



September 11, 2017

To: Oregon City Planning Commission
From: Laura Terway, Community Development Director
Company: Community Development, City of Oregon City
City, St., Zip: PO Box 3040, Oregon City, Oregon 97045
Re: Additional Information for the Mt. Pleasant Review

Enclosed you will find additional information to assist the Planning and City Commissions in their consideration of the Comprehensive Plan Amendment, Zone Change, and Minor Site Plan and Design Review.

- **Total Square Footage:** The exact square footage of the Annex building has been remeasured and found to be the following:
 - Annex Total: 6,850sqft
 - Post Remodel: Gym- 1,883 square feet
 - Post Remodel: Remainder (Office, Mechanical Room, Restrooms, etc.)- 4,967 square feet
- The Linn Avenue frontage has 22 available on-street parking stalls.
- The as-built drawings for the Annex display an approved Oregon City building department stamp from 10-27-1977. It is assumed construction was completed in 1978.
- The Transportation Analysis Letter from Kittleson and Associates has been revised to more clearly articulate the proposed transportation trip cap.
- Due to cost constraints, the replacement of the 4 foot wide interior sidewalk along the southwestern side of the structure with a 5 foot wide sidewalk is being removed from the project and the width of the wood adjacent to the entranceways is being narrowed.

Please let me know if I may provide any additional information to assist in your decision making process.

September 11, 2017

Project #: 21365

John Replinger, PE
Replinger & Associates LLC
6330 SE 36th Avenue
Portland, OR 97202

City of Oregon City Planning
221 Molalla Avenue, Suite 200
Oregon City, OR 97045

RE: Oregon City Community Development Department Relocation Transportation Analysis Letter

Dear Mr. Replinger,

The City of Oregon City is proposing redevelopment of the “annex” portion of the former Mt. Pleasant Elementary School to house the Oregon City Community Development Department. The site is located at 1232 Linn Avenue and is bounded by Warner Parrott Road and Linn Avenue. This Traffic Analysis Letter (TAL) documents the expected trips to be generated by the proposed development, the location of site driveways, the compliance of these driveways with city regulations, and the agreement of the surrounding area with the City’s *Transportation System Plan* (TSP).

SUMMARY OF FINDINGS

The proposed renovation of the 6,850 square feet annex building to a government office building will require rezoning the site from a Residential Zone to an Institutional Zone. To limit the potential transportation impact the new zoning could have on the community, the City proposes a trip cap on the entire site subject to rezoning that will limit future site trip generation to no more trips than currently allowed under the existing zoning. Further, review of local conditions determined that key study intersections close to the development will operate in conformance with the City’s standards with the proposed land use change, and that there are no historic safety issues associated with streets surrounding the site. Based on our review, preparation of a TAL fully addresses the City’s Community Development Code requirements and a full Traffic Impact Analysis is not necessary.

TRIP CAP

A key element of the proposal to redevelop and rezone the property is the establishment of a trip cap. The trip cap will limit the total traffic generated by the conversion of the school annex building to a government office building and any future development of the parcel to the traffic generated by the prior use, namely, Mt. Pleasant Elementary School. The implementation of a trip cap assures

compliance with the Transportation Planning Rule that is discussed in more detail in a separate section later in this letter.

The former elementary school consisted of buildings totaling approximately 45,850 square feet; approximately 400 students were enrolled. The projected weekday daily, AM, and PM peak-hour vehicle trip ends for the former elementary school were based on trip rates from the *Trip Generation Manual*, 9th Edition. Both variables were used to calculate the trip generation as shown in Table 1.

Table 1. Former Elementary School Trip Generation Estimate

Land Use	ITE Code	Size	Daily Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
				Total	In	Out	Total	In	Out
Former Elementary School Use (45,850 Square Foot Building)									
Elementary School (sq. ft.)	520	45,850 sq. ft.	708	238	133	105	143	63	80
Elementary School (students)	520	400 students	516	180	99	81	112	50	62

Based on this data, the following trip cap is proposed for the property: 238 total AM peak hour trips and 143 total PM peak hour trips.

EXISTING CONDITIONS

This section summarizes the existing characteristics of the transportation system and adjacent land uses in the vicinity of the proposed development, including an inventory of the existing transportation facilities and a summary of recent study intersection crash history. Employees from Kittelson and Associates, Inc. (KAI) visited the site in June 2017 to take measurements, observe traffic, and examine the current conditions of the surrounding area. Findings are documented in the following sections.

Street Characteristics

Table 2 on the following page displays some of the features of the primary roadways in the vicinity.

Table 2. Street Characteristics in Site Vicinity

Street	Comprehensive Plan Designation	Classification ¹	Speed Limit	Motor Vehicle Travel Lanes	Pavement Width	Sidewalks	Bike Lanes	On-Street Parking
Warner Parrott Road/Warner Milne Road	Residential/Mixed Use	Minor Arterial	30	2-4 ²	60 feet	Yes	Yes	No ³
Linn Avenue/Leland Road	Residential/Mixed Use	Minor Arterial	35	2-3 ⁴	50 feet	Yes	Yes	Yes ⁵
S Central Point Road	Residential	Collector	35	2-3 ⁶	48 feet	Yes	Yes	No
Williams Street	Residential	Local	25*	2	48 feet	No	No	Yes

¹ Per *City of Oregon City Transportation System Plan*, Figure 8

² Warner Parrott Road/Warner Milne Road widens to a four-lane cross-section at the Linn Avenue/Leland Road intersection to accommodate right-turn and left-turn lanes.

³ Some on-street parking is available on the south side of Warner Parrott Road west of the existing site exit.

⁴ Linn Avenue/Leland Road widens to a three-lane cross-section at the Warner Parrott/Warner Milne intersection to accommodate left-turn lanes.

⁵ Some on-street parking is available on the west side of Linn Avenue between Williams Street and Hood Street.

⁶ S Central Point Road widens to a three-lane cross-section between Warner Parrott Road and a point approximately 700 feet to the southwest to accommodate a two-way-left-turn lane.

*No speed limit posted; therefore, assumed to be 25 mph.

The City of Oregon City's *Transportation System Plan* (TSP) and the *Oregon City Municipal Code 12.04.180 – Street Design* provide street design criteria. Oregon City identifies roadway frontage improvement requirements for its streets depending in part on the surrounding land use classification. The TSP does not have an Institutional land use classification for determining street design parameters; therefore, this letter compares the roadways fronting the site to the Residential designation, as this classification is the best comparable one available from the TSP and a residential zone often allows some institutional land uses as a conditional use.

Figure 1 (on the following page) from the TSP shows a cross section of a road with the various components that comprise a complete street. For residential roads the TSP recommends a high priority be placed on walking without neglecting the needs of motorists and bicyclists. The roads fronting the proposed site have bike lanes, sidewalks, and landscaping strips today, each of which are encouraged in the TSP. The combined width of these features is less than the maximum allowable right of way set forth in the municipal code. On-street parking is available on the south side of Warner Parrott Road just west of the site, and on the west side of Linn Avenue north of the site.

Figure 1. Components of Oregon City Streets

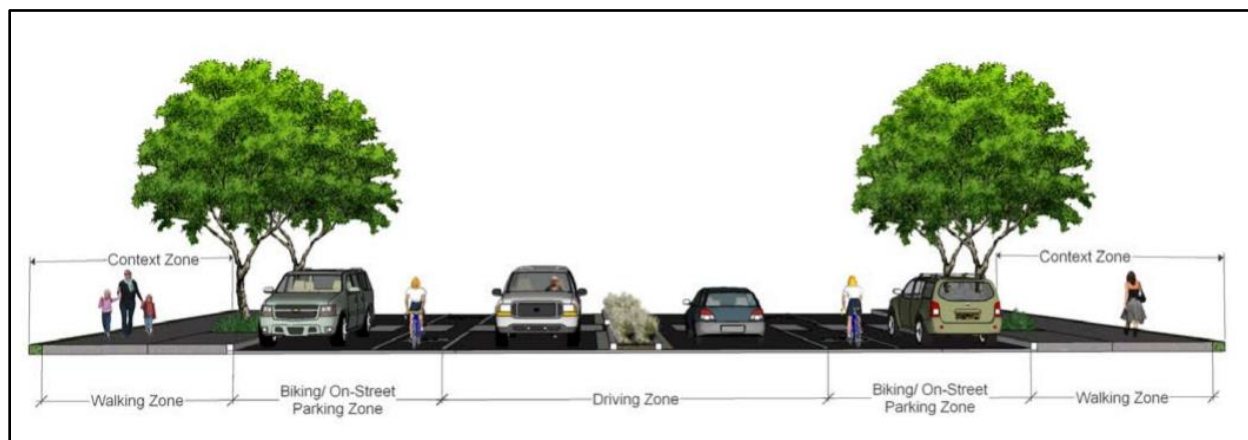


Image Source: Oregon City Transportation System Plan

Traffic Safety

The reported crash histories of four intersections near the site were reviewed to identify potential safety issues. The Oregon Department of Transportation (ODOT) provided reported crash records from the study intersections for the most recently available three-year period, from January 1, 2013 to December 31, 2015. Table 3 summarizes the crash data at the four intersections. *Appendix "A" includes the crash data.*

Table 3. Intersection Crash Summary (2013-2015)

Intersection	Crash Type				Severity			Total Crashes
	Rear End / Backing	Turning / Angle	Fixed / Other Object	Pedestrian or Bike	PDO ¹	Injury Crashes	Fatal Crashes	
Site Driveway/ Warner Parrott Road	1	-	1	-	2	-	-	2
S Central Point Road/ Linn Avenue	3	2	1	-	4	2	-	6
Warner Parrott Road-Warner Milne Road/Linn Avenue-Leland Road	11	6	1	2	10	10	-	20
Linn Avenue / Williams Street	-	-	-	-	-	-	-	-

¹ Property Damage Only

As displayed in Table 3, there have been relatively few reported crashes around the site in the three year study period. There were no reported fatalities, and many of the reported crashes involved property damage only. In the future, the intersection of Warner Parrott/Warner Milne Road and Linn Avenue/Leland Road is expected to be reconstructed into a modern roundabout. The intersection reconfiguration as a roundabout is expected to improve both intersection operations and safety performance once completed.

During our field investigation it was noted that current signing at the site driveways to the annex building is outdated and should be removed or replaced in conjunction with the proposed site redevelopment. For example, there is currently a sign posted that reads, "SCHOOL ENTRANCE," as shown in Photo 1. While this indicates that the driveway is an entrance, it does not necessarily suggest that it is an entrance only. Additionally, as shown in Photo 2, the "STOP" sign and "DO NOT ENTER" sign at the driveway exit on Linn Avenue are faded and should be considered for replacement with the proposed site redevelopment.

Photo 1: Existing School Entrance Sign



Photo 2: Existing Driveway Stop Sign to Linn Avenue



Current Detour Route Implications on Intersection Operations

Vehicles turning at or traveling through the intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road currently experience a fair amount of delay. Current traffic volumes at the intersection are higher than historic patterns due to the temporary closure of the southbound lane of South End Road in Oregon City. Oregon City has posted a South End Road detour route that directs traffic through the Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road intersection. The detour route, obtained from the City's website, is illustrated in Figure 2.

Pedestrian Facilities

Field observation determined there is a relatively complete existing network of sidewalks and crosswalks connecting the site to the surrounding area. A few items were identified that could be improved in conjunction with site frontage improvements including:

- The sidewalk along the site frontage on Warner Parrott Road currently terminates approximately 150 feet prior to the west end of the property as shown in Figure 3 on the following page. The missing segment of sidewalk should be completed in conjunction with standard frontage improvements.
- A north-south crosswalk of Warner Parrott Road is currently located at the western terminus of the frontage sidewalk on the north side of Warner Parrott Road; however, there is no curb ramp on either side of the crosswalk, as shown in Photo 3 on the following page. Should the City choose to retain the crosswalk, consideration should be given to providing ADA-compliant ramps for the crosswalk.
- The intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road has crosswalks with pedestrian signal heads signs on all four intersection legs. The pedestrian signal heads currently do not have countdown timers, which would be preferable. Additionally, the curb cut at the northwest corner of the intersection, on the corner adjacent to the property, may not meet ADA standards. There is only one curb ramp, where there should be one for each crosswalk.

Figure 2. South End Road Detour Route

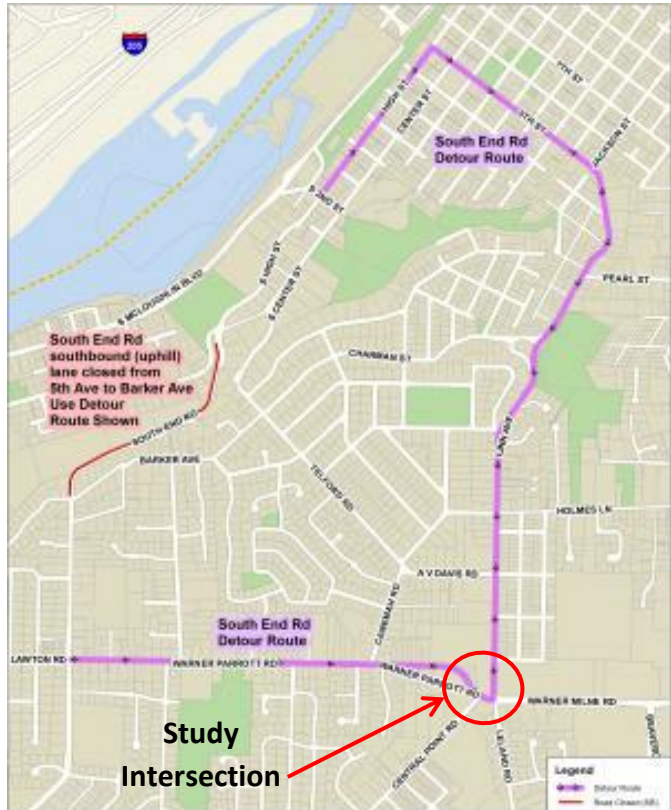


Image Source: City of Oregon City

- The sidewalk on the east side of Linn Avenue currently terminates prior to Williams Street and the curb ramp directs users into the northbound bike lane, as shown in Photo 4. The City could consider reconstructing the sidewalk and curb ramp on the southeast corner of the Linn Avenue/Williams Street intersection. It appears that reconfiguration of the sidewalk would impact a stormwater inlet as well as support wires for a utility pole.

Figure 3. Aerial with Locations of Pedestrian Facility Considerations



Image Source: Google Maps

Photo 3: No Ramp from Sidewalk to Crosswalk



Photo 4: Sidewalk Ramp into Bicycle Lane



Bicycle Facilities

Bicycle facilities are provided in the site vicinity, including designated bike lanes along both sides of the roadways fronting the site. During our field observations it was noted that some motor vehicles traveling westbound through the horizontal curve along Warner Parrott Road along the site frontage cross into the bike lane instead of staying within the travel lane around the curve as shown in Photo 5. The bicycle lane markings in this area are worn from cars repeatedly driving over the lane line. This issue may be addressed when the future roundabout is installed.

Photo 5: Westbound Vehicle on Warner Parrott Road Crossing into Bike Lane



Transit Facilities

There is a TriMet Park & Ride facility located across the street from the site at the First Presbyterian Church, east of Linn Avenue and south of Williams Street. The lot serves TriMet Route #33, a high frequency route which operates between Clackamas Community College and Clackamas Town Center Transit Center.

PROPOSED DEVELOPMENT SUMMARY

The proposed development re-purposes the annex, a 6,850 square foot building of the former elementary school for use as a government office space. As shown in Figure 4, the proposed site plan would retain the existing site driveways including separate entrance and exit driveways located on Warner Parrott Road as well as an exit-only driveway on Linn Avenue.

TRAFFIC ANALYSIS LETTER DOCUMENTATION

The seven requirements for a TAL to support the land use application are outlined below in *italicized* text, followed by an explanation as to how the requirements are being satisfied.

- 1. The expected trip generation of the proposed development including the AM peak hour, the PM peak hour, daily traffic, and other germane periods as may be appropriate, together with appropriate documentation and references.*

Response: A portion of the site is currently being used as a private elementary/middle school (K-8) with the remainder of the site unused. The projected weekday daily, AM, and PM peak-hour vehicle trip ends for the private K-8 school and the proposed development of part of the site as a government office were based on trip rates from the *Trip Generation Manual*, 9th Edition. Table 4 summarizes the forecast trip generation for the private K-8 school use and the proposed government use of the 6,850 square foot portion of the existing building.

Figure 4. Site Plan

Table 4. Trip Generation Estimate

Land Use	ITE Code	Size	Daily Trips	Weekday AM Peak Hour Trips			Weekday PM Peak Hour Trips		
				Total	In	Out	Total	In	Out
Former Elementary School Building (39,000 Square Foot Building)									
Private K-8 School (students)	534	195 students	NA	176	97	79	117	55	62
Former Elementary School Annex to be Redeveloped (6,850 Square Feet)									
Government Office	730	6,850 sq. ft.	472	40	34	6	8	2	6
Total Site (K-8 School Plus Proposed Government Office)									
Total Site	534/730	-	NA	216	131	85	125	57	68
Proposed Trip Cap									
Total Site				238			143		

As shown in Table 4, the total trip generation of the private K-8 school that is currently operating on the site plus the proposed government office (216 weekday AM peak hour trips and 125 PM peak hour trips) is below the proposed trip cap (238 weekday AM peak hour trips and 143 PM peak hour trips) for both the weekday AM and PM peak hours. The traffic produced by the rezoning and redevelopment will therefore be less than that of the prior use.

Oregon Transportation Planning Rule Considerations

Compliance with the Oregon Transportation Planning Rule (TPR) is addressed by the establishment of a trip cap in connection with the rezoning of the parcel. The TPR implements Statewide Planning Goal 12, "Transportation." Oregon Administrative Rule (OAR) 660-012-0060(1) and (2) established a two-step process for evaluating an amendment's impacts on roads. The first step in assessing an amendment's potential transportation impact is to compare the trip generation potential of the site assuming a "reasonable worst-case" development scenario under the existing and proposed zoning. If the trip generation potential increases under the proposed zoning, additional operational analysis is required to assess whether the rezone will "significantly affect" the transportation system. Conversely, if the trip generation under the proposed zoning is equal to or less than that under the existing zoning, no additional operational analysis is necessary to conclude that the proposal does not "significantly affect" the transportation system.

In the case of the proposed rezone, the applicant proposes a trip cap for the entire site that will limit the total trips generated by the entire site (238 weekday AM peak hour trips and 143 weekday PM peak hour trips) to the number associated with the former elementary school and thus will ensure there are no new trip impacts associated with the proposed rezone. All future development or redevelopment occurring anywhere on the site will have to comply with this trip cap. Should any proposal be brought forward that would result in this trip cap being exceeded, additional analysis and justification would be required to comply with the TPR.

2. *Site plan showing the location of all access driveways or private streets where they intersect with public streets plus driveways of abutting properties and driveways on the opposite side of the street from the proposed development.*

Response: Figure 4 (shown previously) illustrates the site plan. As previously noted, the proposed site plan retains the existing building as well as the existing site driveways.

3. *Documentation that all site access driveways meet Oregon City Private Access Driveway Width Standards.*

Response: *Oregon City Municipal Code Section 12.04.025* requires that all non-residential driveway access be a minimum of 15 feet and maximum of 40 feet in width. Both exits onto Warner Parrott and Linn Avenue satisfy this standard, with widths of 24 feet and 28 feet, respectively. The existing entrance on Warner Parrott Road is only 12 feet wide; therefore, it is recommended that this driveway be widened to at least 15 feet to satisfy the Code standards.

4. *Documentation that all site access driveways meet Oregon City's Minimum City Street Intersection Spacing Standards.*

Response: The City of Oregon City classifies both Warner Parrott Road and Linn Avenue as Minor Arterials (per Figure 8 "Multi-modal Street System" from the *City of Oregon City Transportation System Plan* as adopted in June 2013). Table 1 of the June 2013 *City of Oregon City Transportation System Plan*, Spacing Standards, identifies a minimum driveway spacing standard (street to driveway and driveway to driveway) of 175 feet for minor arterial facilities in mixed-use or residential areas. The Transportation System Plan offers the following guidance with respect to access spacing: "Within developed areas of the City, streets not complying with these standards could be improved with strategies that include shared access points, access restrictions (through the use of a median or channelization islands) or closed access points as feasible. New streets or redeveloping properties must comply with these standards, to the extent practical (as determined by the City). Figure 4 illustrates the site driveway locations relative to other driveways along the site frontage.

The two existing driveways on Warner Parrott Road satisfy the City access spacing requirements. The existing exit-only driveway on Linn Avenue satisfies the spacing standard with respect to SE Williams Street to the north but is located 110 feet from Warner Parrott Road/Warner Milne. This distance is smaller than the minimum spacing of 175 feet allowed in a Mixed-Use/Residential area.

To mitigate this issue the City might consider making the exit a "right turn only." This option would negate the effects of any potential hindrances of the driver's view of opposing traffic resulting from the driveway's close proximity to the intersection. The City may choose to add a "RIGHT TURN ONLY" sign in compliance with the *Manual on Uniform Traffic Control Devices* and may additionally alter the driveway so that it discourages left turns.

5. *Documentation that all site accesses and/or private street intersections meet AASHTO intersection sight distance guidelines.*

Currently available intersection sight distance and stopping sight distance was observed at the proposed driveway locations. Based on the posted 30 miles per hour speed limit on Warner Parrott Road/Warner Milne Road, *A Policy on Geometric Design of Highways and Streets, 6th Edition* (published by the American Association of State Highway and Transportation Officials, AASHTO) identifies a desired 335 feet of intersection sight distance and 200 feet of stopping sight distance¹. There is a clear line of sight of over 350 feet from the exit facing left towards S Central Point Road, and there is greater than 400 feet of sight distance facing to the west; therefore, the sight distance at the exit meets the standards set by the City. There are some tree branches on site that, if not maintained, could reduce the driver's sight distance to the left. A driver's view facing left along Warner Parrott Road from the driveway exit onto Warner Parrott Road is shown in Photo 6.

Photo 6: Warner Parrott Exit, Driver Facing West (Left)



We recommend on-site landscaping along the site frontage to the left of the proposed driveway continue to be maintained to the extent necessary in order to provide the City-required minimum intersection sight distance.

6. *Documentation that there are no inherent safety issues associated with the design and location of the site access driveways.*

The proposed site driveways have or can be provided with sufficient intersection sight distance and comply with City access spacing standards. No safety issues were identified while on-site observing the proposed driveway locations. As previously noted, we recommend the existing signage at the driveways be reviewed and replaced as appropriate. Based on the above considerations, we

¹ Per AASHTO requirements, intersection sight lines were measured from a vertex point located 14.5 feet from the curb line along the center of the approaching travel lane. The assumed driver eye height was 3.5 feet above the driveway and the object height was 3.5 feet, providing enough space on the approaching vehicle to recognize it. For stopping sight distance purposes, the assumed driver eye height was 3.5 feet above the street and the object height was 2.0 feet above the driveway.

conclude that there are no inherent safety issues associated with the design and location of the site access driveways.

7. *Documentation that the applicant has reviewed the City's TSP and that proposed streets and frontage improvements do or will comply with any applicable standards regarding the functional classification, typical sections, access management, traffic calming and other attributes as appropriate.*

The applicant has reviewed the *City's Transportation System Plan* as adopted in June 2013. As previously noted, both Warner Parrott Road and Linn Avenue are classified as Minor Arterials. The site frontage is largely complete today including a striped bicycle lane and sidewalks commensurate with the Minor Arterial designation. The missing section of sidewalk along the west portion of the Warner Parrott Road frontage should be completed.

A review of the Oregon City TSP indicates that Project D34 (planned roundabout at the intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road) is the only notable improvement planned within the immediate vicinity of the development site. Functional class and access management were previously addressed in this report. No traffic calming measures were noted for the site frontage in the TSP beyond completion of sidewalks.

CONCLUSIONS AND RECOMMENDATIONS

The proposed Community Development Department building use is not expected to have a significant trip impact on the surrounding transportation facilities as compared to the prior elementary school use on the site. Further, the proposed building can comply with the seven TAL criteria as documented in this letter.

Based on the findings of this review, we offer the following recommendations:

- As part of the proposed property rezoning, the City should implement a trip cap for the entire site that will limit the total trips generated by the entire site (238 weekday AM peak hour trips and 143 weekday PM peak hour trips) to the number associated with the former elementary school and thus will ensure there are no new trip impacts associated with the proposed rezone.
- Existing site driveway signage should be removed or replaced in conjunction with the proposed site re-development, particularly the "SCHOOL ENTRANCE" sign on Warner Parrott Road as well as the "STOP" sign and "DO NOT ENTER" sign at the Linn Avenue exit driveway.
- Sidewalk should be completed along the Warner Parrott Road site frontage in conjunction with standard frontage improvements. Should the City choose to retain the existing north-south mid-block crosswalk of Warner Parrott Road along the site frontage, consideration should be given to providing ADA-compliant ramps for the crosswalk.

- The City should consider replacing the current pedestrian signals at the intersection of Warner Parrott Road/Warner Milne Road and Linn Avenue/Leland Road with countdown timers and constructing ADA-compliant curb ramps on the frontage side of the intersection.
- The City could consider reconstructing the sidewalk and curb ramp on the southeast corner of the Linn Avenue/Williams Street intersection.
- The City could choose to make the Linn Avenue exit at right turn only exit. A "RIGHT TURN ONLY" sign could be added, and additionally the driveway could be altered in a way to discourage left turns.
- On site landscaping along Warner Parrott Road should be continued to be maintained in order to maintain sight distance at the exit.

Please contact us if you have any questions regarding this report or our findings.

Sincerely,
KITTELSON & ASSOCIATES, INC.

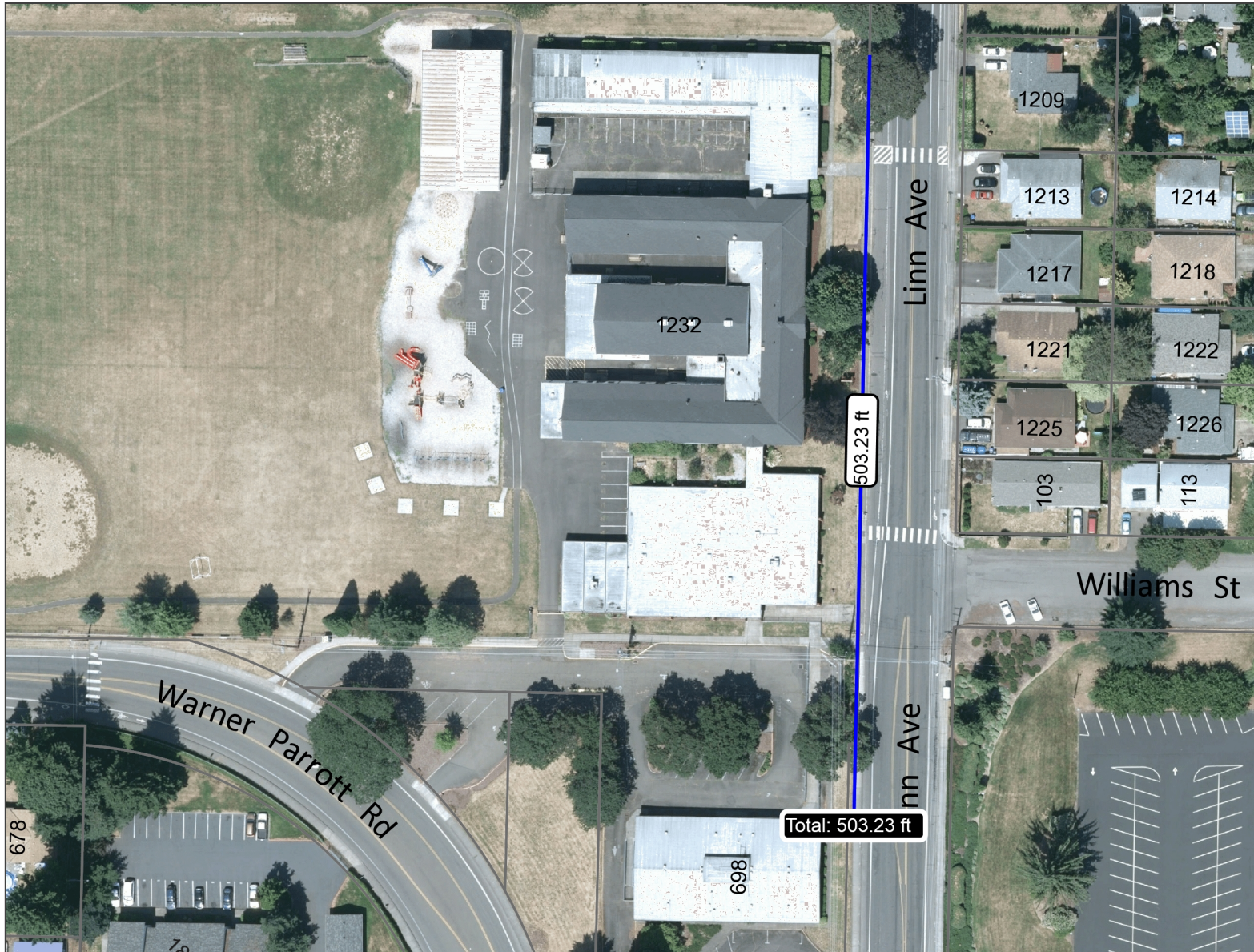


Chris Brehmer, PE
Senior Principal Engineer


Zachary Horowitz
Senior Project Manager



Linn Avenue On Street Parking

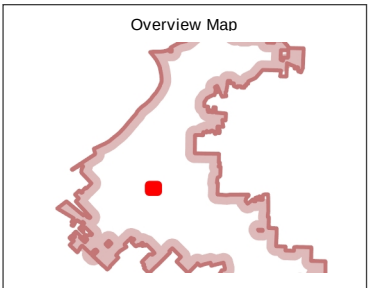


Legend

- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- City Limits
- UGB
- Basemap

Notes

Per OCMC 17.52.020.B.3.1. 1 Stall is 22 feet of uninterrupted and available curb



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 9/11/2017



0 100 200 Feet

1: 1,200

Appx. 503 Feet Less Crosswalk

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