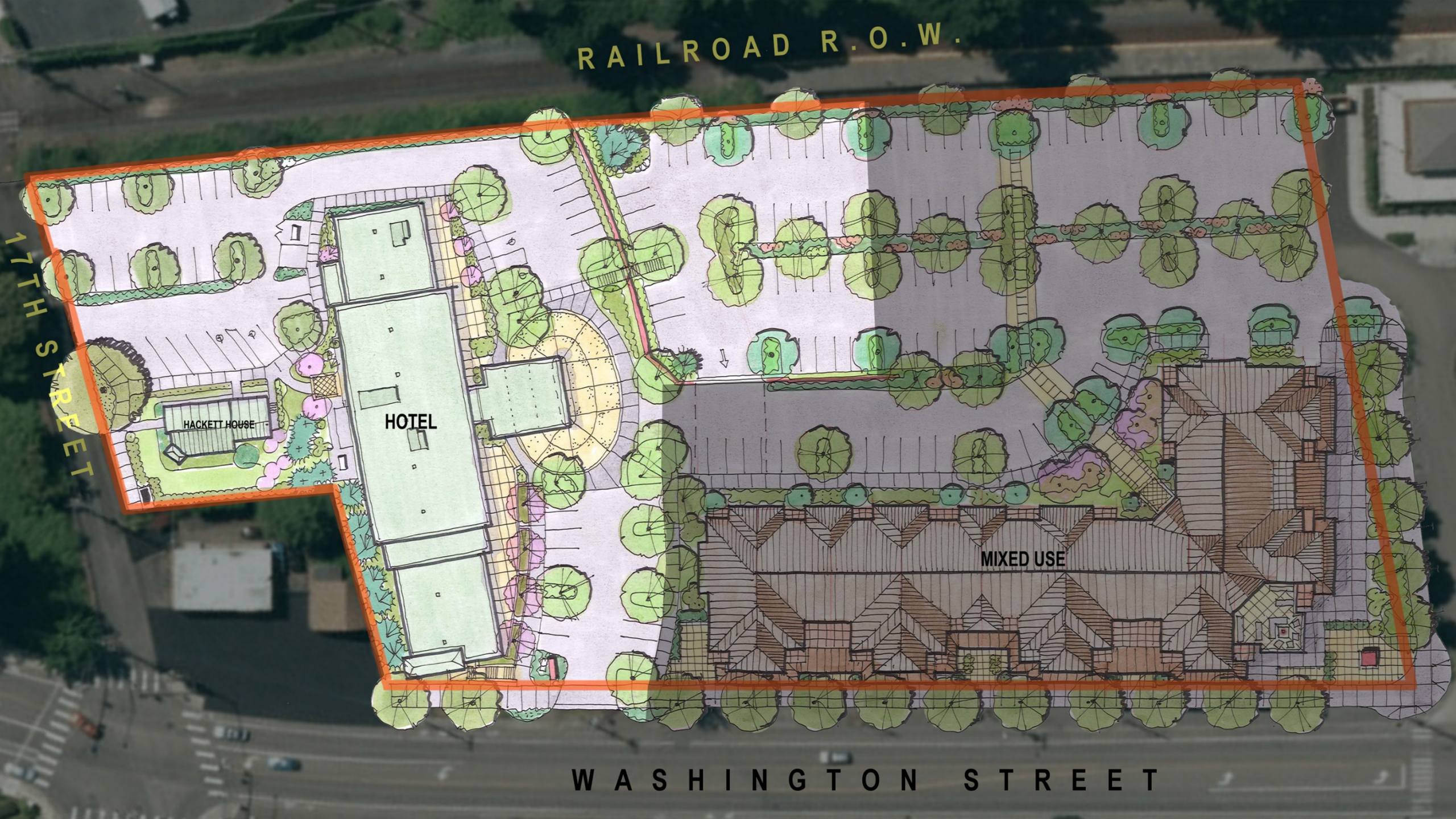

RAILROAD R.O.W.
17TH STREET
HACKETT HOUSE
HOTEL
MIXED USE
WASHINGTON STREET


RAILROAD R.O.W.
17TH STREET
HACKETT HOUSE
HOTEL
MIXED USE
WASHINGTON STREET


RAILROAD R.O.W.
17TH STREET
HACKETT HOUSE
HOTEL
GARAGE
GARAGE
SERVICE
MIXED USE
WASHINGTON STREET

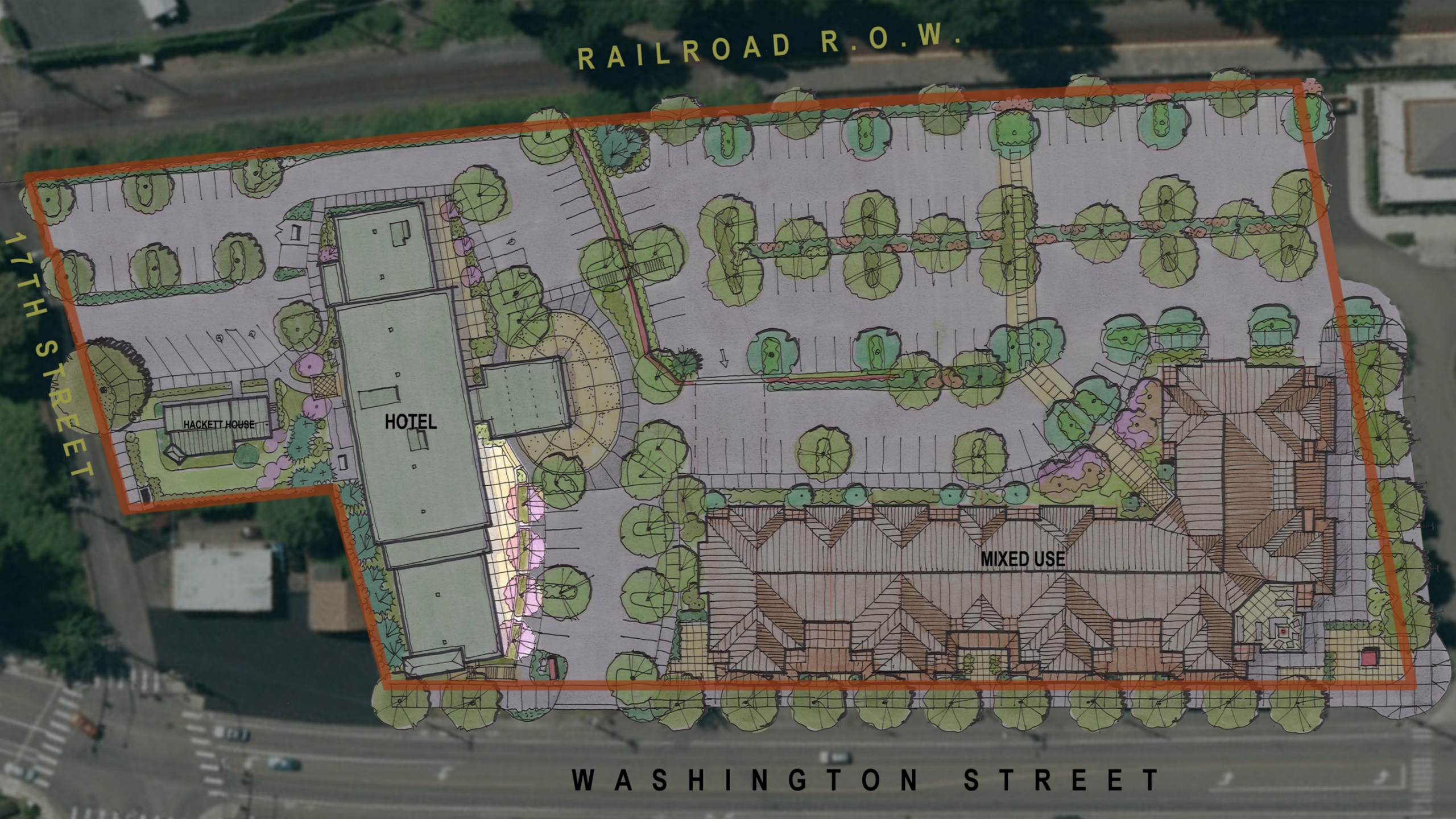

RAILROAD R.O.W.
17TH STREET
HACKETT HOUSE
HOTEL
MIXED USE
WASHINGTON STREET


RAILROAD R.O.W.
17TH STREET
HACKETT HOUSE
HOTEL
MIXED USE
WASHINGTON STREET

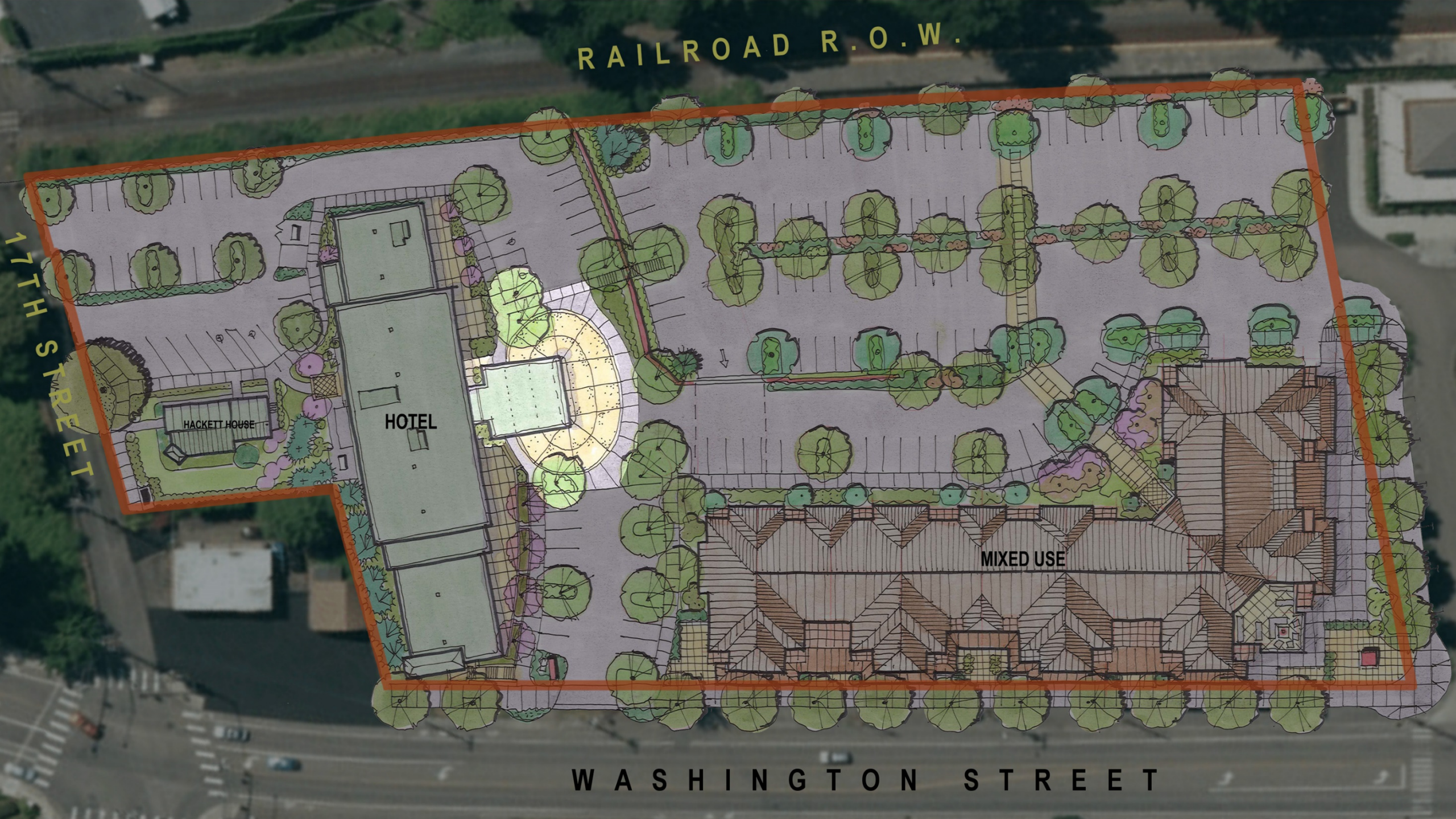

RAILROAD R.O.W.
17TH STREET
HACKETT HOUSE
HOTEL
MIXED USE
WASHINGTON STREET


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17TH STREET
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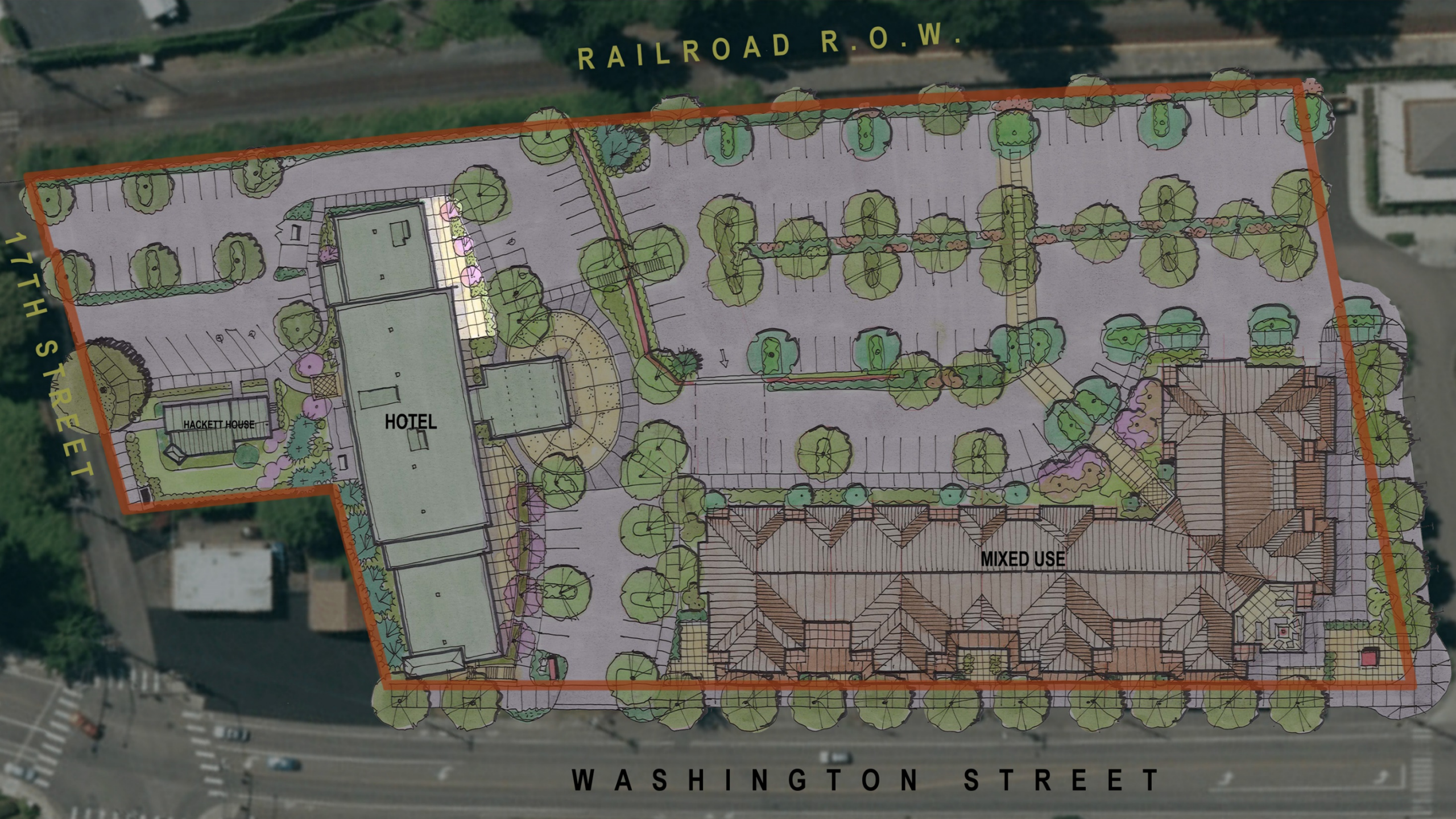

Hampton
Inn & Suites


RAILROAD R.O.W.
17TH STREET
HACKETT HOUSE
HOTEL
MIXED USE
WASHINGTON STREET

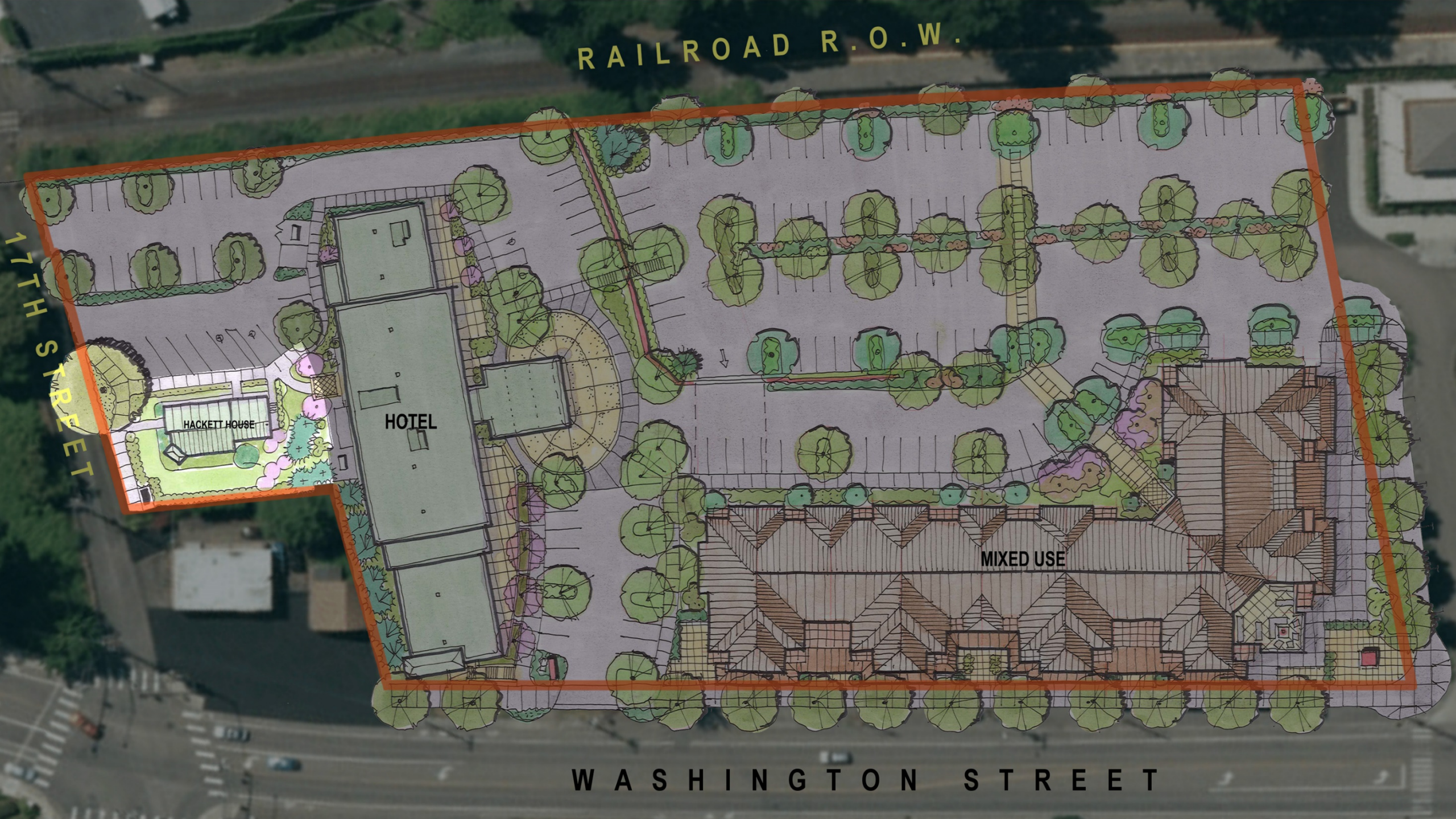

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RAILROAD R.O.W.
17TH STREET
HACKETT HOUSE
HOTEL
MIXED USE
WASHINGTON STREET


& Suites




TREATS
welcome to kanab
HILTON
HHONORS




Pool Lift






Hampton Inn & Suites


Hampton
Inn & Suites


Hampton
Inn & Suites

CP 17-02; DP 17-03; NR 17-03

Abernethy Place

General Development Plan and

Detailed Development Plan

Planning Commission August 14, 2017

Background

- 7 parcels located 415 17th Street. The site is directly across from the End of the Oregon Trail Interpretive Center.
- Zoned MUD – Mixed Use Downtown.
- The site is bordered by 17th Street to the South, Washington Street to the East, the train depot to the North, and the Railroad to the West.
- Current uses on-site include in Phase 1 are an historic structure which is used as an office (to be retained), and for Phase 2, an auto upholstery business, a dog grooming shop, an auto painting shop, a welding supply company, and a pallet storage and processing yard.

Proposed Project

- The proposed development approval for General Development Plan is for a mixed-use project on approximately 4 acres that includes two phases:
- Phase 1: A five-story hotel, 99 room hotel and associated parking lot with 101 spaces, landscaping and street improvements, including preservation of the Hackett House (2 acres) w/ height adjustment.
- Phase 2: 131 multi-family units and 9,500 square feet of retail space with associated parking (subject of future Detailed Development Plan)
- The development does not impact the Natural Resources Overlay District, OCMC 17.49 (Verification is recommended for approval).
- The applicant has proposed four adjustments to the Development Code pursuant to OCMC 17.65.

Approval Criteria

Oregon City Municipal Code

Chapter 17.34 “MUD” Mixed Use Downtown District

Chapter 17.65 Master Plans

Chapter 17.62 Site Plan and Design Review

17.62.055 - Institutional and Commercial Building Standards.

Chapter 17.52 Off-Street Parking And Loading

Chapter 13.12 – Stormwater Management

Chapter 12.04 - Streets Sidewalks and Public Places

Chapter 12.08 - Public and Street Trees

Chapter 15.48 - Grading, Filling and Excavating

Chapter 17.49 – Natural Resources Overlay District (Verification)

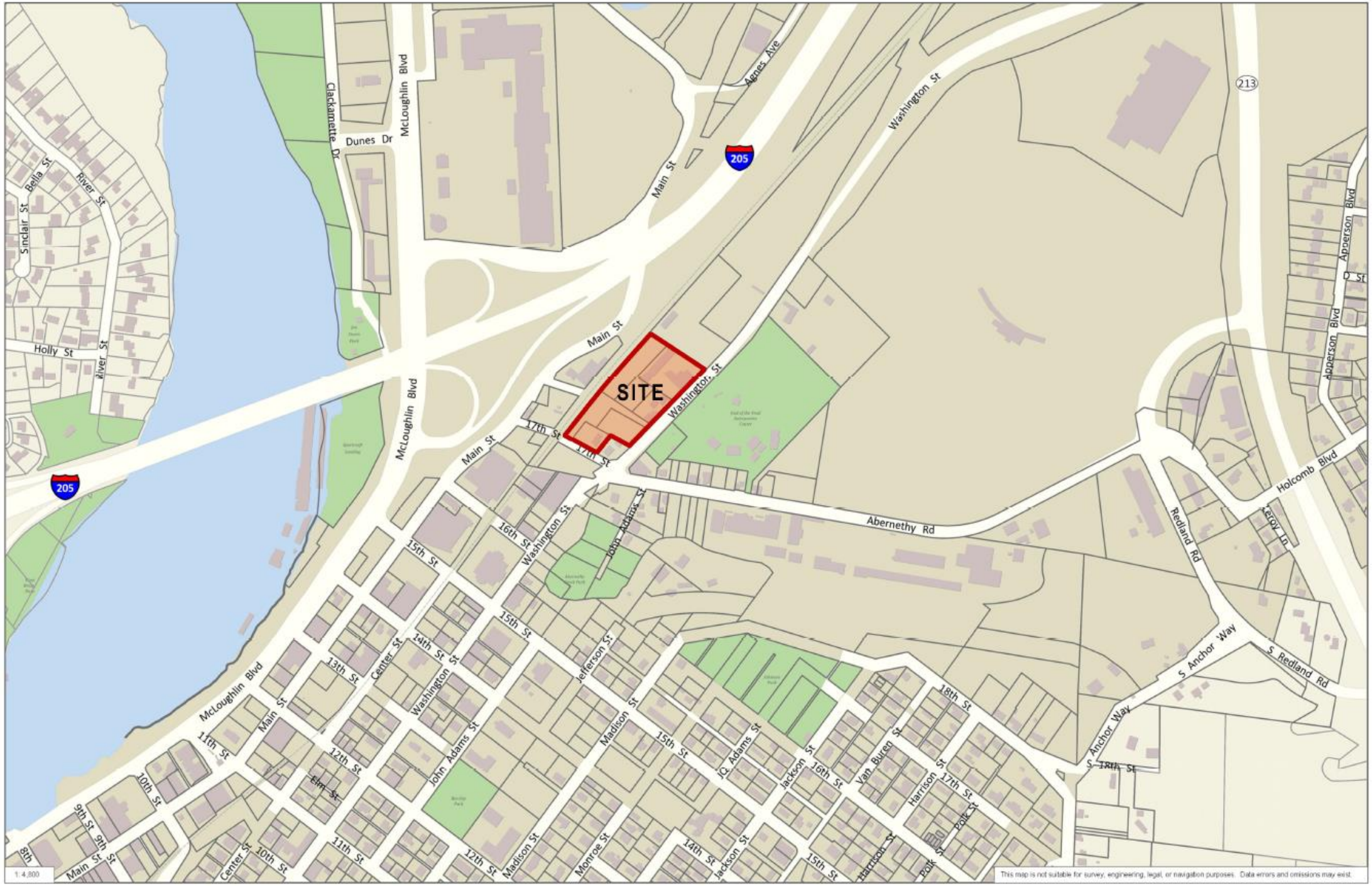
Chapter 17.50 - Administration and Procedures

Chapter 17.42 - Flood Management Overlay District

Chapter 17.44 - Geologic Hazards

Chapter 17.58 - Lawful Nonconforming Uses, Structures And Lots

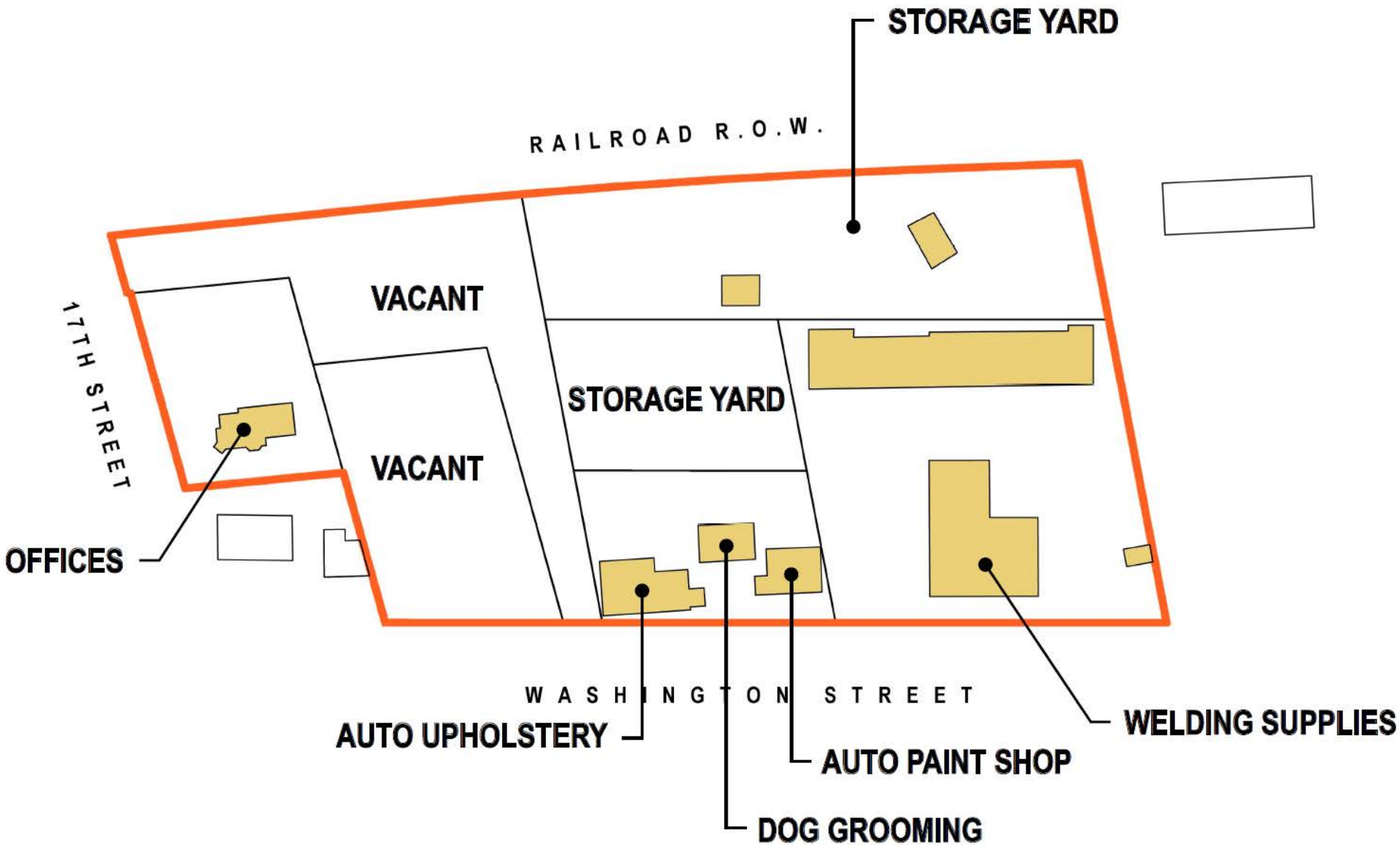
Vicinity


SITE
Main St
Washington St
McLoughlin Blvd
Abernethy Rd
Holcomb Blvd
Redland Rd
S Anchor Way
S Redland Rd
Apperson Blvd
Dunes Dr
Clackamette Dr
Agnes Ave
Holly St
River St
Sinclair St
Bella St
205
213
17th St
16th St
15th St
14th St
13th St
12th St
11th St
10th St
9th St
8th
John Adams St
Jefferson St
Madison St
Monroe St
Jackson St
Van Buren St
Harrison St
Polk St
Center St
Elm St
18th St
D St
Leroy Ln
This map is not suitable for survey, engineering, legal, or navigation purposes. Data errors and omissions may exist.

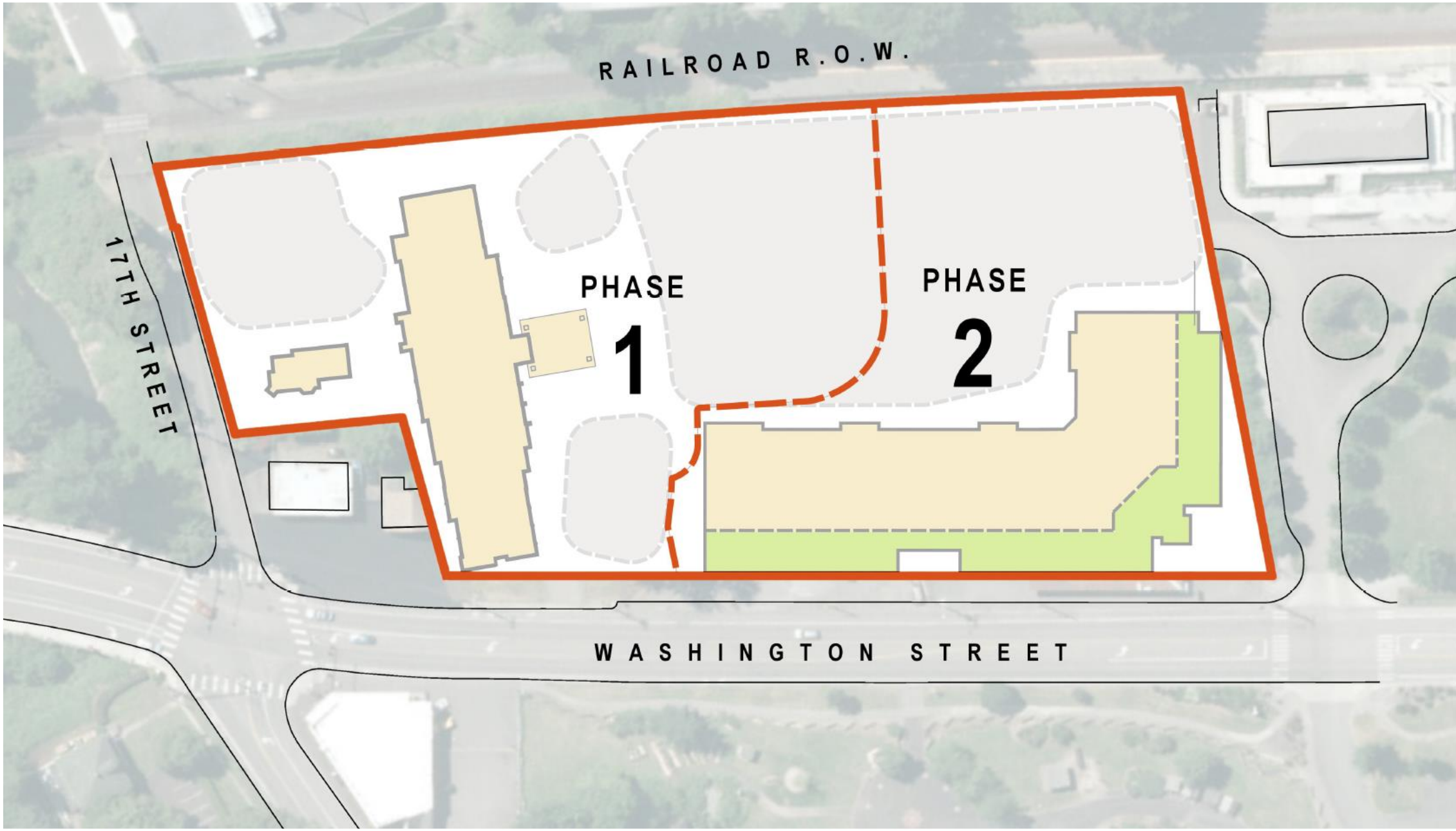
Existing Conditions
- Aerial



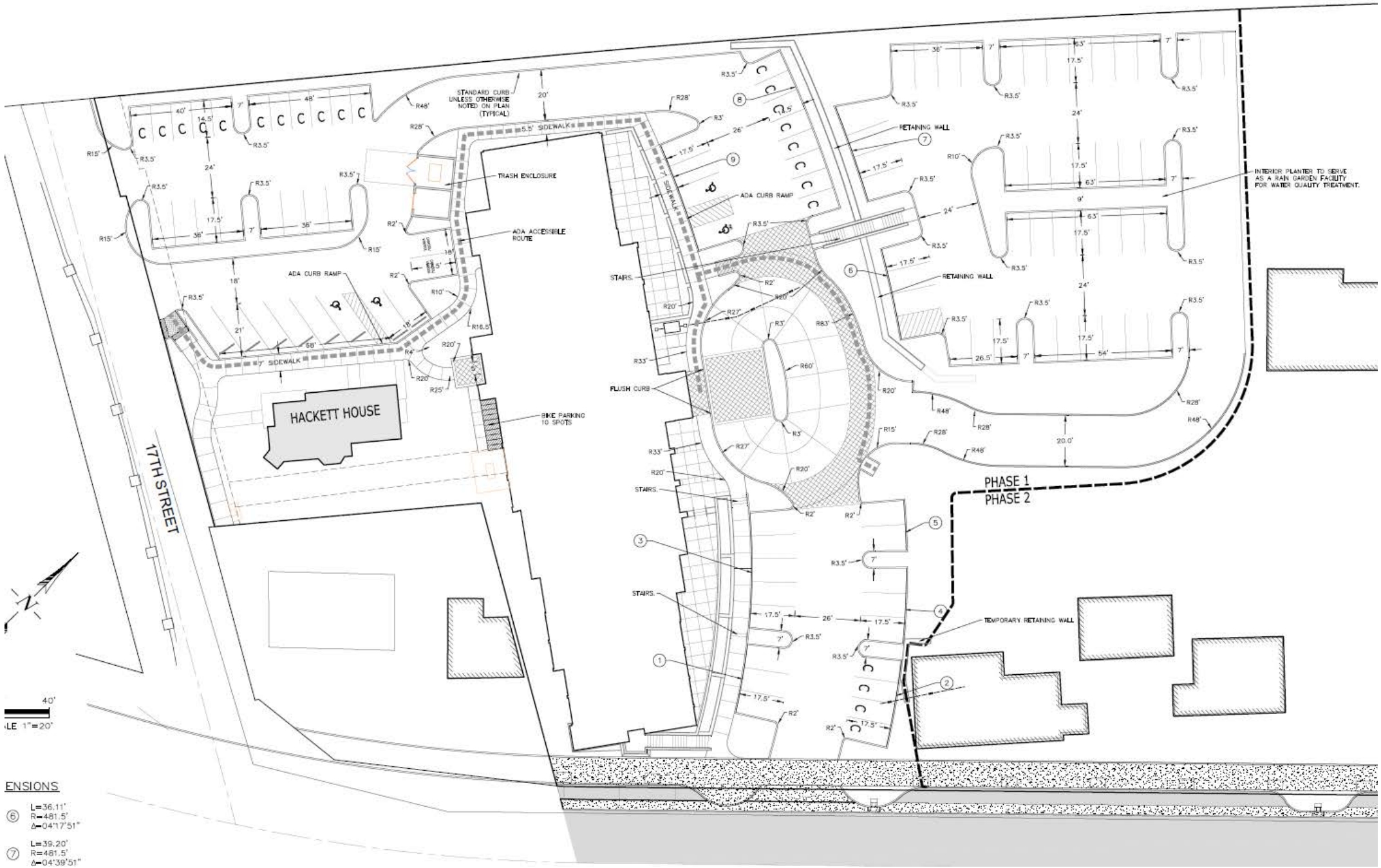
Existing Uses



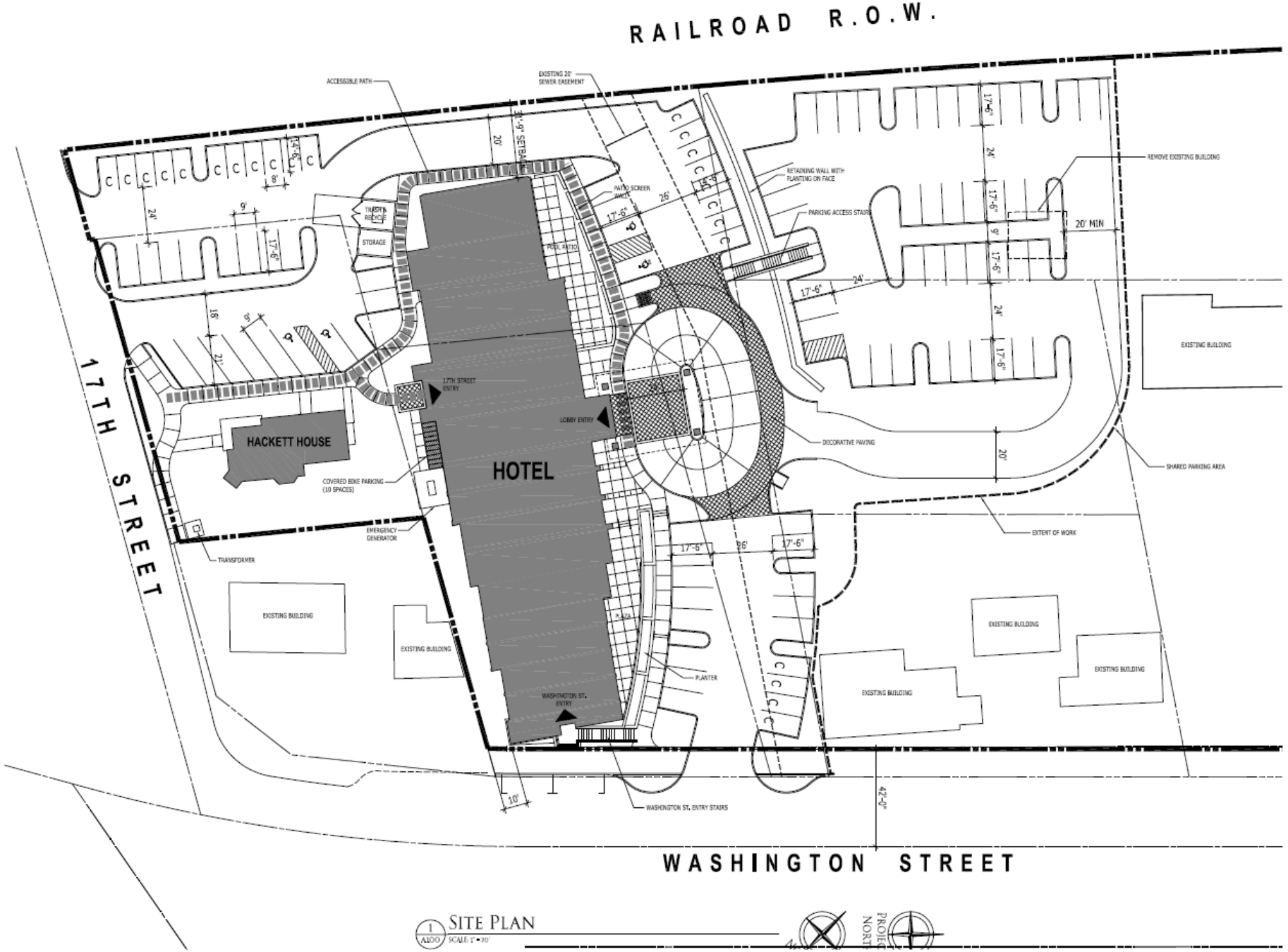
Phasing



Phase 1
Site Plan



Phase 1
Site Plan



East Elevation (Washington Street) – 80 feet wide



1 NATURAL STONE VENEER

2 WOOD TEXTURE FIBER CEMENT PANEL SYSTEM

3 METAL LOUVERS INTEGRATED WITH WINDOW SYSTEM

4 INSULATED GLAZING WITH PAINTED ALUMINUM MULLION

5 SYNTHETIC PLASTER

6 PAINTED METAL

7 METAL FLASHING & SMOOTH FINISH SYNTHETIC PLASTER

8 NATURAL STONE VENEER SITE WALL

9 HACKETT HOUSE

10 EXISTING AUTO REPAIR

EAST ELEVATION

East Elevation (Washington Street) – Façade as Submitted



East Elevation (Washington Street) – Modified Façade



North Elevation – 239 feet



1 NATURAL STONE VENEER

2 WOOD TEXTURE FIBER CEMENT PANEL SYSTEM

3 METAL LOUVERS INTEGRATED WITH WINDOW SYSTEM

4 INSULATED GLAZING WITH PAINTED ALUMINUM MULLION

5 SYNTHETIC PLASTER

6 PAINTED METAL

7 METAL FLASHING & SMOOTH FINISH SYNTHETIC PLASTER

8 NATURAL STONE VENEER SITE WALL

NORTH ELEVATION

South Elevation (from 17th St)



1 NATURAL STONE VENEER
2 WOOD TEXTURE FIBER CEMENT PANEL SYSTEM
3 METAL LOUVERS INTEGRATED WITH WINDOW SYSTEM
4 INSULATED GLAZING WITH PAINTED ALUMINUM MULLION
5 SYNTHETIC PLASTER
6 PAINTED METAL
7 METAL FLASHING & SMOOTH FINISH SYNTHETIC PLASTER
8 NATURAL STONE VENEER SITE WALL
9 HACKETT HOUSE
10 EXISTING AUTO REPAIR

17TH STREET ELEVATION

West Elevation (Rear)



1 NATURAL STONE VENEER

2 WOOD TEXTURE FIBER CEMENT PANEL SYSTEM

3 METAL LOUVERS INTEGRATED WITH WINDOW SYSTEM

4 INSULATED GLAZING WITH PAINTED ALUMINUM MULLION

5 SYNTHETIC PLASTER

6 PAINTED METAL

7 METAL FLASHING & SMOOTH FINISH SYNTHETIC PLASTER

8 NATURAL STONE VENNER SITE WALL

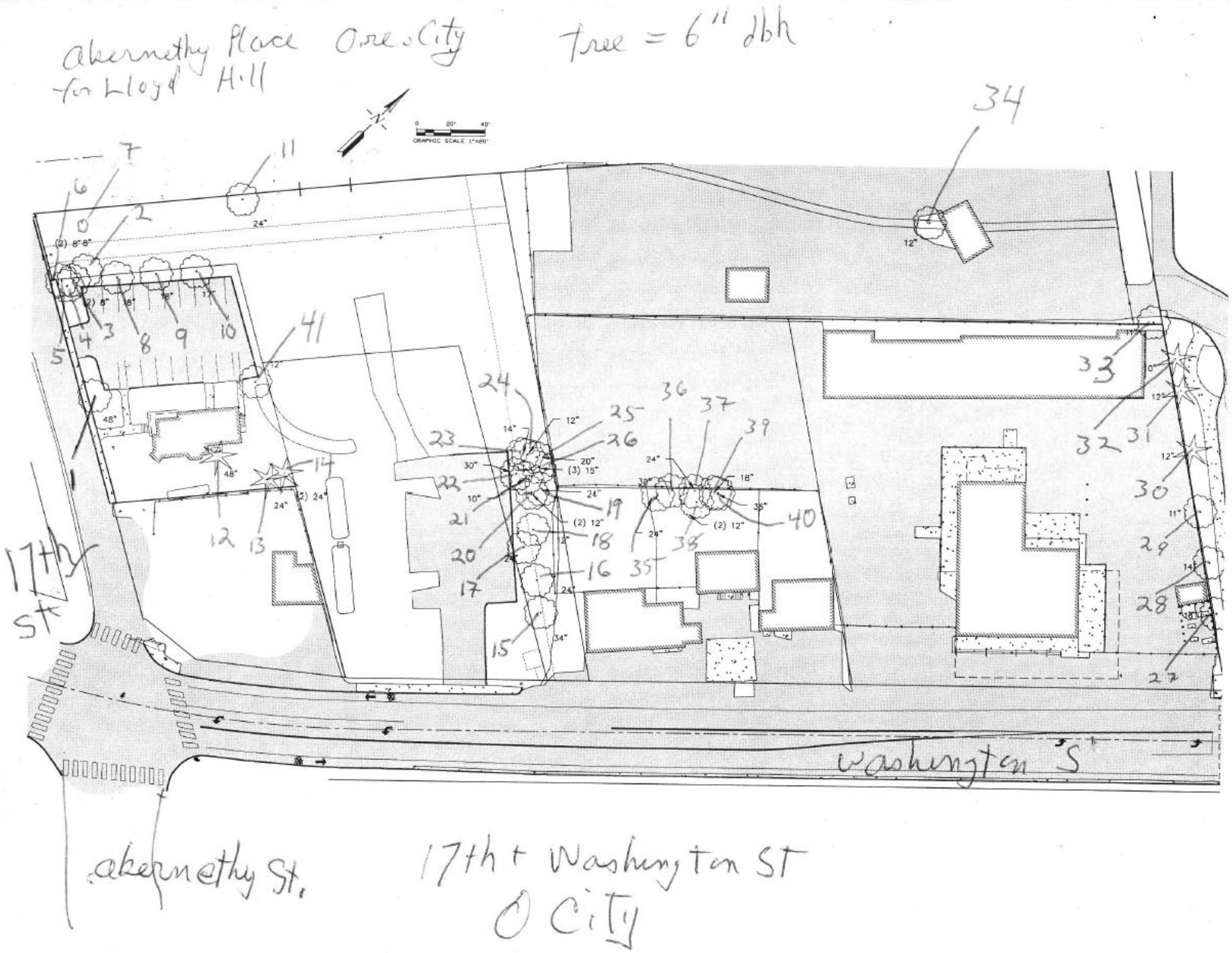
9 HACKETT HOUSE

10 EXISTING AUTO REPAIR

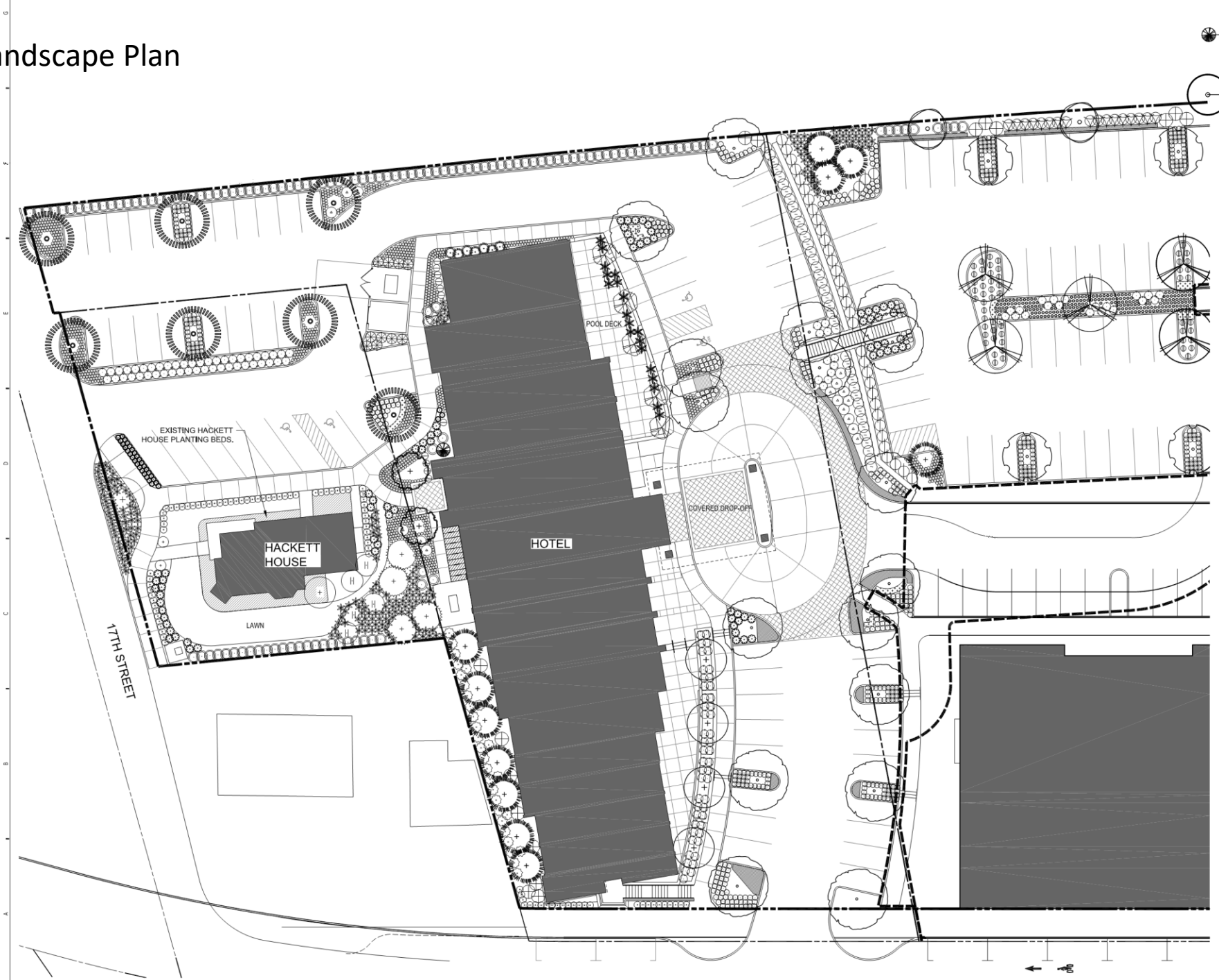
WEST ELEVATION

Tree Mitigation Plan (Excerpt From Arborist's Report)

- 41 trees >6" DBH
- 25 to be removed
- 168 mitigation trees required.



Landscape Plan



CUPRESSUS NOOTKATENSIS ALASKAN YELLOW CEDAR	3" cal.		11
CUPRESSUS SEMPERVIRENS ITALIAN CYPRESS	3" cal.		1
PRUNUS X YEDOENSIS YOSHINO CHERRY TREE	3" cal.		4
PSEUDOTSUGA MENZIESII DOUGLAS FIR	3" cal.		2
QUERCUS GARRYANA OREGON OAK	3" cal.		2

SHRUBS: DECIDUOUS

BOTANICAL NAME / COMMON NAME	SIZE	NOTES	QTY
ARBUTUS UNEDO 'COMPACTA' COMPACT STRAWBERRY TREE	10 gal.		16
KOLKWITZIA AMABILIS BEAUTY BUSH	5 gal.		8
LILAC SP. SYRINGA VULGARIS	10 gal.		5
MISCANTHUS SINENSIS 'MORNING LIGHT' MISCANTHUS	10 gal.		7
RIBES SANGUINEUM 'AMORE' FLOWERING CURRANT	5 gal.		38
SPIRAEA BUMALDA 'GOLDFLAME' GOLDFLAME SPIRAEA	5 gal.		128
SPIRAEA DOUGLASII DOUGLAS SPIRAEA	5 gal.		30
SPIRAEA NIPPONICA 'SNOW MOUND' SNOW MOUND SPIRAEA	10 gal.		16
VIBURNUM DAVIDII DAVID VIBURNUM	5 gal.		10

SHRUBS: EVERGREEN

BOTANICAL NAME / COMMON NAME	SIZE	NOTES	QTY
BERBERIS JULIANAE WINTERGREEN BURBERRY	10 gal		40
BUXUS SEMPERVIRENS 'SUFFRUTICOSA' DWARF BOXWOOD	7 gal.		91
CEANOTHUS GLORIOSUS POINT REYES CEANOTHUS	5 gal		55
MAHONIA NERVOSA DWARF OREGON GRAPE	5 gal.		531
MAHONIA AQUIFOLIUM 'COMPACTA' COMPACT OREGON GRAPE HOLLY	5 gal.		35
MYRICA CALIFORNICA PACIFIC WAX MYRTLE	10 gal		118
RHODODENDRON 'UNIQUE' UNIQUE RHODODENDRON	7 gal.		13
SARCOCOCCA HOOKERIANA 'HUMILIS' SWEET BOX	5 gal		19
VIBURNUM TINUS 'SPRING BOUQUET' SPRING BOUQUET VIBURNUM	10 gal		17

PERENNIALS AND GROUNDCOVERS

BOTANICAL NAME / COMMON NAME	SIZE	NOTES	QTY
HELLABORUS NIGER CHRISTMAS ROSE	5 gal.		75
LIRIOPE MUSCARI 'BIG BLUE' BIG BLUE LILYTURF	1 gal.		1246
POLYSTICHUM MUNITUM WESTERN SWORD FERN	5 gal.		214
SCIRPUS AMERICANUS THREE-SQUARE BULRUSH	1 gal.		397
ARCTOSTAPHYLOS UVA-URSI KINNIKINNICK	1 gal.		383
LUPINE LUPINUS SPP.	1 gal.		130

EXISTING DECIDUOUS TREE TO REMAIN

EXISTING EVERGREEN TREE TO REMAIN

GENERAL NOTES:

1. ALL SIZES SHOWN ARE MINIMUM SIZES. LARGER SIZES MAY BE ALLOWED UPON APPROVAL OF LANDSCAPE ARCHITECT.
2. CONTRACTOR SHALL EXAMINE FINISH SURFACE, GRADES TOPSOIL QUALITY AND DEPTH. DO NOT START WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. VERIFY LIMITS OF WORK BEFORE STARTING.
3. CONTRACTOR TO REPORT ALL DAMAGES TO EXISTING CONDITIONS AND INCONSISTENCIES WITH PLANS TO THE LANDSCAPE ARCHITECT.
4. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN ALL LANDSCAPE BEDS.
5. COORDINATE PLANTING INSTALLATION WITH INSTALLATION OF UNDERGROUND SPRINKLERS AND DRAINAGE SYSTEMS.
6. CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ALL PLANT MATERIAL SUBSTITUTIONS FROM THE LANDSCAPE ARCHITECT 90 DAYS PRIOR TO INSTALLATION. PLANT SUBSTITUTIONS WITHOUT PRIOR WRITTEN APPROVAL THAT DO NOT COMPLY WITH THE DRAWINGS AND SPECIFICATIONS MAY BE REJECTED BY THE LANDSCAPE ARCHITECT AT NO COST TO THE OWNER. THESE ITEMS MAY BE REQUIRED TO BE REPLACED WITH PLANT MATERIALS THAT ARE IN COMPLIANCE WITH THE DRAWINGS.
7. NOTIFY LANDSCAPE ARCHITECT IN WRITING, WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED. SUCH AS RUBBLE FILL, POOR PLANTING SOIL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, PRIOR TO PLANTING.
8. SEE CIVIL PLANS FOR EXISTING TREES TO REMAIN ON SITE.
9. ALL PLANTS MUST COMPLY TO THE AMERICAN STANDARDS FOR NURSERY STOCK. THOSE THAT DO NOT WILL BE REJECTED. CALIPER TREES SHALL BRANCH AT 6'HT., UNLESS APPROVED BY THE LANDSCAPE ARCHITECT.

0 8 16 32 64 FT

SCALE 1/16"=1'

Criteria for Approval of Adjustments for Master Plans

D. Approval Criteria. A request for an adjustment to one or more applicable development regulations under this section shall be approved if the review body finds that the applicant has shown the following criteria to be met.

1. Granting the adjustment will equally or better meet the purpose of the regulation to be modified;
2. If more than one adjustment is being requested, the cumulative effect of the adjustments results in a project that is still consistent with the overall purpose of the zone;
3. City-designated Goal 5 resources are protected to the extent otherwise required by Title 17;
4. Any impacts resulting from the adjustment are mitigated; and
5. If an environmental zone, the proposal has as few significant detrimental environmental impacts on the resource and resource values as is practicable.
6. The proposed adjustment is consistent with the Oregon City Comprehensive Plan and ancillary documents.

1st Adjustment - exceed the maximum building height of 45’ within 500 feet of the End of the Trail Interpretive Center.

- OCMC 17.34.060.D.2

  D. Maximum building height: Seventy-five feet, except for the following locations where the maximum building height shall be forty-five feet:

  1. Properties between Main Street and McLoughlin Boulevard and 11th and 16th streets;

  *2. **Property within five hundred feet of the End of the Oregon Trail Center property**; and*

  3. Property within one hundred feet of single-family detached or detached units.

- “Definition Height of building" means a vertical distance measured from the **average elevation of the finished grade along the street-facing elevation** to one-half the vertical distance between the eaves and the highest ridge for a gable, hip or gambrel roof…
- Phase 1 hotel must be built above the Base Flood Elevation
- Applicant proposal: The proposed building will exceed the 45’ height limit by 21’ from the average finished grade along Washington Street, or by 14.6’ as measured from the Base Flood Elevation.
- This proposal is for Phase I only.

Height Considerations

- Please see discussion on Pages 51 – 52 of Staff Report
  - Mixed Use Downtown zone (adopted 2004)
  - Regional Center (Metro 2040 plan)
  - Relevant Goals and Policies of Comprehensive Plan
- End of the Oregon Trail Interpretive Center (EOT) has not been designated as a designated cultural or historic resource
- Staff was not able to find any specific statements in the Comprehensive Plan or Zoning code regarding the intent of the 45’ height limit
- The height restriction suggests a general intent to provide a step-down in building height in close proximity to the EOT
- As discussed in this report under the Master Plan adjustment criteria, Comprehensive Plan policy 5.2.2 relates to the preservation of scenic views, and although not controlling over this decision, staff finds that it provides some relevant context for the additional height restriction imposed with respect to the EOT



Highest parapet on elevator penthouse = 110.47’

(Base Flood Elevation = 50.8’)

Elevation of Avg. Finished Grade at Street = 44.4’

Building height = 110.47 – 44.4 = <u>66.07’</u>

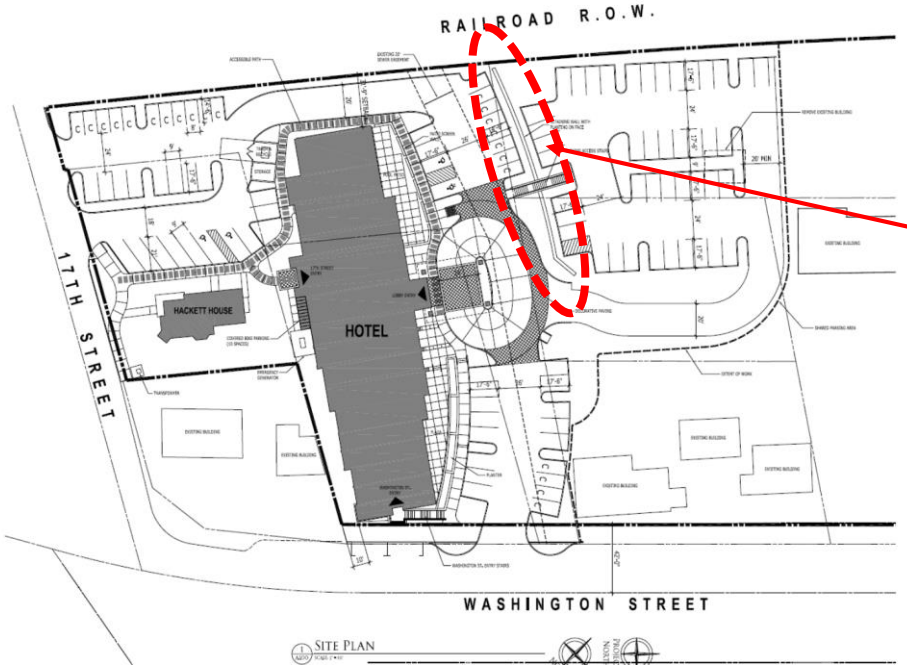
66.07’ minus 45’ = <u>21’</u>

Second Adjustment – Commercial First Floor

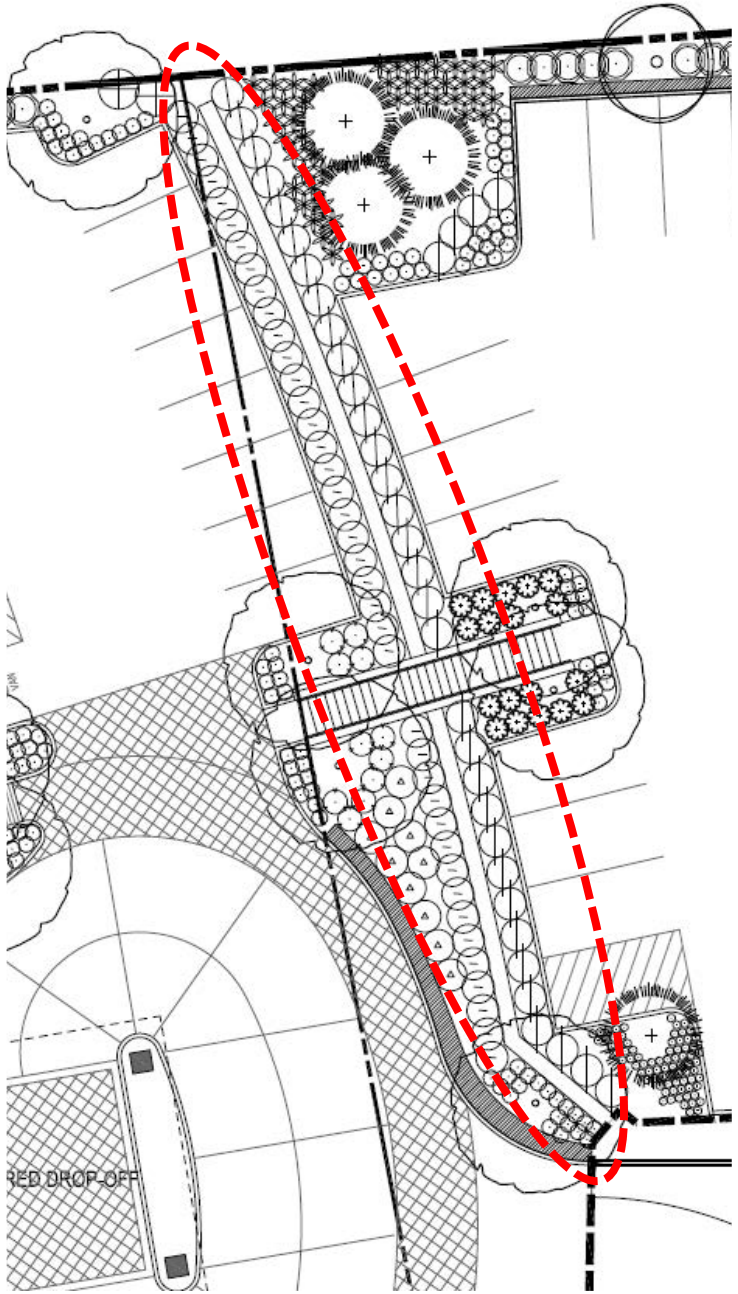
- **OCMC 17.62.055.F -** *In order to ensure that the ground floor of structures have adequate height to function efficiently for retail uses,* ***the first floor height to finished ceiling of new infill buildings in the mixed use and neighborhood commercial districts shall be no lower than fourteen feet floor to floor.*** *Where appropriate, the exterior facade at the ceiling level of new structures shall include banding, a change of materials or relief which responds to the cornice lines and window location of existing buildings that abut new structures.*
- Applicant proposal: First floor to second floor height 12 feet minimum.
- Applicant has not provided adequate justification for the adjustment request. Staff will recommend additional Condition of Approval.

Third Adjustment – Combined Height of a fence on a retaining wall.

- **OCMC 17.54.100.B.2.** *When the retaining wall or earth berm is greater than thirty inches in height, the* ***combined height*** *of the retaining wall and fence or, wall from finished grade* ***shall not exceed eight and one-half feet****.*
- Due to grade and in order to balance cut and fill within the flood zone, the applicant proposes to maintain the hotel floor level above the flood elevation and allow for vehicle access to the hotel, so that a break in grade of approximately 11.5 feet will be required.
- With the addition of a 3.5 foot safety guardrail at the top of the wall, the combined height required is 15 feet.
- Wall will not be visible from Washington Street or 17th street.



Location of retaining wall



Landscaping Plan indicating plantings next to wall

Fourth Adjustment – Window Design for Multi-Family Buildings

- **OCMC 17.62.057.L.2** - *All windows on all elevations shall recess or project individual windows* ***at least two inches from the facade*** *and incorporate window trim* ***at least four inches in width*** *that features color that contrasts with the base building color.*
- The applicant has not proposed a Detailed Development Plan for Phase 2 Multi-Family buildings yet.
- Recommended Condition of Approval: the applicant shall propose additional mitigation such as increased minimum transparency, higher quality materials, greater articulation or modulation, or landscaping.

Additional Items for Record

- James Nicita
  1. Email - Request for Continuance
  2. Email - request for Oregon City Comprehensive Plan and Downtown Community Plan to be placed in the record
  3. Email - re: noticing defect
- Tom Sisul, P.E., applicant's engineer, re: Condition of Approval #41.
  1. Email - Request to strike COA#41 regarding DSL / Corps of Engineers approvals, based on absence of wetlands.
- Mark Matheson
  1. Email

Recommendation

- Take testimony and continue public hearing with the record open to the date certain of September 11, 2017.
- Staff and applicant will work on revisions to the recommended findings and Conditions of Approval and present them with a final recommendation at the next hearing.
- Respectfully ask that the applicant extend the 120-day decision deadline for this file for the requisite period.

Questions?

Jim Nicita shared a link to the group: Oregon City Chit Chat.

August 8 at 9:43pm •

On Monday August 14, at 7:00 p.m. the Oregon City Planning Commission will hold a public hearing in the Oregon City Public Library on the application of former mayor Dan Fowler's partnership to construct a hotel on Washington Street across from the End of the Oregon Trail Interpretive Center.

City of Oregon City - File #: PC 17-091

Title: Abernethy Place Hotel and Mixed Use Development - Planning Files CP-17-0002, DP-17-0003, and NR-17-0004.
OREGON-CITY.LEGISTAR.COM

23 Reactions39 Comments

Like

CommentShareHootlet

23Lynda Orzen and 22 others

Comments



Jim Nicita Here is the agenda.



City of Oregon City

Meeting Agenda - Final-revised

Planning Commission

Monday, August 14, 2017 7:00 PM Oregon City Public Library

1. Call to Order
2. Public Comments
3. Public Hearing
- 3a. Abernethy Place Hotel and Mixed Use Development - Planning Files CP-17-0002, DP-17-0003, and NR-17-0004.
Sponsors: Community Development Director Laura Terway
Attachments: Commission Report
Staff Report and Recommendation
General Development Plan Application (includes plans)
Phase I DDP Application and Supporting Documents
Phase I Detailed Development Plan Plans
Traffic Impact Study
Traffic Impact Study Update 2017-04-26
Replogle and Associates Review of TIS
Abernethy Place Geotechnical Study
Confederated Tribes of the Grand Ronde Comments
State Historic Preservation Office (SHPO) Comments
Washington Street Elevation Architectural Analysis
Building Height Calculation Schematic 07.07.14
Facade Articulation Measurements Schematic
Two Rivers Neighborhood Association Meeting Letter 01.25.2017
Oregon Dept. of Transportation Comments 7.14.2017
Disclaimer / Antique Partner Support Letter
FEMA Flood Plain Map 41005C0278D
HR 17-02 Packet
HR 17-02 Letter of Voting Decision
4. Planning Division Update: Long-Range Projects, and Application Statistics
5. Adjournment

City of Oregon City Page 1 of 3 Printed on 8/7/2017

Like · Reply · August 8 at 9:44pm

Remove



Michelle Tafoya Isn't that a flood zone? I remember the end of trail interpretative under water in 1996

Like · Reply · 3 · August 8 at 9:48pm

Remove



Craig Moe Yes it is, but you could easily build the hotel on top of a parking garage. This would minimize future flood damage to the hotel itself.

Like · Reply · 1 · August 8 at 9:50pm

Remove



Michelle Tafoya True

Like · Reply · August 8 at 9:51pm

Remove



Dawne Cunningham-Novinger From what I read in the general plans the lobby of the hotel will be above flood range.

Like · Reply · 2 · August 8 at 10:31pm · Edited

Remove

Jim Nicita How would an ambulance reach that site during a major flood? When I have gone into Spicer's and seen the marking as to how high the water has reached during past floods, I have wondered about the same question as to any building in that flood zone around Abernethy Creek.

Like · Reply · 1 · 17 hrs



Dawne Cunningham-Novinger A Hampton Inn? It would be so great to have a newer property for our of town guests.



Like
· Reply ·
2
· August 8 at 10:08pm · Edited
Remove



Wendy Provis Breedlove Across the street where?
Which business would it take out?

Seems odd to have a hotel so close to the transfer station but maybe i am the only one who thinks that way.
Like
· Reply ·
8
· August 8 at 10:16pm
Remove



Christy Bray I thought the same thing! Trains go by quite often I think.
Like
· Reply ·
2
· August 8 at 10:57pm
Remove



Wendy Provis Breedlove Good point didn't think about the train noise.
Like
· Reply ·
1
· August 8 at 11:09pm
Remove



Raymond Stobie Seems odd to put a home improvement store across from Metro, but they did and it seems to be working out pretty good 😉

Like · Reply · 1 · August 9 at 6:40am

Remove



Stephanie Millard A home improvement store across from metro makes tons of sense. You dump off your garbage from whatever project you're doing, and then pick up supplies to do the project. Cleaning up from demo before installing something new is pretty good practice.

Like · Reply · 5 · August 9 at 8:12am

Remove



Raymond Stobie And that's my point. It does make sense, and it makes sense to put a hotel near a tourist destination and beginning of the Main Street corridor. It will help out of town guests stay in our city, and spend money in our city. Our wedding venues need hotels, tourism needs hotels, anyone who is interested in our City (think big picture), need a place to stay.

Like · Reply · 4 · August 9 at 10:14am

Remove



Kevin Frenzel Raymond Stobie my inlaws damm well need a hotel in OC so they don't keep staying with us... 😂😂😂

Like · Reply · 3 · August 9 at 12:42pm

Remove



Warren Holzem They put hotels next to runways at airports, and if the guest keeps their windows closed, they wouldn't be affected at all. So next to train tracks and a transfer station is no big deal.

Like · Reply · 1 · August 9 at 3:41pm

Remove



Mike Berman Not even close to an analogy.
Like
· Reply · August 9 at 8:25pm
Remove



Warren Holzem Why not? Jumbo jets every two and a half minutes versus a train every 45 minutes? A view of parking lots, warehouses and trucking terminals versus a gravel yard, and Interstate highway, and a waste transfer station in the distance?

But either way, it's not my problem to solve, and it's not my money they're going to use to solve it. A hotel there would not have a significant impact on traffic, or any other public services. If it is allowed by the zoning, let them build it. Apparently someone thinks it's a good investment, so more power to them. It's their money, after all.
Like
· Reply · August 9 at 8:36pm

Bonnie Candianides Is this going to be a good thing for our town...will this affect our property taxes? I read through info on site and I dont know anything more than I did before just asking
Like
· Reply ·
1
· August 8 at 10:19pm
Remove



Dawne Cunningham-Novinger Well, it will create jobs & for us personally it fills the need for a local hotel with a great location.
Like
· Reply ·
6
· August 8 at 10:30pm
Write a reply...



Monet Duvalier Added Traffic? Road improvements?
Like
· Reply ·
2
· August 8 at 10:22pm
Remove



Raymond Stobie Read the attachments
Like
· Reply · Yesterday at 6:31am
Remove



Monet Duvalier Raymond Stobie So 14th & 15th would be made into one way streets. I wonder about the studies for the current flow of traffic as apposed to the ever increasing traffic of our growing population. Plus any other heavily frequented businesses in the area between now and the time this hotel is or isn't built. It seem the city planners don't take in to consideration the far off future. Oregon City is growing fast and isn't likely to stop until we run out of land. Just my humble opinion.
Like
· Reply ·
1
· 21 hours ago

Write a reply...



Nancy Broshot in a flood zone? is it going to be on stilts?
Like
· Reply ·
3
· August 8 at 10:46pm
Remove



Jennifer JJ Foster This location confuses me. Its not really one of our best areas as it is mostly industrial with the transfer station, mulch place and train tracks right there, the exception being the End of the Oregon Trail. It seems odd to not locate it somewhere closer to Main Street or up at the top of the hill, closer to shopping and restaurants.
Like
· Reply ·
1
· Yesterday at 12:40am
Remove



Tom Buchholz He owns most of the property there...
Like
· Reply · 18 hours ago
Write a reply...



Tina M Petrich Why would we not approve cabelas but we could approve a hotel in a very inappropriate part of town for a hotel.....like I've seen no-tel motels in areas like this....we no doubt need a new one but odd choice for location
Like
· Reply ·
3
· Yesterday at 5:21am
Remove

Hide 25 Replies



Cindy Borders Yeah by the "waste transfer station".
Like
· Reply · Yesterday at 6:30am
Remove



Raymond Stobie That's a good question to ask Cabellas and your fellow voters. The City didn't turn them away, the voters did.
Like
· Reply ·
1
· Yesterday at 6:33am
Remove



Cindy Borders cabelas was not allowed to build because of loyalty to Fishermans. We didn't want a big box when we have a wonderful local business.

Like · Reply · 1 · August 9 at 6:37am

Remove



Dan Foy That's B.S. bring in Costco, Cabelas and Wal-Mart we want choices!

Like · Reply · 3 · August 9 at 10:34am · Edited

Remove



Kevin Frenzel Dan Foy You want those choices, and that is great. Some of us want local small business to flourish so the money stays in our community. That is why democracy is a great thing.

Personally I am tired of large stores under paying employees while CEO's take hundreds of millions in pay a year and adopt programs to teach their employees how to apply for food stamps.

Like · Reply · 4 · August 9 at 12:47pm

Remove



Margot McLaughlin Schultz Costco pays a living wage and is considered an excellent employer.

Like · Reply · 7 · August 9 at 9:06pm · Edited

Remove



Dan Foy So let the market decide people will vote with their dollars.You seriously think your Mom and Pop stores will contribute the kind of tax dollars and income to the local economy as any of the three I mentioned you probably should take an economics course.

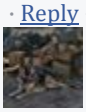
Like · Reply · August 9 at 9:12pm · Edited

Remove



Raymond Stobie Hi Jim, if you want, let's meet for coffee. This thread has turned sideways from your original post. Send me a message.

Like · Reply · 17 hrs



Dan Foy Yah so nothing that's what I thought

Like · Reply · 17 hrs



Raymond Stobie Dan who are you talking too?

Like · Reply · 16 hrs

Remove



Dan Foy Well you I would like you to answer that question how as voters did we turn down Cabela's

Like · Reply · 16 hrs

Remove



Raymond Stobie Sorry Dan, I should have figured that. Measure 3-407 was the final nail. I'll extend the same invitation I gave Jim, coffee? I like to hear what others have to say but I dislike doing it over this kind of media.

Like · Reply · 16 hrs

Remove



Dan Foy If that works sure let me know when you guys decide

Like · Reply · 16 hrs

Remove



Jim Nicita I guess I don't understand. Measure 3-407 was passed in November 2012, when CenterCal, the development company claiming to have Cabela's as an anchor tenant, had been succeeded as a potential developer of the Rossman Landfill by another company, Donahue Schriber, which, as far as I know, had no connection to Cabela's.http://www.oregonlive.com/.../calif_developer_wants_urban...

Calif. developer wants urban renewal funding for proposed...

OREGONLIVE.COM|BY THE OREGONIAN

Like · Reply · 1 · 16 hrs

Remove



Jim Nicita And, as late as September 2013, after Measure 3-407 had passed, Donahue Schriber was still claiming to be interested in the Rossman Landfill.http://www.oregonlive.com/.../california_developer_moves...

California developer moves forward with plans for Oregon City mall

OREGONLIVE.COM|BY THE OREGONIAN

Like · Reply · 2 · 16 hrs

Remove



Ed Ahrens Kevin Frenzel if the goal is to keep local businesses, the why allow HomeDepo? Several age old OC businesses were forced out of business because of HD.

Like · Reply · 5 hrs

Remove



Kevin Frenzel Ed Ahrens, no one consulted me on that one 😉😀 I don't think everyone's goals are the same. People have different ideas about what's good for the economy, and also people have different ideas about what stores they want to be able to shop locally.

Like · Reply · 1 · 5 hrs

Remove



Cindy Borders There were people who did not want HD to build, the issue was that HD was the only company at the time who had the technology to build over a mountain of

garbage and methane. They were also the only company willing to expend the money to do all the site work.
Like
· Reply · 5 hrs
Remove



Ed Ahrens Kevin Frenzel no one consulted me either. As much as I like the HD, I also miss the old mom and pops!
Like
· Reply · 4 hrs
Remove



Ed Ahrens Cindy Borders their determination to build on the garbage dump paid off. I remember the weeks they spent driving steel pilings into the trash. I think HD must have a crawl space under the floor by now.
Like
· Reply · 4 hrs
Remove



Cindy Borders Ed Ahrens if you notice, the parking lot is constantly being repaved because it sinks and raises. There are also a number of people I am aware of who have worked there who have developed soft-organ cancers. I remember the pilon pounding....
Like
· Reply · 4 hrs
Remove



Kevin Frenzel Ed Ahrens keep shopping the Mom and Pops. It's not as convenient as Amazon, but the money stays in our community. Better to support locals even if it takes a bit longer or means going to 2-3 stores IMO
Like
· Reply · 3 hrs
Remove



Cindy Borders FYI Canby Lumber is an excellent place to go to for your construction needs. Milwaukie Lumber is wonderful for wood as well.
Like
· Reply · 2 hrs
Write a reply...



Tina Waller Odd spot.. there are no hotels in oc currently right? I think Rivershore is Gladstone?

Like · Reply · 1 · Yesterday at 5:27am

Remove



Dave Hayden Rivershore is Oregon City.

Like · Reply · Yesterday at 6:58am

Remove



Stephanie Millard I agree with the odd spot comment.

Like · Reply · Yesterday at 8:14am

Write a reply...



Kyle G. Arnhart Bring it in!!!

Like · Reply · 3 · Yesterday at 5:44am

Remove



Christina Richartz He purchased the former bus barn land across from Berry Hill Shopping Mall for this. But then again, he owns most of the old downtown area. Why not build next to the train tracks and your event center and the former City dump. Attend the meeting & speak up now, or forever hold your peace...

Like · Reply · 1 · Yesterday at 6:16am · Edited

Remove



Tom Buchholz Its already in the bag...

Like · Reply ·

2 · 18 hours ago



Cindy Borders Why are they bothering to have hearings? Dan Fowler wants, Dan Fowler gets.

Like · Reply ·

9 · Yesterday at 6:15am

Remove



Dan Foy Fix is in.

Like · Reply ·

2 · Yesterday at 10:35am

Write a reply...



Karin Morey It's near the Amtrak station - today if you travel here by train you are nowhere unless you call a cab or ride service. Opens up another travel mode for tourism.

Like · Reply ·

6 · Yesterday at 8:08am · Edited

Remove



Cindy Borders And, most important, gives Dan Fowler more money!!

Like · Reply ·

3

· Yesterday at 6:22am
Remove



Dave Hayden I am confused. If Dan can make money, employee people, and pay taxes, what's wrong with that?
Like
· Reply ·
2
· Yesterday at 7:00am
Remove



Dannie Adamson Dave Hayden because he is crooked
Like
· Reply ·
2
· Yesterday at 9:17am
Remove



Dave Hayden Frankly that sounds more like gossip and jealousy than anything Dannie.
Like
· Reply · 22 hours ago
Remove



Dannie Adamson Dave Hayden neither Dan is in it for his own gain and he doesn't care who he pushes out
Like
· Reply ·
1
· 20 hours ago
Remove



Karin Morey Dan was smart enough to see where development would occur - wish I had his sense and crystal ball, but he took the chance and it may finally bring him a profit - when was true capitalism a bad thing in America....
Like
· Reply ·
1
· 19 hours ago
Remove



Mike Berman The orchestration is a good story though.
Like
· Reply · 18 hours ago
Remove



Debbie Raney Zimel No he isn't crooked!

Like · Reply · 1 · 17 hours ago · Edited

Write a reply...



Dawne Cunningham-Novinger For those questioning the location. Do you think the landscape of that area will remain industrial forever? Seems like there's plenty of space to develop in years to come. Looks like it's a mixed use space in addition to the hotel. Seems like a lot of potential business for places like Grano Bakery & OC Brew.

Like · Reply · 5 · Yesterday at 6:24am

Remove



Dawne Cunningham-Novinger Didn't Haven Antiques just close? Is the owner of that building selling to a developer by chance?

Like · Reply · 3 · Yesterday at 6:25am

Remove



Margot McLaughlin Schultz Haven Antiques closed because the business owners (not the building owners) moved back to Lake Tahoe for a job opportunity.

Like · Reply · 1 · 19 hours ago

Write a reply...



Cindy Borders How much is the city giving Dan Fowler in grants, tax credits, etc? Is he funding this himself or using taxpayer money? Please provide this public information.
Like
· Reply ·
4
· Yesterday at 6:29am
Remove

Hide 18 Replies



Raymond Stobie Go to the meeting. Also find the agenda on the city website and read the attachments. The information IS provided
Like
· Reply ·
1
· Yesterday at 6:38am
Remove



Cindy Borders Raymond Stobie I will. But, knowing how the city caters to Fowler, it's really pointless.
Like
· Reply ·
3
· Yesterday at 6:39am
Remove



Raymond Stobie Regardless of what you think of the man, the hotel will benefit the city by having a place for out of town guests, create jobs, and a larger tax base for our City. Tourism is a big topic that our City is looking to build on and we have to have a hotel to incubate that.
Like
· Reply ·
3
· August 9 at 6:43am
Remove



Cindy Borders Raymond Stobie I used to travel a great deal. Motels off interstates are not for tourists who are there for local tourism, they are generally a convenience for the traveler on an interstate. Would this be relying on what service for travelers who arrive at PDX? How are out of town tourists getting around if they don't drive their own car? If you travel to cities like San Francisco, New Orleans, anywhere, you don't need a car to do the tourist stuff, get from airport or anything. What exactly are people going to come here for?

Every effort to expand our historical district gets ruined somehow (most recently, the Ermatinger house is fixed up
Outside but no money for inside). Maybe people will come to OC to eat and buy an ATM? The interpretive center sucks, the original program was so much better.
Like
· Reply ·
5
· August 9 at 6:51am
Remove



Stephanie Millard I keep seeing all this "but tourism" talk, and I just don't understand where people think the tourism is at. You go look at the falls for 15 minutes, you go to the McLoughlin House for an hour or two. Maybe ride the elevator. At most, it's a 3-6 hour day. Who needs a hotel for that?
Now, on the other side of things... With all the new housing and businesses going in at The Cove, people may want to have out-of-town guests come visit. I know that, living here for 40+ years, whenever we've had family come in from out of town, it has been very inconvenient to ask them to stay in a hotel because no reasonable ones are nearby. They always ended up staying with us, and that is not only awkward, but cramped and uncomfortable. A decent but affordable hotel in town would be a good addition in many ways. I'm just not sold on THAT location.
Like
· Reply ·
2
· August 9 at 8:20am
Remove



Cindy Borders Stephanie Millard I agree! Cities that have a tourist economy have built it for (over centuries in many cases). We could have more interest if the city would truly get behind it. We are a very important part of the story of this country, and we need to capitalize on it. But, it runs up the flag pole, as you know, then it peters out.
Like
· Reply ·
4
· August 9 at 8:33am
Remove



Cindy Borders Remember how cool the interpretive center was when it first opened with the guide in costume and character talking about obtaining provisions and traveling the Oregon trail? I took my grandkids there a year or so ago and I was so disappointed in the pathetic state it is in. The Ermatinger house, they put all that money into the ramps and stuff, but they cannot do the inside. My husband has been working with Judge Thom on the house at 5th & Jefferson for the last 18 years, it is almost done. It would make a wonderful B&B, but why would people come here? The wedding venues do need a motel (like the

Abernathy Center, oh, who owns that? Dan Fowler!) but if I were a tourist and came to a motel that was by the city dump, I would be pissed.
Like
· Reply ·
4
· August 9 at 8:38am
Remove



Stephanie Millard Yeah - if we could really cultivate a historical aspect, that would be great. But, we are juxtaposed between two groups in city government. Group A wants to preserve historical integrity and showcase it; group B wants to modernize and put modern artwork and culture everywhere. It clashes with the sense of history to do so, but they seem to only be concerned with how modern stuff will generate revenue (not sure how).
Like
· Reply ·
2
· August 9 at 8:41am
Remove



Karin Morey A few points from this conversation - no individual or property owner gets any incentives or tax breaks just because they have served the city - every developer has the same opportunity to receive "incentives" if any exist.

And as the Riverwalk is developed and interest in the mill property increases, tourism will grow. Those making negative statements about current tourism might want to become better informed on current guest counts and the actual number of attractions available.

And...as the city plans for increased tourism I hope to see a blend of the old and new. Oregon City is not Williamsburg - from the first Americans who arrived here almost 175 years ago, the city has built, grown and developed. Our newest "feature" is a growing number of breweries & wineries. There is a place for art, entertainment and recreation existing happily alongside our historic homes and museums, to provide options for tourists.

What Oregon City needs is a positive attitude and a willingness to share the great reasons to visit here. A smile goes a long way when shared with a stranger...
Like
· Reply ·
12
· August 9 at 9:05am · Edited
Remove



Justin Iverson Karin Morey I believe your statement
"A few points from this conversation - no individual or property owner gets any incentives or tax breaks just because they have served the city - every developer has the same

opportunity to receive "incentives" if any exist." Is a little misleading.

It is well known and documented that politicians can and have received tax breaks or incentives that others can not simply due to whom they are and what their status is. They call them backdoor deals where a lot of back-scratching happens.

Look at former Milwaukie Mayor Ferguson. That is a shining example of the extra treatment that politicians receive that others can not.

For those that do not know what happened I will give the very shortened version. The people voted unanimously against the max train coming to Milwaukie when it was on the ballot. Metro pressured Ferguson to make it happen and offered him a very high paying job at a multi billion dollar company in a field that he had absolutely no experience with. He then listed public land on the trimet route for sale to the public for a very small amount. The public was not notified nor was it listed anywhere so he could purchase the property without anyone knowing. He then sold the properties for a huge multi million dollar markup to Metro. Then he implemented a new safety concern about the intersection of Oatfield rd and Park rd. He took away the property from home owners and alloted that to "improve" safety and to coincide with the requirements for the max tracks to come in. Now that the streets are safe enough for max and Metro owns the properties, they no longer need public approval to build the tracks.

This is the shady dealings politicians have that others are not privileged too.
Like
· Reply ·
4
· August 9 at 12:10pm
Remove



Bev Boettcher Robinson School or community sport events there's need for a hotel not just tourist. Ccc has events the hotel would be a great same with local high schools. So there other purposes besides tourist.
Like
· Reply ·
1
· August 9 at 7:38pm
Remove



Stephanie Millard Karin Morey - I appreciate your point of view and you make many good points. I am simply expressing my personal view that mixing new art in a historic district has a less appealing aesthetic than maintaining the historic feel of an area. There are regulations for homeowners about how to maintain their properties, about what kind of improvements they can make, etc., and those regulations seem to support a historic aesthetic. For me, modern art clashes with the lovely historic homes we have in the McLoughlin neighborhood. Now, the art piece that is at the bottom of the falls doesn't seem

to clash so much, perhaps because the railroad is right there as well, and so the vibe is less "historic" feeling.
These are simply my opinions, and I am entitled to have and to express them.
I am aware that tourism is already on the rise in downtown, and that's a good thing. I am also aware that as more projects are being worked on, and finished, tourism is likely to see additional increases. As I said, I'm not opposed to the idea of a hotel, but I am puzzled by the proposed location. Perhaps these plans are part of what Dan Toozewas talking about the other day, and if that's so, then he's absolutely right, that the transfer station would need to be moved. I'm not sure where it should go, and I'm certain that it would mean an increase in taxes and fees, but perhaps some of that could be passed to the developers who are going to benefit from opening up that area to build.
We may not be Williamsberg, but we should have a cohesive idea of what we DO want to be. Right now, many people are expressing dismay over what seems to be conflicting goals. Perhaps it's time to examine a division of upper Oregon City and lower Oregon City, so far as planning and aesthetics are concerned. I don't want to actually divide our town, but I think it would be nice to have a consistent "old" vibe in one area (lower) with a blend as we move up the hill to the more modern areas.
Like
· Reply ·
2
· August 9 at 7:43pm
Remove



Dawne Cunningham-Novinger The dump hasn't slowed anyone down from going to Home Depot or concerts at the End of the Oregon Trail. The hotel will be just fine.
Like
· Reply ·
1
· August 9 at 9:17pm
Remove



Tom Buchholz Go to the meetings.....i can remember when the city was going to fine me 300 dollars a day for a blue garbarge can on the side walk and their little 250000 blunder on the 7th and washington had 4 cans on the side walk a month later..
Like
· Reply ·
2
· August 9 at 9:40pm
Remove



Karin Morey "Upper" and "Lower" both have a mix of new development and historic preservation. "2nd Level" AKA McLoughlin Conservation District has many early OC homes & house museums. "3rd Level" going up the tiers, has properties that were originally outside the city limits but eventually became a part of the city, including Ainsworth House,

Holmes House and the Mountain View Park Cemetery. We have a "cohesive" view of the "new" living beside the historic.
Like
· Reply ·
1
· August 9 at 10:26pm
Remove



Debbie Raney Zimel Karin Morey Amen! Well said!
Like
· Reply · August 9 at 11:05pm
Remove



Dan Holladay The city is giving Mr Fowler no tax breaks or any other incentives. This is a totally private venture.
Like
· Reply · Yesterday at 9:50am
Remove



Stephanie Millard Karin Morey - it's true that there are a few historic places up here - and they're lovely and have wonderful historic value - but there aren't whole neighborhoods of them. On the other hand, they do blend well into their more modern surroundings, and so support the idea of blending.
Maybe it's just a couple of particular art pieces I have issue with the placement of? There are a few that just really grate on me for being in the historic district. But, that's just me, I guess. Also, I see your view has quite a bit of support, so I'll accept that I'm likely an outlier when it comes to my views.
As to going to the meetings... I think I might have to. My husband was on the library board for 4 years, and now I think it's my turn to get more involved. We'll see. Cheers!
Like
· Reply · Yesterday at 11:00am
Write a reply...



Dave Hayden Sounds good to me.
Like
· Reply · Yesterday at 7:01am
Remove



Todd Gambee By the dump?
Like
· Reply ·
2
· Yesterday at 7:43am
Remove



Salli Fish Thompson I know. That was my thought. I wouldn't tell my out-of-town guests "oh, yah, stay here next to this dump. No, it's literally a dump."
Like
· Reply ·
2
· Yesterday at 8:17am
Write a reply...



Dave Hayden About a block south.
Like
· Reply ·
1
· Yesterday at 7:52am
Remove



Stephanie Millard If it's across from the interpretive center, it's a bit more than a block, but still within smelling range.
Like
· Reply ·
2
· Yesterday at 8:21am
Remove



Dave Hayden Thus the "about". 🙂
Like
· Reply · 18 hours ago
Write a reply...



Brandy Whittington Hill By the address on the application it looks like it will be on 17th and Washington where there is a business/home currently? 17th was closed when the railroad established a stop at the new depot. Does seem like an odd location choice with the rail line right there. I'm not fer or agin, just interested.

Like · Reply · 3 · Yesterday at 8:22am

Remove



Brandy Whittington Hill Hubby just raised a question about the cove project. Isn't a hotel going in there?

Like · Reply · 1 · Yesterday at 8:33am

Remove



Dawne Cunningham-Novinger I don't believe so. Condos & mixed use space.

Like · Reply · 3 · Yesterday at 9:24am

Remove



Raymond Stobie What Dawne Cunningham-Novinger said

Like · Reply · 1 · August 9 at 10:15am

Remove



Dave Hayden Possible hotel at Blue Heron but nothing for sure. I am sure OC and surrounding areas can handle 3 hotels no problem.

Like · Reply · August 9 at 10:02pm

Remove



Dawne Cunningham-Novinger Agreed. A lovely 4 star boutique hotel would be great at the Blue Heron site.

Like

· Reply · August 9 at 10:06pm
Remove



Karen de Forest Brandy Whittington Hill according to the city economic site the cove project will have two restaurants and I believe a future site for hotel but nothing definite [I'm going to go read it again !]
Like
· Reply · 23 hrs
Write a reply...



Janeen Andre-Johnson Instead of a hotel, why not more GREAT restaurants, like Gresham. No more fast foods!. Are we in Oregon City not worthy?
Like
· Reply ·
3
· Yesterday at 9:09am
Remove



Wendy Provis Breedlove There are lots of them downtown that have gone in in recent years
Like
· Reply ·
1
· Yesterday at 2:24pm
Remove



Dave Hayden OC has ton of restaurants. (?)
Like
· Reply · 18 hours ago
Write a reply...



Autumn Reynolds We can't have anymore drive up windows for food or coffee because of the traffic issues what makes them thinks A hotel is going to help traffic?
Like
· Reply ·
2
· Yesterday at 9:20am
Remove



Teresa McKee Curtis I thought the future plan is metro transfer station is going away? This is inline with restaurant(s) coming with the development happening nearby. Also near freeway to exit off. Then straight shot to the falls. Tourist could shop along the downtown area to Falls! As far as train. I think they can insulate to drown out a train! Next question isn't the bigger plan that the place bus storage is part of the expansion of 213 and Beavercreek.

As much as many do not want to see Oregon City expand, it is going to happen. Just try traveling I205. People are moving to Oregon. Alaska is probably your best bet if you want lots of open space.
Like
· Reply ·
2
· Yesterday at 9:51am
Remove



Cindy Borders Where have you heard the transfer station is going away? There is a legacy of pollution in that area that is being ignored. (Several employees of Home Depot have developed cancers of the soft organs and died.) "Shopping" is not what touristing is al...See More
Like
· Reply ·
3
· Yesterday at 10:08am
Remove



Tom Geil I'm heading to upstate Montana or Alaska. I moved here to Oregon City from the Multnomah area just to get away from congestion and over population. I move here to what I thought was a green space forest. Now even that is being destroyed. I am scared, depressed, and ashamed that we are taking down the last bug forested area along the Oregon Trail on Holcomb Blvd.
Like
· Reply ·
7
· Yesterday at 10:37am
Dawne Cunningham-Novinger As much as I love taking in touristy attractions like museums & historical spots, I shop on every single vacation I take. I buy food, enjoy cocktails and love looking for local goods. I travel a lot.

Like
· Reply ·
3
· August 9 at 10:41am
Remove



Teresa McKee Curtis Cindy Borders have you been to Yellowstone? Huge tourist attraction with gas stations, stores for tourist to buy, and best of all two different places to get ice cream after watching old faithful.
Like
· Reply ·
1
· August 9 at 11:22am
Remove



Dan Tooze If that isn't part of the plan now it will be and it should be
Like
· Reply · August 9 at 8:16pm
Remove



Stephanie Millard Tom Geil - are you really considering going north? You would be missed.
Like
· Reply · Yesterday at 11:05am
Remove



Cindy Borders Teresa McKee Curtis our trips to Yellowstone are for the bounty of nature, to Locate animals and learn about geology and wildlife.
Like
· Reply · Yesterday at 11:53am
Remove



Dawne Cunningham-Novinger Cindy, when you visit Yellowstone, where do you stay? What do you eat? Tourism made up for over $300M in revenue for communities surrounding Yellowstone in 2013. No doubt residents around Yellowstone were once worried about retaining its character too...See More
Like
· Reply · 23 hrs
Remove



Cindy Borders Dawne Cunningham-Novinger I never said we shouldn't capitalize on our city's history. We should. But big box stores like cabelas are not the answer. FYI we camp. When Yellowstone became a park there were few people living near it. You are comparing apples and rocks.

Like · Reply · 1 · 22 hrs

Remove



Dawne Cunningham-Novinger Just curious, have you ever purchased any camping gear for your camping trips from Cabelas? Or are you ok with big box stores, just not in your backyard?

Because I want Target & I'll fight to the death for that one. 😝😁

Like · Reply · 22 hrs

Write a reply...



Doug Loose I think it's a great idea, and it's about time. People are always asking for more rooms.

Like · Reply · 6 · Yesterday at 10:03am

Remove



Raymond Stobie Especially carpeted rooms!

Like · Reply · 4 · Yesterday at 10:14am

Remove



Wendy Provis Breedlove Well I do think we need another hotel besides Rivershore to me it's just a really odd location right by the train tracks near the transfer station. But it is going to be close to the new monstrosity condos by The Cove. I just wonder which businesses are going to be taking out if it goes through because directly across from the museum there is the welding place the pallet place I think an auto shop the train station and The Rock Place so one of those would have to be taken out

Like · Reply · 5 · Yesterday at 10:16am

Remove



Matthew Sulser This seems the logical area for expansion. Significant space unused - across 213 from Home Depot, golf course land could be better utilized...



Like · Reply · 18 hours ago

Write a reply...



Jeremy Rowlands From a 2011 article in the Oregonian:
The following information on property and financial values is available online from the county assessor: Fowler has 31 identified parcels from the train station (across from the landfill), along Washington Street, 17th Street, 15th Street, Jefferson and John Adams up to 13th Street with a market value of $5,329,148.

Of course he wants to develop that area. He'll make a killing off of it.
Like
· Reply ·
5
· Yesterday at 10:19am
Remove



Teresa McKee Curtis Somebody saw away to invest and make money. Is that a crime? I don't personally know the mayor but the fact he saw an opportunity is not a bad thing.
Like
· Reply ·
3
· Yesterday at 11:24am
Remove



Christina Richartz In other words, he plays Monopoly very well and took advantage when the opportunities came up. His Center and surrounding venue(s) are well thought out and fit into the community quiet nicely unlike new construction in West Linn, Happy Valley and now Estacada.
Like
· Reply ·
2
· Yesterday at 11:27am
Remove
Jeremy Rowlands I'm not saying he's wrong, just shedding some light on why he chose that area.
Like
· Reply ·
3
· Yesterday at 11:49am
Remove



Dannie Adamson Teresa McKee Curtis it's called a conflict of interest only to line Dan Fowlers pockets even more while he displaces other businesses or residents for his own greedy gain
Like
· Reply · 16 hours ago
Remove



Stephanie Millard Yeah, so long as no laws are being broken or bent, he has the right to try and make money. I think it's just the perception of manipulation that sends people on edge.
Like
· Reply ·



Tina M Petrich I'm curious as to when he purchased them....
Like
· Reply ·
1
· Yesterday at 10:42am
Remove



Mike Berman When..How..and way is a good story.
Like
· Reply · 18 hours ago
Remove



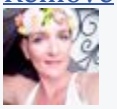
Mike Berman why
Like
· Reply · 18 hours ago
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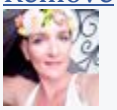


Write a reply...



Tia Basiou Everyone whining about tourism issues.....
There is a survey. Feel free to take it. 😑
Like
· Reply ·
2

· Yesterday at 12:06pm
Remove

Tia Basiou And we need a hotel.
Like
· Reply ·
6
· Yesterday at 12:07pm
Remove

Dannie Adamson But not in a flood plain area and not next to the metro dump. Who does Dan Fowler plan on displacing this time
Like
· Reply ·
2
· Yesterday at 12:11pm
Remove

Tia Basiou Then don't stay there? Or go to the dang meeting and voice your concern. No matter the location it would piss someone off.
Like
· Reply ·
3
· Yesterday at 12:13pm
Remove

Karin Morey Rivershore figured out how to stay above water - took the floods into consideration when they built.
Like
· Reply ·
6
· August 9 at 1:37pm
Remove

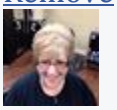
Mike Berman Hempstreets early start. City gave em a hall pass. But well designed for Floods. Except the banquet room.
Like
· Reply · August 9 at 9:41pm
Remove

Dannie Adamson Karin Morey not really there office still gets flooded and you still can't use the hotel in high water
Like

· Reply ·
2
· August 9 at 9:42pm
Write a reply...



Warren Holzem The hearing at the Planning Commission will be about things like whether it fits with the zoning, and what impacts it may have on things like traffic, school enrollment, etc. Whether or not the business plan is wise or unwise is not germain to the discussion.
Like
· Reply ·
9
· Yesterday at 3:44pm
Remove



Shari Anderson Expansion is coming whether we like it or not. We may as well bring money, jobs to our city and make OC a destination. Let's keep OC residents here, with upscale restaurants and shops. Bring residents fromWest Linn, and have them spend money here instead of clackamas or LO
Like
· Reply ·
6
· 20 hours ago
Remove

Hide 13 Replies



Warren Holzem It has always bothered me how a city with the historical significance that Oregon City has is not a huge tourist destination. We should be the western version of colonial Williamsburg, VA. All fall, winter and spring we should be complaining about all the school buses on field trips, and all summer we should have families like the Griswalds filling our streets. Instead, we're a bedroom community for people who work in Portland and Clackamas.

To paraphrase what my parents heard every time they went to a parent-teacher conference, "(Oregon City) isn't working up to its potential."
Like

· Reply ·
4
· 19 hours ago
Remove



Dave Hayden Williamsburg is a time capsule. Time passed it by rather quickly and it was ignored for decades and then it was discovered and lovingly and expensively restored. OC has always been a living breathing city. Many things have been preserved but many more have been lost to the daily life people live. It had a highway built right through it.OC doesn't have the percentage of historical buildings nor the isolation to ever have been a Williamsburg unfortunately.
Like
· Reply ·
1
·
Remove



Warren Holzem While we might not be able to achieve the theme park-ish level of Williamsburg, there are many places that have less historic significance than Oregon City that are significant tourist destinations. If we're going to thumb our noses at the historic significance of our town, then why even bother with the restrictions in the McLoughlin District? I believe there is a true desire to preserve, and show-off our historic significance, but there has just been poor execution. The frugal, working-class nature of Oregon City has prevented the investment in this potential resource. Public spending is half-assed, and private investment is criticized, and discouraged, as evidenced in this whole thread. Despite our desire to preserve, we're far more interested in things like the drive thru capacity at Taco Bell, and what chain stores want to go into the vacant spaces on the edges of the city. We've downplayed our historic significance so much that no one would notice if we disappeared from the history books. Being the first major city west of St. Louis is no longer our identity, and every year it's getting harder to tell the difference between Oak Grove and Oregon City.
Like
· Reply ·
3
· Yesterday at 6:34am
Remove



Dave Hayden Frankly OC was passed by quickly too in a historical sense anyway. We're center of the region for about 20 years but became an also ran after that. We've had success and failure in preserving and promoting our heritage. What would you like to see Warren?
Like
· Reply ·
1
· Yesterday at 6:41am
Remove



Warren Holzem I have some vision of what the results should be, but I do not know how to reach those goals. The signage put up a little over a decade ago, and the fake trolley running between some of the historic sites were part of the big picture, but those things ...See More

Like · Reply · 1 · Yesterday at 7:03am

Remove



Monet Duvalier If OC continues to pay little favor towards places like 'The End of the Oregon Trail' center, then why would anyone think they'll support any other historical place in and around OC. Very little here to visit or see other than staying over for a wedding or to visit relatives.

Like · Reply · 1 · Yesterday at 11:06am

Remove



Warren Holzem And that's a darn shame. Such a historic city, and there's nothing to see. Sometimes I feel like we don't deserve to keep the name of a place with such historic significance if we dishonor that historic significance.

Like · Reply · 2 · Yesterday at 11:11am

Remove



Stephanie Millard Monet Duvalier - I think you touched on a significant issue there. We have places like the End of the Oregon Trail center, but how many of us have even been there? I went to McLoughlin House as a 4th grader, have gone on the Ghost Walk with Rocky a couple of times, but other than that, I've lived here 40+ years and haven't gone to what should be historical attractions because they just aren't presented well (or something). I've known people who have worked closely with the historical community, and they are passionate and interesting people, but somehow that just doesn't come through in the attractiveness of our venues. If we can't get our own people to go to these places, how can we expect visitors to be interested?

Like · Reply · 1 · Yesterday at 11:17am · Edited

Remove



Warren Holzem I *wish* I had a better answer. I hate seeing something that is so obviously wrong, but not being able to add constructive ideas to make it right.
Like
· Reply ·
2
· Yesterday at 11:19am
Remove



Cindy Borders When the interpretive center opened it was so wonderful. Then the storms tore the covers apart and it's gone downhill ever since. I was so disappointed a couple years ago I don't think I will go back. Every inch of this town is significant in the western expansion. We do need to develop it, but it seems like if certain people don't care about it, it doesn't happen. The Rose farm museum is the location of the first territorial government! And on and on ...
Like
· Reply ·
3
· Yesterday at 12:00pm
Remove



Monet Duvalier Cindy Borders Love the Rose Farm, but I see very few people visiting there. Like so many of OC's historic places, little is done to keep them thriving. They're merely existing.
Like
· Reply ·
1
· 21 hrs
Remove



Cindy Borders Monet Duvalier I agree. We are doing some restoration work on the Rose Farm, but it needs a great deal of work and for people to know of its historical significance. People don't understand or appreciate little things, like why Fifth becomes Linn, then Leland, then Meyers. They don't seem to understand that it was an office in lower OC that gave out the landgrants so that all of the Oregon Territory could be settled. They don't know about the Abiqua Indians who were hanged here....there is just so much. We even had to turn over the McLoughlin House to the feds! If people started their knowledge tour here, it could help them understand and appreciate the settling of the west. The interpretive center was so cool originally, with the actors in character explaining about coming out here. Now it's not worth the money. Sorry, I love history and I love this town, I just wish more people would appreciate the significance and the fact WE WERE HERE before Portland!!!
Like
· Reply ·
3

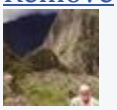
· 20 hrs
Remove



Monet Duvalier Never feel sorry for loving history. I just wish more people loved Oregon City and how it came to be, especially the powers that be at OC City Hall. 😢
Like
Write a reply...



Brian Shaw Mr. Fowler has owned these properties for 20 years. The hotel is in response to the Abernethy event center's operations as it has turned into a successful wedding venue and guests can stay locally and visit Oregon City. This will be a nice addition for the entry to our city.
Like
· Reply ·
10
·
Remove



Mike Albin I'm excited about having a great hotel in Oregon City! The Rivershore is a great hotel, but this location for the new hotel is well suited for our city and our guests. Go for it!
Like
· Reply ·
10
·
Remove



Ed LaPlante Several time we have had to send guests to Clackamas or further due to lack of affordable rooms. I would like to see a small local hotel in OC. Honestly one at the top of the hill would not be a bad idea either.
Like
· Reply ·
Remove



Randy Soria We Dont need a hotel on washington st, It would displace Clackamas landscape and would be next to a dump. If it was not good enough for Cabelas then a hotels

is a dumb Idea. And thanks to Jim Nacita, Our development in this city sucks. Look at Tualatin. And where Cabelas is now.
Like
· Reply · 23 hrs
Remove



Randy Soria Because of Jim Nacita Oregon city could have had Cabelas and all the income that came with it and the development. So we the city recalled this guy because he did not represent Oregon City,
Like
· Reply ·
1
· 23 hrs
Remove



Cindy Borders No we have fishermans. We don't need big boxes here, you want that, move to Beaverton or thousands of other generic cities. We don't need more service based employers, we need places that provide professional employment with living wages.
Like
· Reply ·
2
· 23 hrs
Remove



Raymond Stobie Cindy Borders the Beavercreek Employment Area will help with that. However another issue we have is a lack of trained and skilled workforce to fill those jobs. The tech center at CCC will help train them, but we have to be willing to tell our kids that...See More
Like
· Reply ·
1
· 23 hrs · Edited
Remove



Randy Soria Cindy Borders After I retire I will be moving out of this God forsaken town. I am tired of BS fee's, And our leaders lying to us. I left Portland because this was a good community. Not its just as bad as Portland. And what is wrong with fisherman????
Like
· Reply · 23 hrs
Remove



Warren Holzem The basic rule of development is lure the manufacturers, warehouses, and other higher-paying employers. Residential will follow (because people will want to have

short commutes), and retail and other services will follow to serve them all. The problem ...See More

Like

· Reply · 21 hrs

Remove



Jim Nicita For the past six years I have gotten accustomed to seeing social media posts like the ones above by Mr. Soria, and I imagine that I will continue to see them for the next six years as well. I will only respond by saying that I was very up-front in my 2008 campaign that I opposed The Rivers Mall proposal for the Rossman Landfill, as the attached article demonstrates. I am proud of my service on the City Commission, and feel I acted with honesty, integrity, and dedication. I have no regrets, and I hold my head high. If Mr. Soria is dissatisfied with the way things are in Oregon City, I would urge him to run for City Commission or mayor next year.



OC candidates

Candidates for city commission square off at forum

Like

· Reply ·

1

· 21 hrs

Remove



Mike Berman Nope. You're a greased shill Ray.

Like

· Reply · 20 hrs

Remove



Raymond Stobie Excuse me Mike Berman?

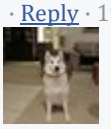
Like

· Reply · 20 hrs

Remove



Mike Berman Would you like me to remind you of the committee you were on? When you slandered me?
Like
· Reply · 19 hrs



Randy Soria Jim Nicita Done deal Jimmy
Like



Linda Bauer Downing The old Odd Fellows Lodge at 7th and Washington could be a cute boutique hotel. Wish I had the money to make that happen.
Like
· Reply ·
2
· 23 hrs
Remove



Cindy Borders What is needed is a good public-private partnership to make it work and an agreement to allow people to park over by the music store.
Like
· Reply ·
2
· 23 hrs
Write a reply...



Tom Geil Incredible...still making Jim Nicita the scapegoat for a never really was make-believe Cabelas. Educate yourselves. Last time I checked we had 4 Commissioners and a mayor. It takes more than just one commissioner to vote on a project plan..Quit blaming someone who actually asked the right questions and wasn't blindly led by developers and land owners out to make a financial killer land fall on the backs of OC taxpayers. You were and still are, sorely misinformed.
Like
· Reply ·

3
· 22 hrs
Remove



Randy Soria Its amazing how some narrow minded people can not blame one person, We if you remember correctly he took out a full page statement why he nixed the deal. You must be a friend of his. And I am well educated.
Like
· Reply ·
1
· 21 hrs
Remove



Mike Berman I am sure you are educated. You can only understand based on given information. Would you like to be better informed?
Like
· Reply · 20 hrs
Remove



Write a reply...