

OREGON CITY SCHOOL DISTRICT

**MASTER PLAN OREGON CITY HIGH SCHOOL AND
TRANSPORTATION MAINTENANCE FACILITY CAMPUS**

■

SITE PLAN AND DESIGN REVIEW PROPOSED TRANSPORTATION MAINTENANCE FACILITY

ADDENDUM D – FINAL TRAFFIC IMPACT STUDY REPORT

**OREGON CITY SCHOOL DISTRICT
TRANSPORTATION MAINTENANCE FACILITY
TRAFFIC IMPACT STUDY**

OREGON CITY, OREGON

DATE:
February 23, 2015

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EXPIRES: 12/31/15



**LANCASTER
ENGINEERING**



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EXECUTIVE SUMMARY

1. Oregon City School District has proposed a new transportation maintenance facility located immediately west of the existing Oregon City High School campus. Upon completion of the new facility, the existing bus facility located on the west side of S Maple Lane Road and north of S Beaver Creek Road will be closed.
2. Based on detailed bus and employee data provided by the school district, the proposed facilities are projected to generate 41 trips during the morning peak hour, with 22 entering and 19 exiting the site. During the evening peak hour 25 site trips are projected, with 4 entering and 21 exiting the site. At the 20-year planning horizon it is anticipated that the proposed facility may generate 45 trips during the morning peak hour, with 25 entering and 21 exiting the site. During the evening peak hour at the planning horizon 27 trips are projected, with 4 entering and 23 exiting the site.
3. Based on the detailed review of crash history at the study area intersections, no significant safety hazards were identified and no specific mitigations are recommended.
4. The study intersections have appropriate left-turn lanes in place. No new left-turn lanes are recommended in conjunction with the proposed development.
5. The proposed site access driveways on Meyers Road and High School Avenue should be designed to provide sufficient intersection sight distance for safe operation of the future intersections. There are no significant vertical obstructions to sight distance, and existing vegetation within the site will be cleared as needed to provide safe sight lines.
6. Based on the operational analysis, the study area intersections currently operate acceptably and are projected to continue operating acceptably under year 2016 and year 2020 traffic conditions either with or without the addition of site trips from the proposed transportation maintenance facility. No operational mitigations are necessary or recommended in conjunction with the proposed development.
7. Based on the detailed automobile parking analysis, the 138 proposed parking spaces within the transportation maintenance facility site is within the recommended acceptable range of 97 to 150 spaces for this facility as considered alone. The proposed parking supply within the entire campus also falls within the recommended range of 714 to 1,278 parking spaces.
8. Oregon City does not have explicit requirements for bicycle parking for public school transportation and maintenance facilities. Accordingly, it is recommended that the minimum bicycle parking standard be established based on the number of parking spaces provided for employees and the typical requirement for at least one bicycle parking space per 20 motorized vehicle spaces. Using this approach, a minimum of eight bicycle parking spaces should be provided within the subject property, with at least four spaces covered.



PROJECT DESCRIPTION

INTRODUCTION

Oregon City School District has proposed a new transportation maintenance facility to be located immediately west of the existing Oregon City High School campus. The facility will include parking for school district buses as well as maintenance facilities and offices for transportation and maintenance staff.

Upon completion of the proposed facilities, the existing transportation facilities located west of S Maple Lane Road and north of S Beaver Creek Road will be closed. Eight buses currently stored at Redland Elementary School will also be relocated to the new facility.

The purpose of this study is to assess the potential impacts of the proposed development and address the transportation analysis requirements of Oregon City. The report will identify the net increase in traffic attributable to the proposed development and examine the transportation impacts of these additional trips both upon completion of the facilities and under year 2020 traffic conditions with completion of a planned extension of Meyers Road between Molalla Avenue (Highway 213) and High School Avenue. The report will include level of service calculations and volume-to-capacity calculations for existing conditions, year 2016 traffic conditions and year 2020 traffic conditions. The analysis will also include a detailed crash history analysis.

Detailed information on traffic counts, crash data, and level of service calculations are included in the appendix to this report.

LOCATION DESCRIPTION

The subject property is located in the northeast corner of the intersection of Meyers Road at High School Avenue. The site is immediately west of High School Avenue, and north of the Meyers Road alignment. Upon development of the subject property, Meyers Road will be extended to the west along the southern frontage of the property. The site will take access via two driveways on each roadway frontage.

Based on discussions with City staff and John Replinger, several intersections were identified as requiring analysis. These included S Beaver Creek Road at Meyers Road, S Molalla Avenue at S Glen Oak Road, S Molalla Avenue at S Meyers Road, and S Molalla Avenue at Highway 213. Additionally, some examination of operation, safety and capacity is required for the intersections of Meyers Road at High School Avenue and Glen Oak Road at High School Avenue. These intersections were examined during the morning and evening peak hours. It is notable that the proposed development is associated with school activities, which would normally trigger analysis during the afternoon school peak traffic period. However, most site trips that occur during the afternoon school dismissal period will be on scheduled bus routes, and these vehicles would be present at the study area intersections regardless of the location of the bus yard. Accordingly, the proposed development will have a min-



imal impact on the volume and character of traffic in the site vicinity during this period. Accordingly, detailed analysis of afternoon school peak period operations is not required.

High School Avenue is classified by Oregon City as a Collector between Glen Oak Road and Meyers Road, and as a Local Street north of Meyers Road. It extends approximately 0.35 miles north from S Glen Oak Road along the west side of the Oregon City High School Campus. It has a two-lane cross-section with curb, gutter and sidewalks along the east side of the roadway. The west side of the road has gravel and grass shoulders. There is no on-street parking permitted between S Glen Oak Road and Meyers Road, however there is head-in parking available on the east side of the roadway along the frontage of the sports fields north of Meyers Road. The roadway has 20 mph school speed zone signs in place.

Meyers Road is classified by Oregon City as a Minor Arterial. The roadway currently exists in two separate segments, with one extending from Leland Road to Highway 213 and the other extending from High School Avenue to Beaver Creek Road. The city's transportation system plan includes a future extension of Meyers Road connecting these existing segments. The segment between Beaver Creek Road and High School Avenue has one through lane in each direction. It has left-turn lanes provided at intersections and a raised center median away from intersections. Bike lanes, curbs and sidewalks are provided on both sides of the roadway. Speed zone signing indicating a speed limit of 30 mph is accompanied by school speed zone signing indicating a speed limit of 20 mph between 7:00 AM and 5:00 PM. Some on-street parking is provided on each side of the roadway to the right of the bike lanes. The segment between Leland Road and Highway 213 has one through lane in each direction and a posted speed limit of 35 mph. In the vicinity of Highway 213 there are bike lanes in place on both sides of the roadway, and sidewalks are in place along the north side of the road.

Glen Oak Road is classified by Oregon City as a Collector. It has one through lane in each direction and a posted speed limit of 35 mph. Partial bike lanes and sidewalks are in place on both sides of the roadway. Some on-street parking is available on each side of the roadway.

Beaver Creek Road is classified by Oregon City as a Major Arterial. It has a two-lane cross-section with a posted speed limit of 40 mph in the vicinity of the project site, with turn lanes added at intersections. Bike lanes are in place on both sides of the roadway. North of the site the roadway widens to provide two through lanes in each direction. Partial curbs and sidewalks are in place on both sides of the roadway.

Molalla Avenue northwest of Highway 213 is classified by Oregon City as a Major Arterial. It has two through lanes in each direction and a center two-way left-turn lane, with a posted speed limit of 35 mph. Bike lanes are in place along both sides of the roadway. Sidewalks are in place along the northeast side of the roadway, and partial sidewalks are provided along the southwest side of the roadway.

Highway 213 is classified by the Oregon City as a Major Arterial south of its intersection with Molalla Avenue and as an Expressway to the north. It has one travel lane in each direction in the vicinity of S Glen Oak Road and widens to provide two lanes in each direction north of S Meyers Road. It has a posted speed limit of 45 mph in the site vicinity. Bike lanes are in place on both sides of the roadway. Partial sidewalks are also in place along portions of the roadway.



INTERSECTION DESCRIPTIONS

The intersection of Beavercreek Road at Meyers Road is a T-intersection controlled by a traffic signal. The eastbound approach has a left-turn lane and a right-turn lane. The southbound approach has a single shared through/right-turn lane. The northbound approach has a left-turn lane operating with permitted signal phasing and a through lane. All three approaches have marked crosswalks with pedestrian signals in place.

The intersection of Meyers Road at High School Avenue is currently a T-intersection operating under all-way stop control. The west leg of the intersection has not yet been constructed and has barricades where Meyers Road currently ends. The northbound and southbound approaches each have a single, shared lane for all turning movements. The westbound approach has a left-turn lane and a right-turn lane. A marked crosswalk is in place crossing the east leg of the intersection.

The intersection of Beavercreek Road at Glen Oak Road is a T-intersection operating under stop control for the eastbound Glen Oak Road approach. The northbound and southbound approaches on Beavercreek Road are free-flowing. The eastbound approach has a left-turn lane and a right-turn lane. The northbound approach has a left-turn lane and a through lane. The southbound approach has a single, shared lane for through and right-turn movements.

The intersection of Glen Oak Road at High School Avenue is a T-intersection operating under stop control for the southbound High School Avenue approach. The southbound and eastbound approaches each have a single, shared lane for all turning movements. The eastbound approach has a left-turn lane and a through lane. Marked crosswalks are in place crossing the north and east legs of the intersection.

The intersection of Highway 213 at Glen Oak Road is a 4-way intersection controlled by a traffic signal. The westbound approach has a shared left/through lane and right-turn lane. The eastbound approach has a single, shared lane for all turning movements. The northbound and southbound approaches each have a left-turn lane operating with protected signal phasing and a shared through/right lane.

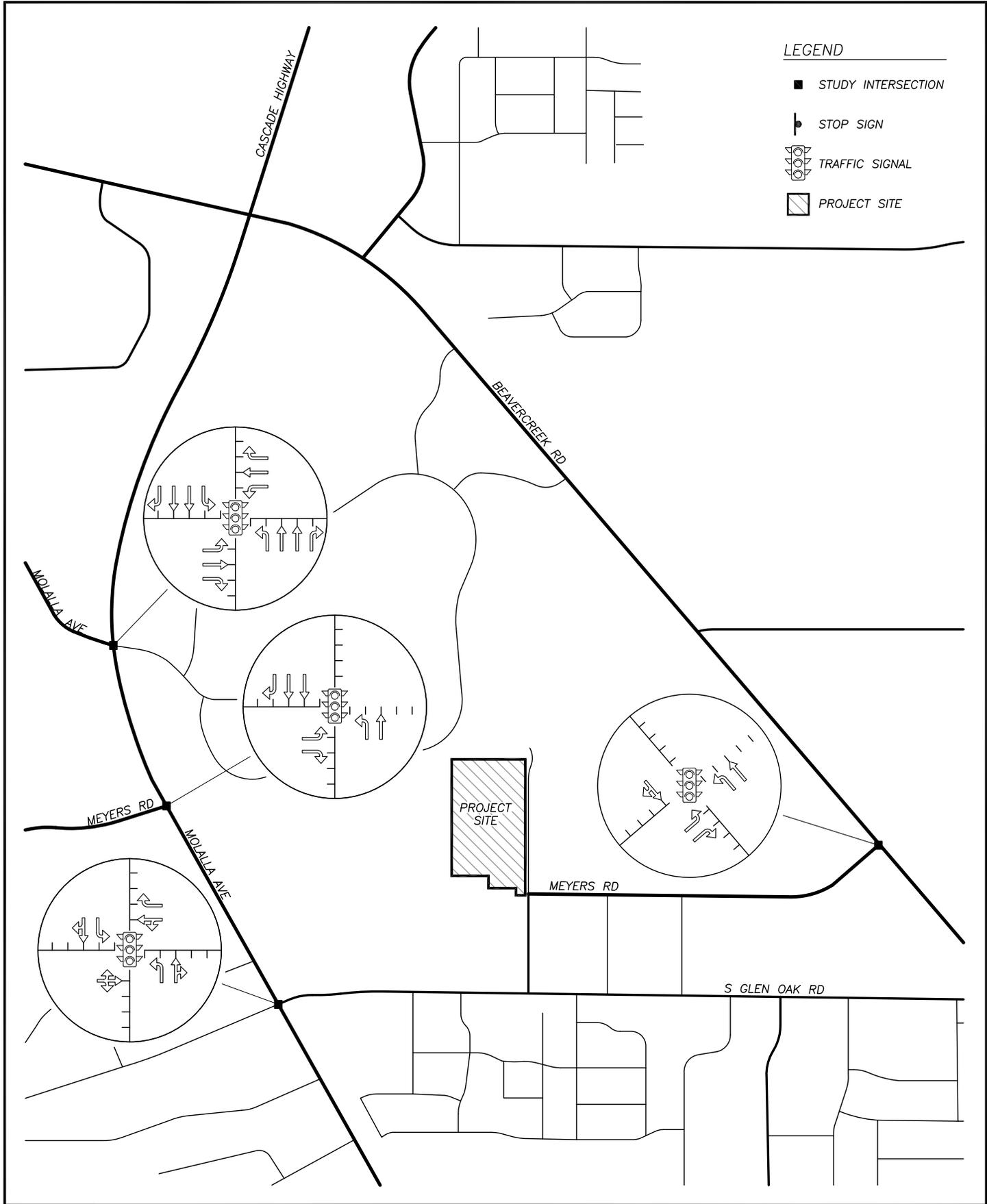
The intersection of Highway 213 at Meyers Road is a T-intersection controlled by a traffic signal. The northbound approach has a left-turn lane operating with protected signal phasing and a through lane. The southbound approach has two through lanes and a right-turn lane. The eastbound approach has a left-turn lane and a right-turn lane. All three intersection approaches have marked crosswalks with pedestrian signals in place.

The intersection of Highway 213 at Molalla Avenue is a 4-way intersection controlled by a traffic signal. The eastbound and westbound approaches each have a left-turn lane operating with protected signal phasing, a through lane and a right-turn lane. The northbound and southbound approaches each have a left-turn lane operating with protected signal phasing, two through lanes and a right-turn lane. There are marked crosswalks with pedestrian signals in place crossing all four legs of the intersection.



Manual turning movement counts were made at the study intersections during October 2014 from 7:00 to 9:00 AM and from 4:00 to 6:00 PM. The system peak hours occur from 7:10 to 8:10 AM and from 5:00 to 6:00 PM. Detailed traffic count data is included in the appendix to this report.

Figure 1 on page eight shows the project study area and the location of the site. Figure 2 on page nine shows the existing traffic volumes at the study area intersections.



LEGEND

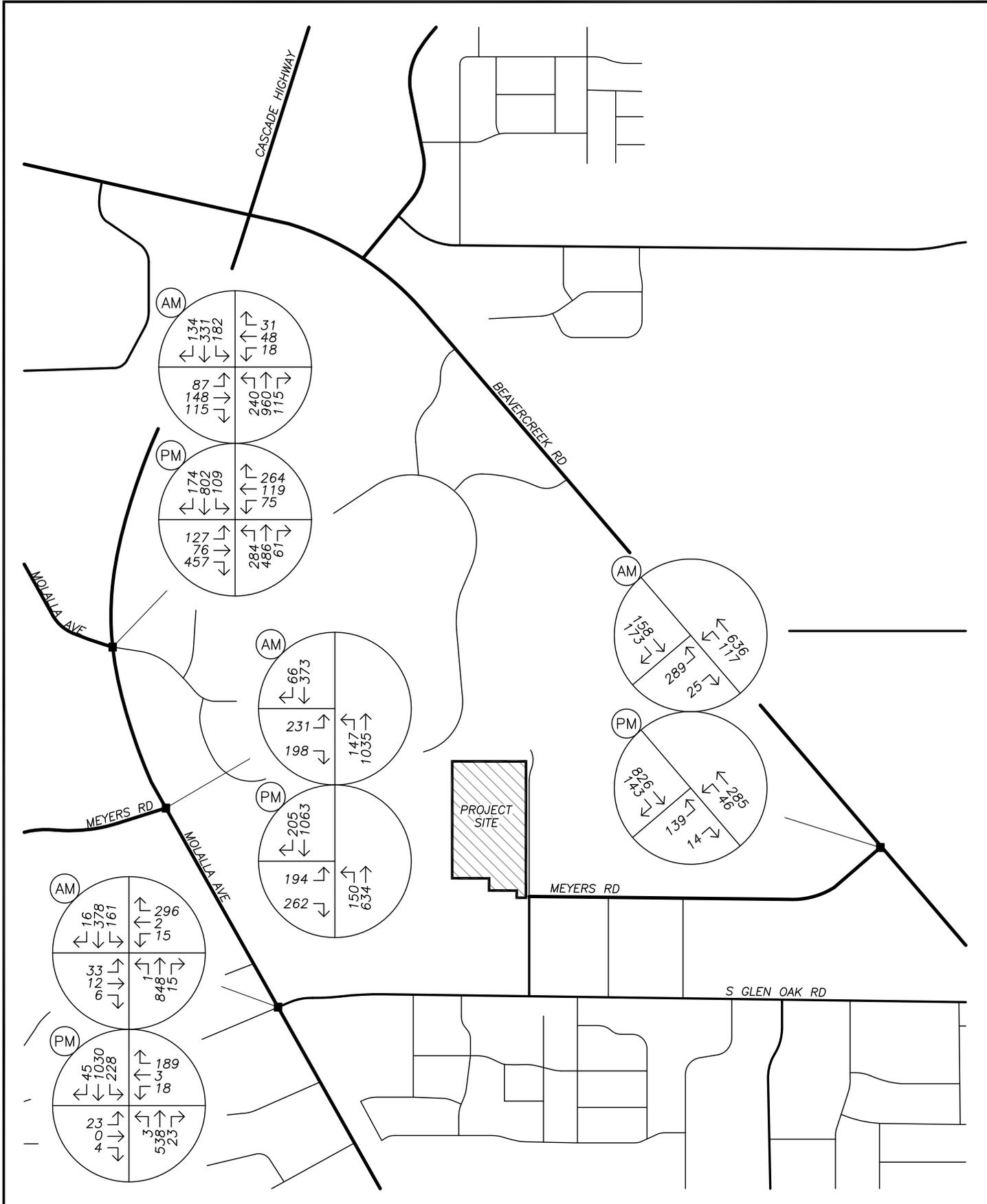
- STUDY INTERSECTION
- ⊥ STOP SIGN
- 🚦 TRAFFIC SIGNAL
- ▨ PROJECT SITE



VICINITY MAP



FIGURE
1
PAGE
8



TRAFFIC VOLUMES
Existing Conditions
AM & PM Peak Hours





TRIP GENERATION & DISTRIBUTION

TRIP GENERATION

To estimate the number of trips that will be generated by the proposed development, detailed employee and bus route data for the site was obtained from the Oregon City School District. The data was examined to determine the number of site trips that will overlap with the peak hours of adjacent-street traffic, from 7:10 to 8:10 AM and from 5:00 to 6:00 PM.

Based on the detailed analysis of the bus and employee data, the proposed development, for year of opening, is projected to result in a net increase of 41 trips during the morning peak hour, with 22 entering and 19 exiting the site. During the evening peak hour at year of opening, an increase of 25 trips is projected with 4 entering and 21 exiting the site.

Since the number of students who attend school typically increases with the population in the area, and by association the number of buses needed to serve them may also increase, the site’s trip generation was adjusted to account for potential future site traffic volumes. Based on the “middle range” enrollment forecasts from the Oregon City School District, it is projected that the site’s trip generation could increase by 4.6 percent over the next 10 years. In order to vest the potential future site trips on the surrounding transportation system and to ensure a conservative analysis, this growth was projected over a 20-year span to determine potential site traffic volumes at the planning horizon. These volumes were then conservatively applied to the 5-year analysis scenario. The table below summarizes the trip generation analysis for both year of opening and the 20-year outlook.

	TRIP GENERATION SUMMARY								
	AM Peak Hour			PM Peak Hour			Daily Trips		
	<u>Enter</u>	<u>Exit</u>	<u>Total</u>	<u>Enter</u>	<u>Exit</u>	<u>Total</u>	<u>Enter</u>	<u>Exit</u>	<u>Total</u>
SB Buses	0	5	5	0	0	0	80	80	160
BB Buses	0	8	8	0	0	0	97	97	194
Field Trip/Sports Buses	0	2	2	2	0	2	10	10	20
Driver vehicles	3	0	3	2	19	21	124	124	248
Clerical and Staff	10	2	12	0	1	1	22	22	44
Mechanics	4	1	5	0	0	0	10	10	20
Maintenance	5	1	6	0	1	1	29	29	58
Year 2016 Trip Gen	22	19	41	4	21	25	372	372	744
<u>Anticipated Growth (9.5%)</u>	<u>2</u>	<u>2</u>	<u>4</u>	<u>0</u>	<u>2</u>	<u>2</u>	<u>35</u>	<u>35</u>	<u>70</u>
Year 2035 Trip Gen	24	21	45	4	23	27	407	407	814

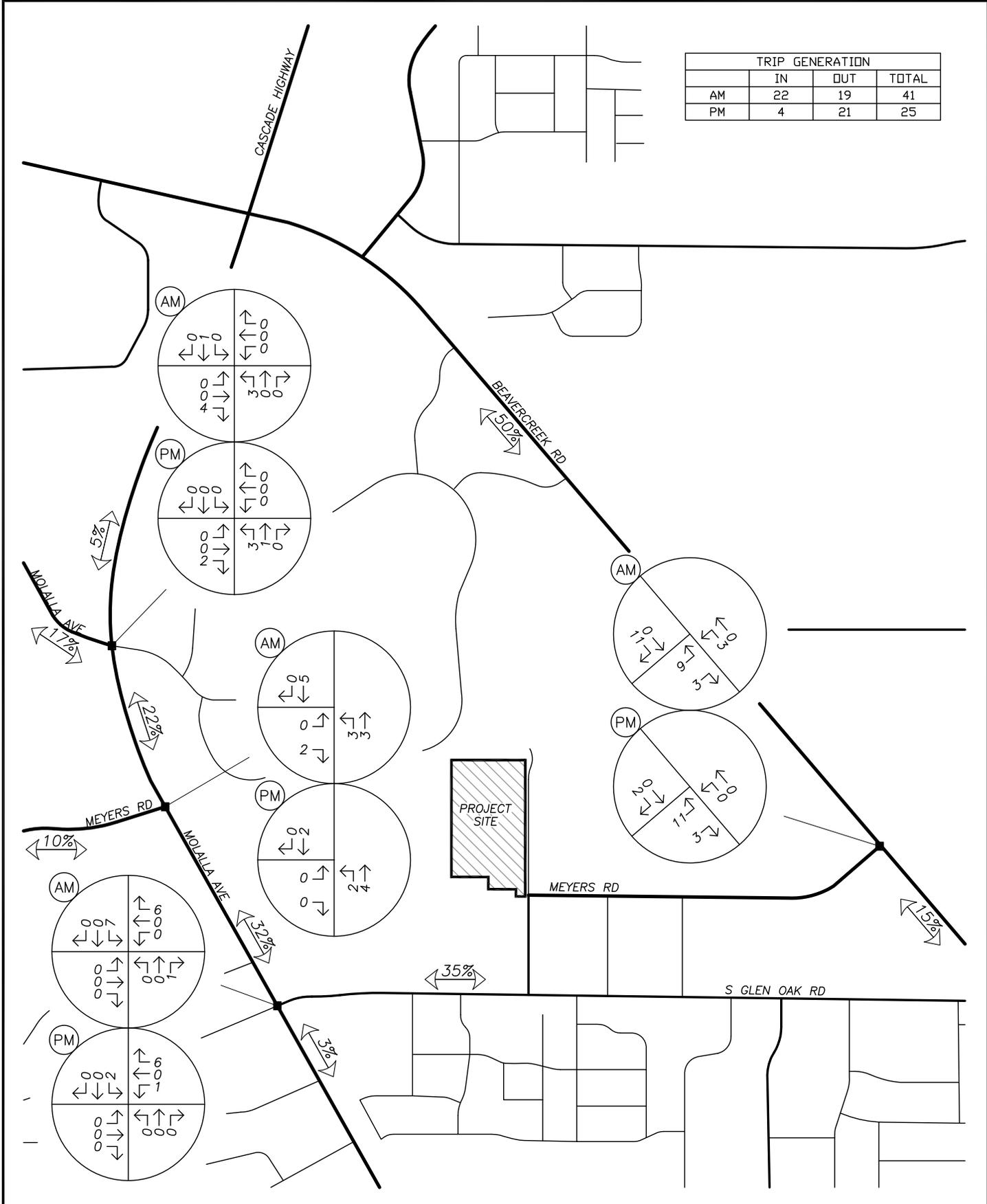


TRIP DISTRIBUTION

The distribution of bus trips was determined based on the detailed bus data provided by the school district. A detailed diagram showing the distribution and assignment of bus trips is included in the technical appendix. The distribution and assignment of passenger vehicle trips was developed based on the existing travel patterns in the site vicinity as well as the locations of major transportation facilities in the site vicinity and likely trip origins.

The trip distribution and assignment for the net increase in site trips associated with the proposed development is shown in Figure 3 on page 12.

TRIP GENERATION			
	IN	OUT	TOTAL
AM	22	19	41
PM	4	21	25



SITE TRIP DISTRIBUTION & ASSIGNMENT
 Proposed Development Plan – Total Site Trips
 AM & PM Peak Hours



FIGURE 3

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SAFETY ANALYSIS

CRASH HISTORY

In order to identify any existing safety hazards in the site vicinity, a five-year crash history was obtained from ODOT's Crash Analysis and Reporting Unit. The data covered the period from January, 2009 through December 2013.

A brief discussion of crashes is provided for each of the study area intersections. In addition to the crash descriptions, calculated crash rates were determined for each location. Examination of the crash rate, expressed as the number of crashes per million entering vehicles (CMEV), allows intersections with widely different traffic volumes to be compared on the basis of relative crash risk. Typically, crash rates greater than 1.0 require further investigation into the type and causes of the crashes to determine whether patterns indicative of specific safety hazards exist.

The intersection of Beaver Creek Road at Meyers Road had two reported crashes during the five-year analysis interval. Both were rear-end collisions, and both resulted in reports of a "possible injury/complaint of pain". The crash rate for the intersection was calculated to be 0.08 crashes per million entering vehicles.

The intersection of Meyers Road at High School Avenue had no reported crashes during the five-year analysis period.

The intersection of Beaver Creek Road at Glen Oak Road had six reported collisions during the five-year analysis period. The crashes included five turning-movement collisions and one backing collision. They resulted in two reports of a "possible injury/complaint of pain". The crash rate for the intersection was calculated to be 0.28 crashes per million entering vehicles.

The intersection of Glen Oak Road at High School Avenue had two reported crashes during the five-year analysis period. Both were rear-end collisions. The crashes resulted in one non-incapacitating injury.

The intersection of Highway 213 at Glen Oak Road had five reported collisions during the five-year analysis period. These included four rear-end collisions and one fixed-object collision. The crashes resulted in three reports of a "possible injury/complaint of pain". The crash rate for the intersection was calculated to be 0.13 crashes per million entering vehicles.

The intersection of Highway 213 at Meyers Road had 21 reported collisions during the five-year analysis period. These included 19 rear-end collisions, 1 angle collision and 1 turning-movement collision. The crashes resulted in 4 non-incapacitating injuries and 15 reports of a "possible injury/complaint of pain". The crash rate for the intersection was calculated to be 0.46 crashes per million entering vehicles.

The intersection of Highway 213 at Molalla Avenue had 25 reported collisions during the five-year analysis period. These included 15 rear-end collisions, 5 turning-movement collisions, 3 angle collisions,



sions, 1 bicycle collision and 1 non-collision. The crashes resulted in 1 fatality, 3 non-incapacitating injuries and 11 reports of a “possible injury/complaint of pain”. The bicycle collision occurred when a 12-year-old female rode a bicycle westbound across Highway 213 while disregarding the traffic signal. She sustained non-incapacitating injuries. The fatal collision occurred when a northbound through vehicle failed to stop at the red light and struck a southbound vehicle making a left turn toward the Clackamas Community College campus, killing the 76-year-old passenger in the left-turning vehicle. Based on the details of the detailed crash data, there were no inherent safety deficiencies at the intersection that contributed to the fatality. The crash rate for the intersection was calculated to be 0.45 crashes per million entering vehicles.

Based on the detailed review of crash history at the study area intersections, no significant safety hazards were identified and no mitigations are recommended.

LEFT-TURN LANE WARRANT ANALYSIS

Installation of a left-turn lane on a major-street approach is primarily a safety consideration, since left-turn lanes allow vehicles to move out of the through travel lane while waiting for a safe gap in the opposing traffic stream. Installation of a left-turn lane reduces rear-end collisions that would otherwise occur between through vehicles and vehicles that are stopped within the travel lane. They are also associated with reductions in turning-movement collisions, head-on collisions and sideswipe collisions, since they provide lateral separation between the opposing through travel lanes and allow left-turning drivers to wait without impeding through traffic.

Major-street left-turn lanes are already in place at all of the study area intersections. Accordingly, no new left-turn lanes are recommended.

INTERSECTION SIGHT DISTANCE

Sight distance cannot be measured directly at the site access locations due to the fact that the road segments are not currently complete and existing vegetation with the subject property that will be cleared upon development of the project site currently obstructs sight distance. There are no significant hills which will obstruct sight distance in the future, so it is recommended that the site accesses be designed to provide adequate intersection sight distance in each direction.

The required intersection sight distance along Meyers Road is 390 feet in each direction based on the 35 mph speed limit.

The required intersection sight distance along High School Avenue is 225 feet to the south, based on a potential speed of up to 20 mph for turning vehicles approaching from Meyers Road if the stop signs are removed from the intersection. The required intersection sight distance to the north is 280 feet based on an assumed 25 mph speed limit for the roadway.



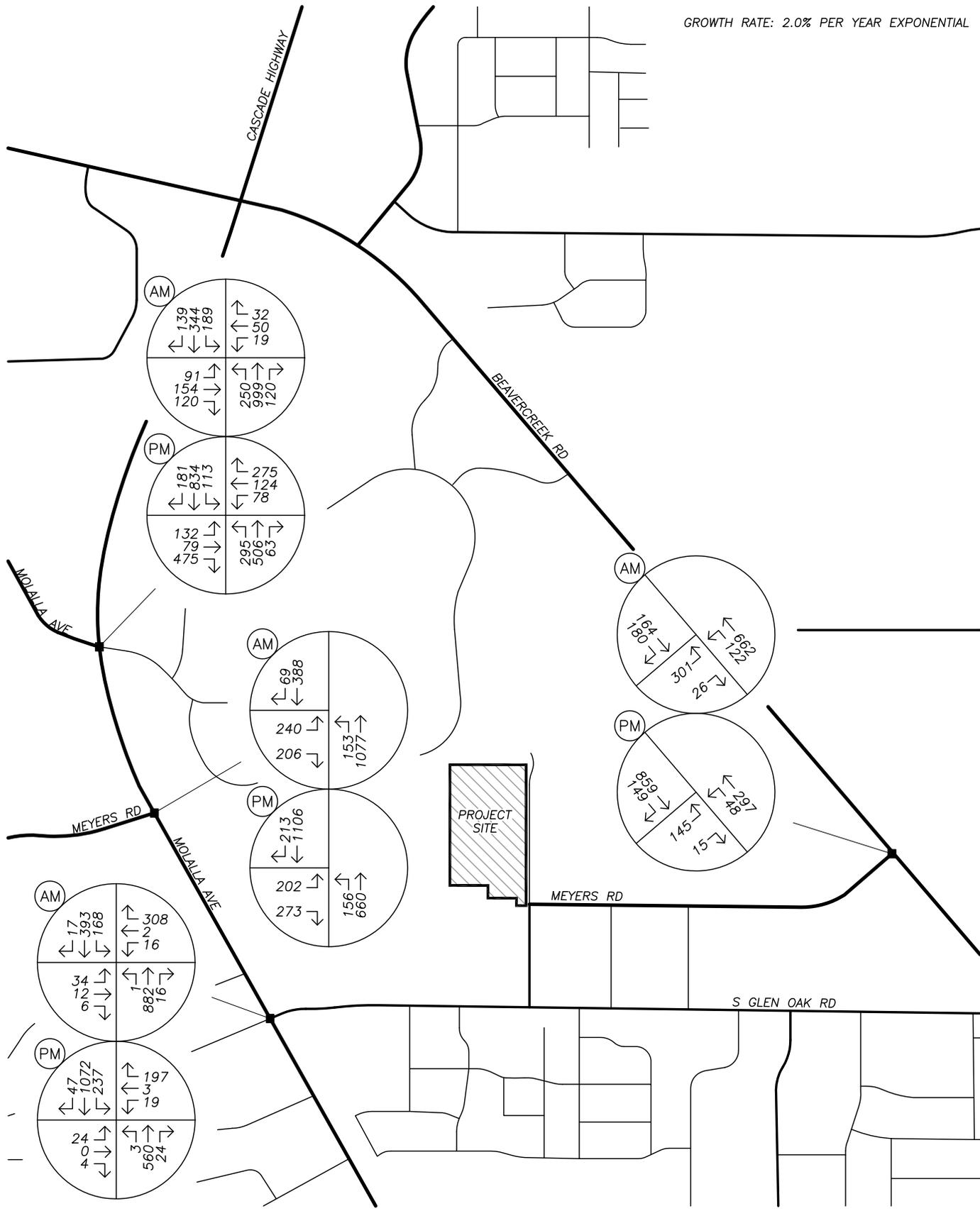
OPERATIONAL ANALYSIS

BACKGROUND TRAFFIC

The proposed development is expected to be completed and fully functional by 2016. In order to account for traffic volume growth between the time of the count data collection in 2014 and the year of project completion, two years of growth at two percent per year were added to the study area intersections. This growth accounts for the impacts of development outside the immediate project vicinity which will result in increased traffic throughout Oregon City.

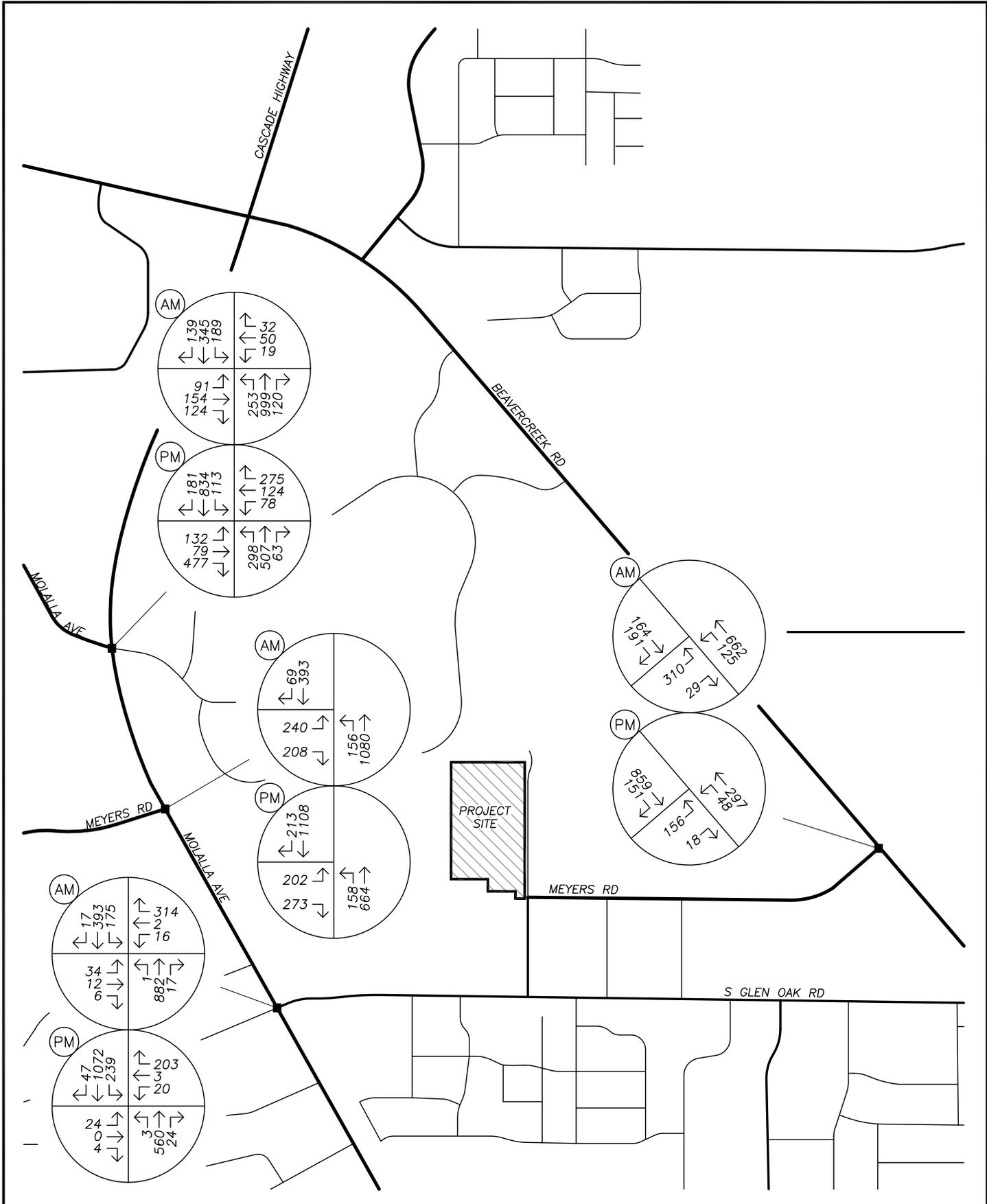
In addition to determining the likely traffic volumes in the site vicinity for the year of project completion, an additional analysis was prepared for year 2020 traffic conditions. At that time, it is anticipated that the extension of Meyers Road between Highway 213 and High School Avenue will be completed, resulting in diversion of existing traffic patterns where drivers will use the new roadway. A new extension of Loder Road between Beavercreek Road and Glen Oak Road immediately east of Highway 213 is also anticipated to be completed at that time. In order to assess the impacts of the proposed development on the transportation system at that time, the year 2020 background traffic volumes at the study area intersections were also analyzed assuming that this improvement is in place.

Figure 4 on page 16 shows the year 2016 background traffic volumes. Figure 5 on page 17 shows the year 2016 background traffic with addition of site trips from the proposed development. Figure 6 on page 18 shows the year 2020 background traffic volumes upon completion of the Meyers Road connection between Highway 213 and High School Avenue. Figure 7 on page 19 shows the projected year 2020 traffic volumes with the addition of site trips from the proposed development.



TRAFFIC VOLUMES
Year 2016 Background Conditions
AM & PM Peak Hours





TRAFFIC VOLUMES
 Year 2016 Background Plus Site Conditions
 AM & PM Peak Hours



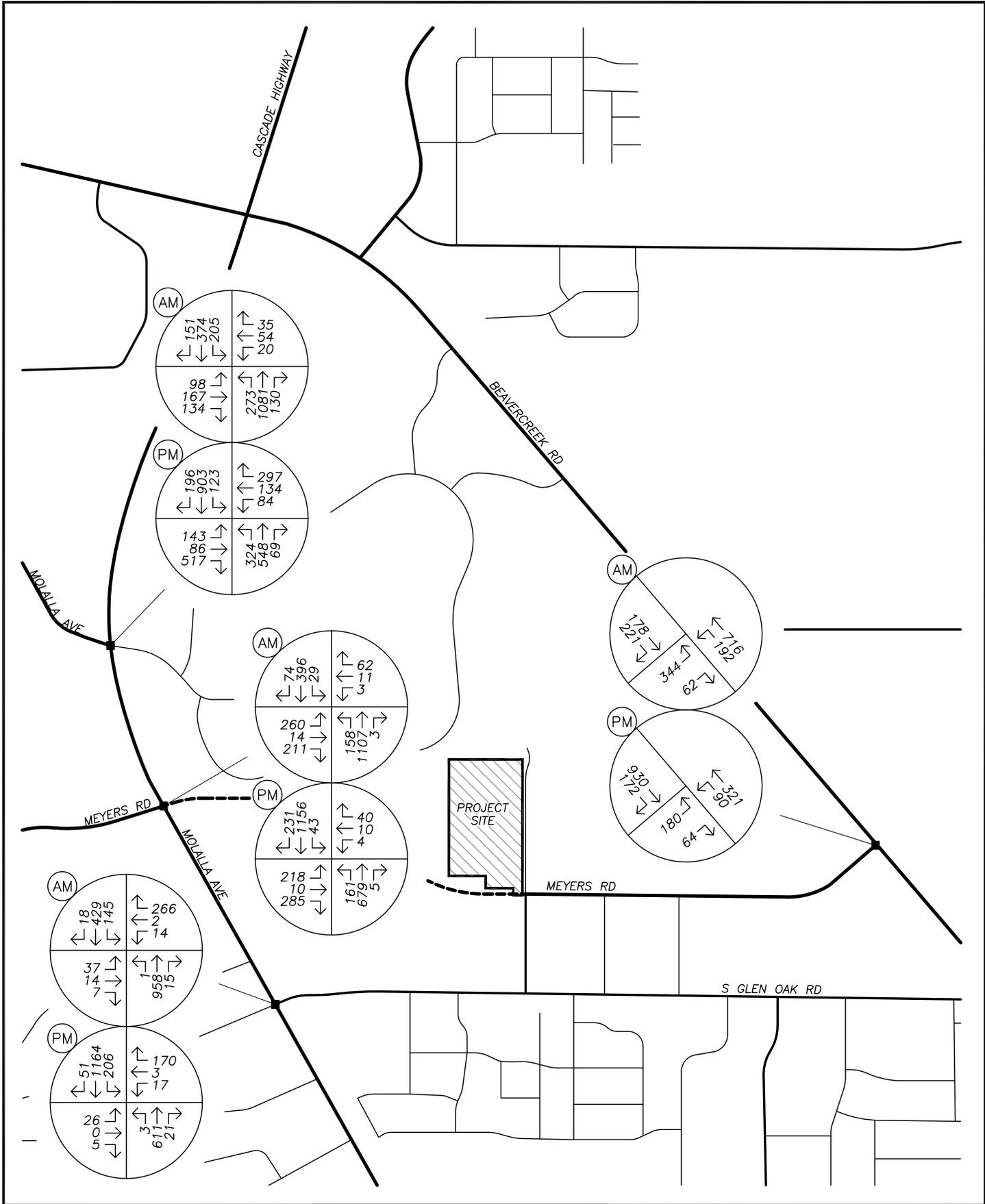
FIGURE 5

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TRAFFIC VOLUMES
 Year 2020 Background Conditions
 AM & PM Peak Hours





TRAFFIC VOLUMES
 Year 2020 Background Plus Site Conditions
 AM & PM Peak Hours



FIGURE
7

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CAPACITY ANALYSIS

To determine the level of service at the study intersections, a capacity analysis was conducted. The analysis was conducted according to the signalized intersection analysis methodologies in the *HIGHWAY CAPACITY MANUAL* (HCM) published by the Transportation Research Board. Level of service can range from A, which indicates little or no delay, to F, which indicates a significant amount of congestion and delay. Oregon City has recently established new operational standards for intersection performance. Intersections outside the Regional Center but designated on the Arterial and Throughway Network are required to operate with a v/c ratio of 0.99 or less. Signalized intersections outside the boundaries of the Regional Center and not on the Arterial and Throughway Network are required to operate at level of service “D” or better and with no approach operating at worse than LOS “E” and with a v/c ration not higher than 1.0 for the sum of the critical movements.

The intersection of Beavercreek Road at Meyers Road is currently operating at level of service B during the morning peak hour and level of service A during the evening peak hour. Under year 2016 traffic conditions, the intersection is projected to operate at level of service B during the morning and evening peak hour either with or without the addition of site trips from the proposed development. Under year 2020 traffic conditions, the intersection is projected to operate at level of service C during the morning peak hour and level of service B during the evening peak hour either with or without the addition of site trips from the proposed development. Intersection operation is acceptable and no mitigations are recommended.

The intersection of Meyers Road at High School Avenue currently operates under all-way stop control. Traffic volumes on all approaches are low, and delays are minimal. The intersection operates at level of service A/B and will continue to operate well within capacity and with a high level of service through 2016 either with or without the addition of site trips from the proposed development. Intersection operation is acceptable and no mitigations are recommended. Under year 2020 traffic conditions with the completion of the Meyers Avenue extension, it is assumed that the intersection will be converted to operate under stop control for the northbound and southbound approaches, while the eastbound and westbound Meyers Avenue approaches will be free-flowing, since Meyers Road is designated as a Minor Arterial street. The traffic volumes anticipated along Meyers Road upon completion of the street connection will be well within the capacity of the intersection. Again, no operational mitigations are recommended.

The intersection of Glen Oak Road at High School Avenue currently operates at level of service C for the stop-controlled minor-street approach during the morning peak hour and level of service B during the evening peak hour. Under year 2016 traffic conditions, the intersection is projected to continue to operate similarly either with or without the addition of site trips from the proposed facilities. Under year 2020 traffic conditions the completion of the Meyers Road extension will result in a nominal decrease in through traffic volumes traveling along Glen Oak Road and a decrease in southbound traffic volumes on High School Avenue. Accordingly, operation of this intersection would be expected to improve upon completion of the Meyers Road connection. Again, no operational mitigations are recommended.

The intersection of Highway 213 at Glen Oak Road currently operates at level of service C during the morning peak hour and level of service B during the evening peak hour. Under year 2016 traffic



conditions the intersection is projected to continue to operate with these levels of service either with or without the addition of site trips from the proposed development. Under year 2020 traffic conditions, the intersection is projected to operate at level of service C during the morning and evening peak hours either with or without the addition of site trips from the proposed development. Intersection operation is acceptable and no mitigations are recommended.

The intersection of Highway 213 at Meyers Road currently operates at level of service C during the morning peak hour and level of service B during the evening peak hour. Under year 2016 traffic conditions the intersection is projected to continue to operate with these levels of service either with or without the addition of site trips from the proposed development. Under year 2020 traffic conditions, the intersection is projected to operate at level of service C during the morning and evening peak hours either with or without the addition of site trips from the proposed development. Intersection operation is acceptable and no mitigations are recommended.

The intersection of Highway 213 at Molalla Avenue/S Douglas Loop currently operates at level of service C during the morning and evening peak hours. Under year 2016 traffic conditions the intersection is projected to continue to operate at level of service C during the morning and evening peak hours either with or without the addition of site trips from the proposed development. Under year 2020 traffic conditions, the intersection is projected to operate at level of service C during the morning peak hour and level of service D during the evening peak hour either with or without the addition of site trips from the proposed development. Intersection operation is acceptable and no mitigations are recommended.

The results of the capacity analysis, along with the Levels of Service (LOS) and delay are shown in the table on the following page. Detailed capacity analysis results are included in the appendix to this report.

LEVEL OF SERVICE SUMMARY

	AM Peak Hour			PM Peak Hour		
	<u>LOS</u>	<u>Delay</u>	<u>V/C</u>	<u>LOS</u>	<u>Delay</u>	<u>V/C</u>
<i>Beavercreek Road at Meyers Road</i>						
2014 Existing Conditions	B	16	0.80	A	9	0.72
2016 Background	B	17	0.82	B	10	0.75
2016 Background plus Site	B	18	0.83	B	11	0.76
2020 Background	C	23	0.87	B	14	0.81
2020 Background plus Site	C	24	0.88	B	15	0.82
<i>Highway 213 at Glen Oak Road</i>						
2014 Existing Conditions	C	27	0.84	B	17	0.75
2016 Background	C	31	0.89	B	19	0.78
2016 Background plus Site	C	33	0.90	B	19	0.78
2020 Background	C	30	0.87	C	22	0.81
2020 Background plus Site	C	30	0.87	C	22	0.81
<i>Highway 213 at Meyers Road</i>						
2014 Existing Conditions	C	21	0.82	B	17	0.61
2016 Background	C	22	0.85	B	17	0.63
2016 Background plus Site	C	22	0.85	B	17	0.63
2020 Background	C	32	0.98	C	21	0.66
2020 Background plus Site	C	33	0.98	C	21	0.67
<i>Highway 213 at Molalla Avenue</i>						
2014 Existing Conditions	C	23	0.65	C	29	0.67
2016 Background	C	25	0.65	C	31	0.70
2016 Background plus Site	C	25	0.65	C	31	0.71
2020 Background	C	30	0.67	D	40	0.76
2020 Background plus Site	C	30	0.67	D	40	0.76

LOS = Level of Service

Delay = Average Delay per Vehicle in Seconds

V/C = Volume-to-Capacity ratio

Based on the detailed operational analysis, the study area intersections are currently operating acceptably and are projected to continue operating acceptably upon completion of the proposed transportation maintenance facility. No operational mitigations are necessary or recommended.



PASSENGER CAR PARKING

Oregon City's development code does not contain parking requirements for any uses substantially similar to the proposed transportation maintenance facility. Accordingly, it is appropriate to evaluate the expected parking generation characteristics of the site based on other data sources.

A review of parking requirements for other jurisdictions in the greater Portland area revealed no parking provisions specific to this land use; however the City of Hillsboro did have parking requirements for a "Vehicle Storage Parking" land use, with minimum and maximum parking requirements based on the number of employees. This approach to parking generation appears suitable to assessing the parking needs of the bus drivers that will utilize on-site parking. Parking requirements for the office staff and maintenance workers/mechanics were determined based on the gross floor areas of the offices and service bay areas (using *business/office* and *storage warehouse/light industrial* parking code requirements, respectively).

The City of Hillsboro's minimum parking requirement for "Vehicle Storage Parking" is 0.5 spaces per employee, with a maximum of 1.0 spaces per employee. Since the proposed facility would have up to 81 bus drivers, this equates to a range of 41 to 81 parking spaces for bus drivers.

Based on the office floor area of 10,970 square feet, Oregon City requires a minimum of 30 parking spaces and a maximum of 37 parking spaces. Based on the maintenance floor area of 19,981 square feet, the city requires a minimum of 26 parking spaces and a maximum of 32 parking spaces.

Considering the three uses and the fact that peak demands from each of these uses occur at the same time, the proposed facilities were calculated to require a minimum total of 97 parking spaces, and the maximum allowable parking was calculated to be 150 spaces. The proposed development includes 138 parking spaces, which meets the minimum and maximum parking requirements for the proposed transportation maintenance facility.

In addition to examination of the parking requirements for the proposed facilities, the overall parking requirements for the high school campus were considered. The campus parking demands are comprised of parking demands associated with the high school, the sports fields and facilities, and the proposed transportation maintenance facility. Based on data from *PARKING GENERATION, 4TH EDITION*, published by the Institute of Transportation Engineers, the peak parking demands for high schools occur between 2:00 and 3:00 PM. The peak parking demands for sports fields is not well documented; however peak parking demands have been noted as occurring between 3:00 and 4:00 PM. Peak parking demands for the transportation facilities are expected to occur during times when buses are most active, which times align closely with the peak parking demands of the high school and sports fields. Based on the data, the peak parking demands of the three major uses within the site are expected to substantially overlap. Accordingly, the cumulative parking demands of these uses were considered in order to determine a recommended minimum and maximum parking level for the site. This approach is also in keeping with city code, which requires that "In the event that 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."

For the high school facilities, Oregon City requires a minimum of 0.2 parking spaces and a maximum of 0.3 parking spaces per person for the total number of students and staff. The Oregon City



High School campus currently serves 2,500 students and 250 staff, for a total of 2,750 people. Based on this population, the minimum parking required is 550 spaces, and the maximum allowable parking is 825 spaces.

Oregon City also does not have specific parking requirements for sports fields; however there is data available in the ITE *PARKING GENERATION* manual for sports-related fields. Based on the data, a parking demand range of 13.3 to 70.8 vehicles per field was observed. The 85th percentile demand observed was 60.5 vehicles per field. Accordingly a minimum parking level of 13.3 parking spaces per field and a maximum of 60.5 parking spaces per field is recommended.

For the sports fields within the campus, it is expected that not all sports fields will be active during any one season. However, it is reasonable to expect that half of the fields may be active at the same time during portions of the school year. Accordingly, the parking demand for these facilities was calculated based on a total of five active fields. The minimum required parking was calculated to be 67 spaces and the maximum allowable parking was calculated to be 303 spaces.

Based on the cumulative uses within the campus, the minimum parking recommended was calculated to be 714 spaces, and the maximum parking recommended was calculated to be 1,278 spaces. The proposed development includes 1,176 parking spaces at completion of Phase 1, and 1,121 parking spaces for Phases 2-4. The proposed parking levels fall within the recommended allowable range for the campus as a whole.

Based on the detailed automobile parking analysis, the 138 proposed parking spaces within the transportation maintenance facility site is within the recommended acceptable range of 97 to 150 spaces for this facility as considered alone. The proposed parking supply within the entire campus also falls within the recommended range of 714 to 1,278 parking spaces.

BICYCLE PARKING

Oregon City's development code includes requirements for bicycle parking; however there are no land uses matching the description of the proposed transportation maintenance facility. Accordingly, it is appropriate to make a determination regarding the required bicycle parking for this land use.

A large portion of the subject property is used for school district vehicle storage and maintenance. These vehicles are not used for commuting, and bicycles cannot reasonably be substituted for buses for transporting children, nor can bicycles substitute for maintenance vehicles. Accordingly, it is recommended that no bicycle parking be required based on the parking spaces provided for bus and equipment parking, storage and maintenance within the site.

It is recommended that the parking spaces provided for employee vehicles be treated as equivalent to parking for other employment-related land uses. Using the standard of 1 bicycle parking space per 20 motorized vehicle spaces that is applicable for office land uses appears to be appropriate for the context of this development. Based on the 150 employee parking spaces provided within the site, no fewer than eight bicycle parking spaces should be provided, with at least four covered spaces.



CONCLUSIONS

Based on the detailed review of crash history at the study area intersections, no significant safety hazards were identified and no specific mitigations are recommended.

The study intersections have appropriate left-turn lanes in place. No new left-turn lanes are recommended in conjunction with the proposed development.

The proposed site access driveways on Meyers Road and High School Avenue should be designed to provide sufficient intersection sight distance for safe operation of the future intersections. There are no significant vertical obstructions to sight distance, and existing vegetation within the site will be cleared as needed to provide safe sight lines.

Based on the operational analysis, the study area intersections currently operate acceptably and are projected to continue operating acceptably under year 2016 and year 2020 traffic conditions either with or without the addition of site trips from the proposed transportation maintenance facility. No operational mitigations are necessary or recommended in conjunction with the proposed development.

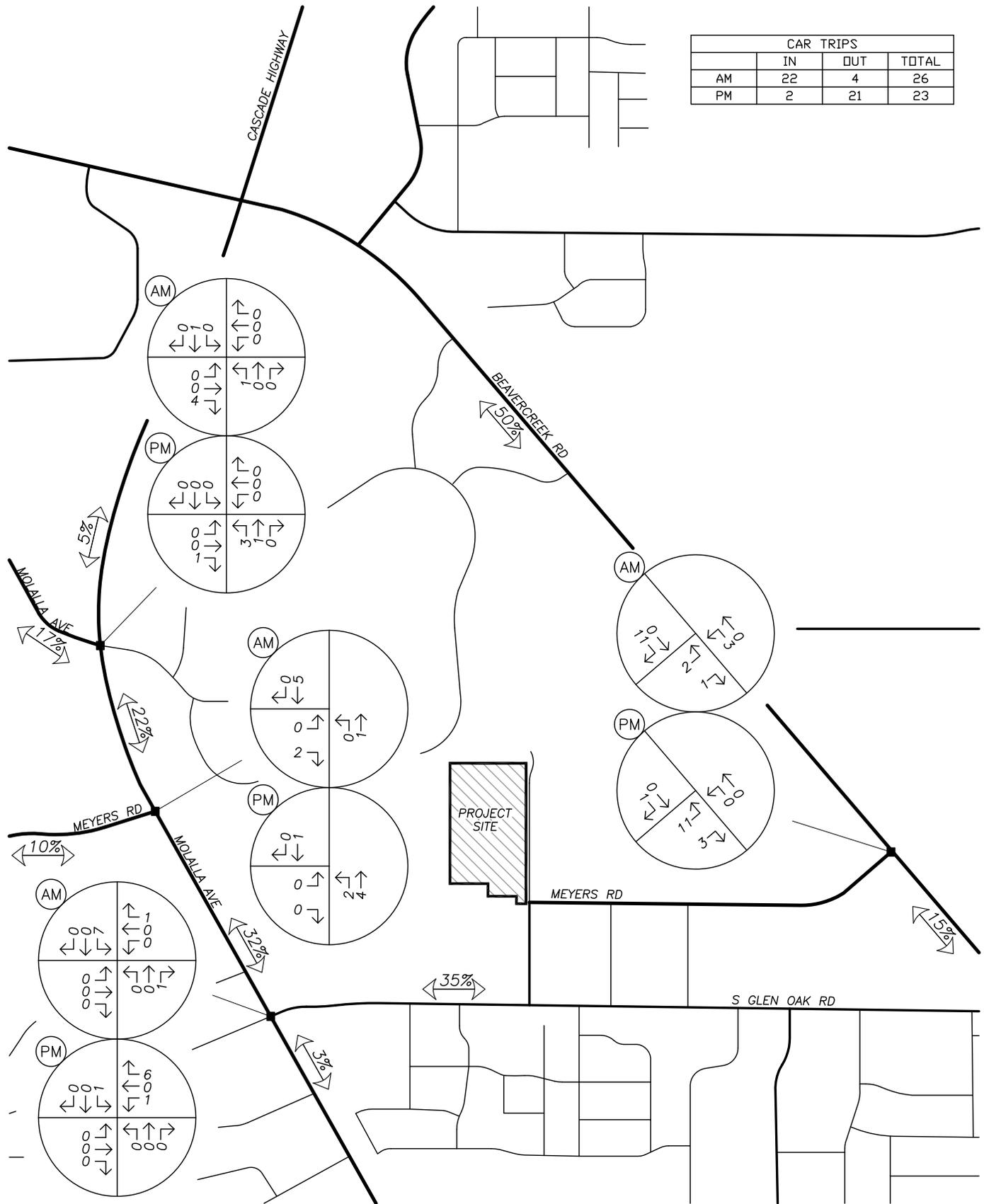
Based on the detailed automobile parking analysis, the 138 proposed parking spaces within the transportation maintenance facility site is within the recommended acceptable range of 97 to 150 spaces for this facility as considered alone. The proposed parking supply within the entire campus also falls within the recommended range of 714 to 1,278 parking spaces.

Oregon City does not have explicit requirements for bicycle parking for public school transportation and maintenance facilities. Accordingly, it is recommended that the minimum bicycle parking standard be established based on the number of parking spaces provided for employees and the typical requirement for at least one bicycle parking space per 20 motorized vehicle spaces. Using this approach, a minimum of eight bicycle parking spaces should be provided within the subject property, with at least four spaces covered.



APPENDIX

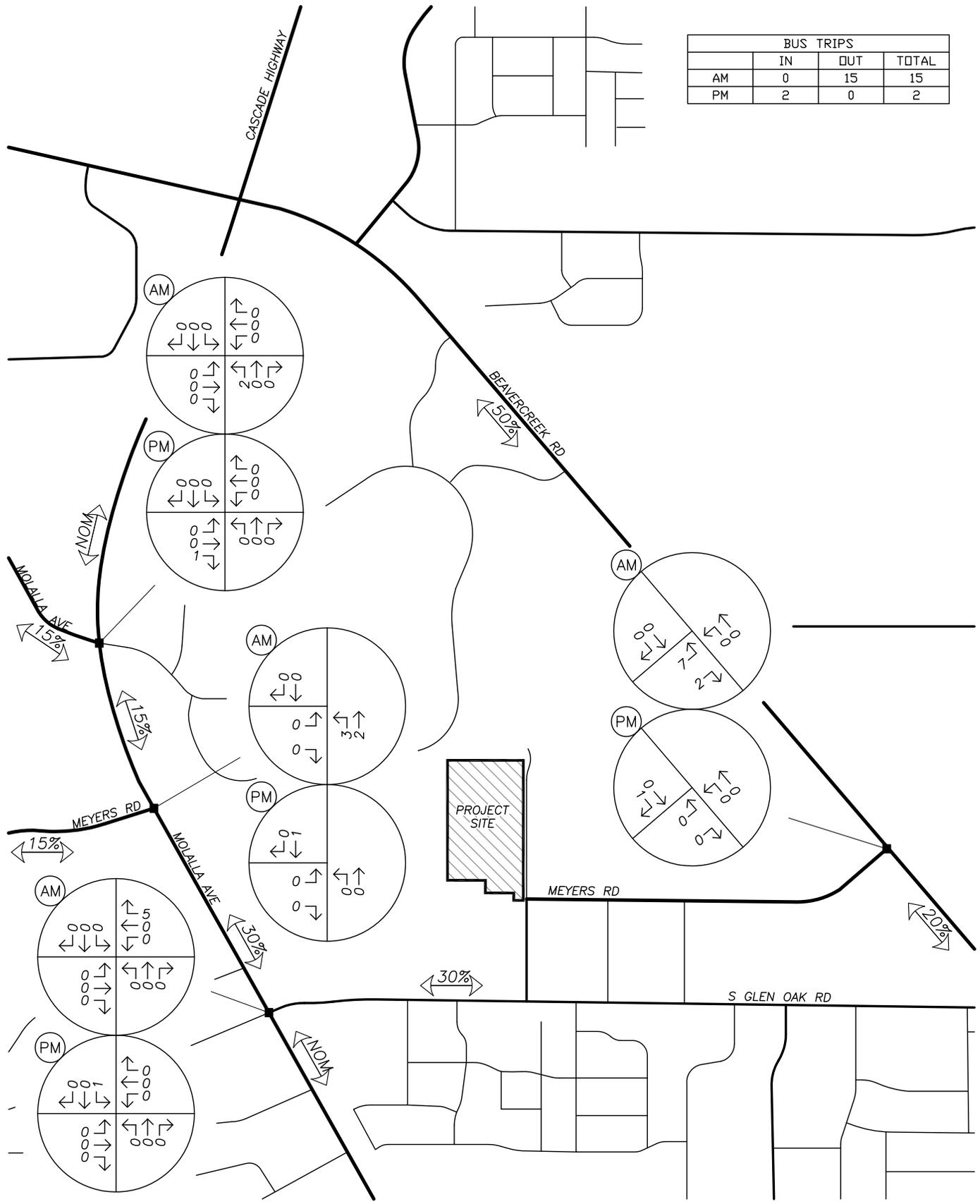
CAR TRIPS			
	IN	OUT	TOTAL
AM	22	4	26
PM	2	21	23



SITE TRIP DISTRIBUTION & ASSIGNMENT
 Proposed Development Plan – Passenger Car Trips
 AM & PM Peak Hours



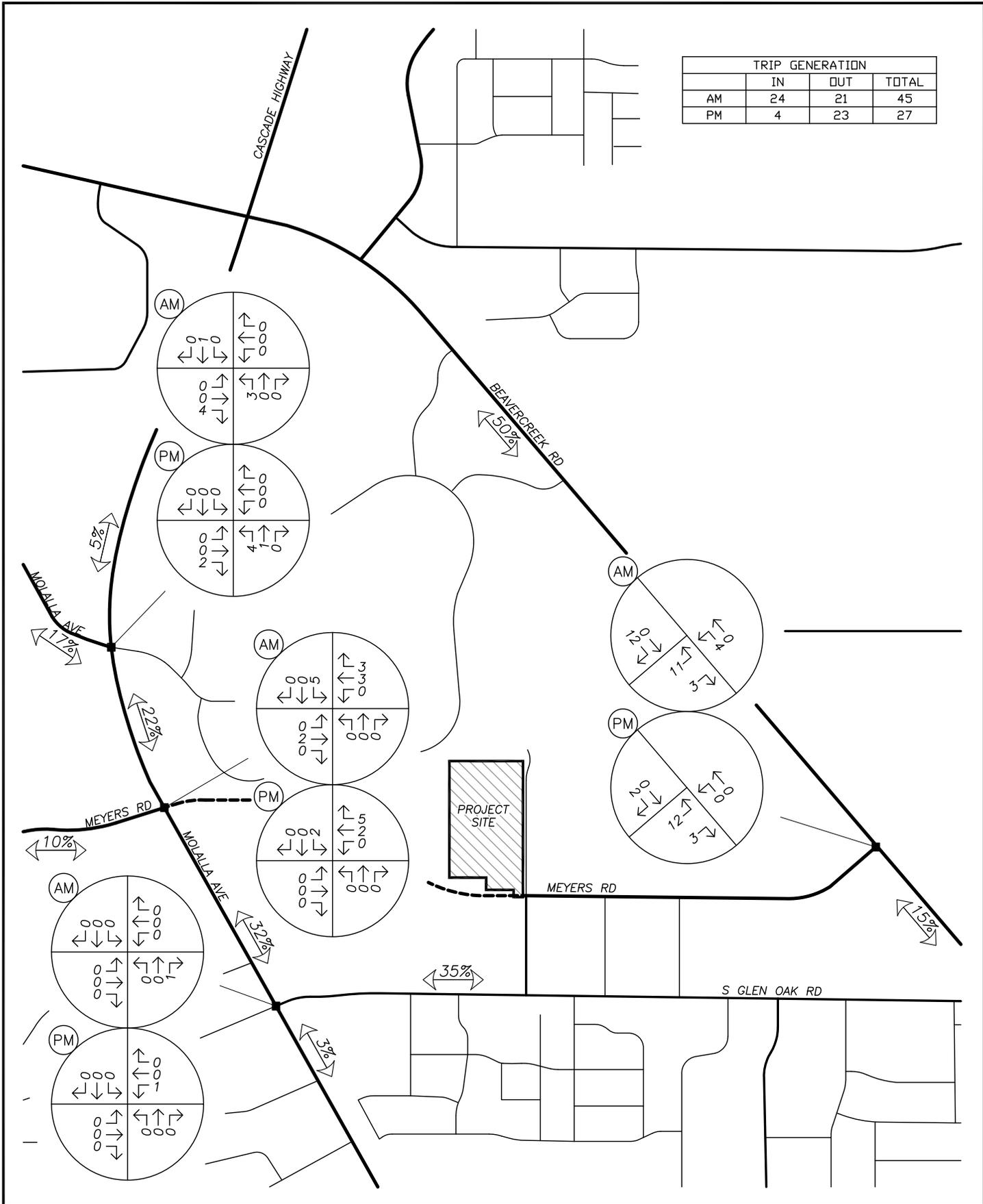
BUS TRIPS			
	IN	OUT	TOTAL
AM	0	15	15
PM	2	0	2



SITE TRIP DISTRIBUTION & ASSIGNMENT
 Proposed Development Plan – Bus Trips
 AM & PM Peak Hours



TRIP GENERATION			
	IN	OUT	TOTAL
AM	24	21	45
PM	4	23	27



SITE TRIP DISTRIBUTION & ASSIGNMENT
 Twenty Year Outlook – Total Site Trips
 AM & PM Peak Hours





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

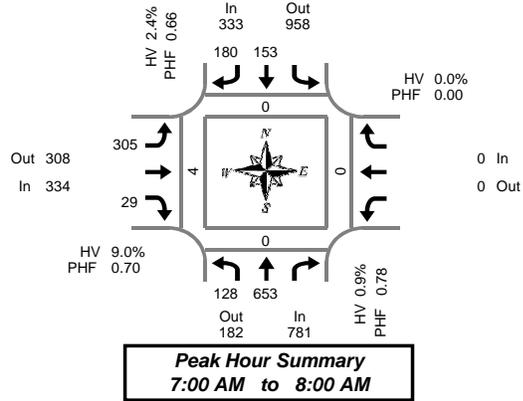
*LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS*

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

Total Vehicle Summary



Clay Carney
(503) 833-2740



Beaver Creek Rd & Meyers Rd

Thursday, October 23, 2014

7:00 AM to 9:00 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Beaver Creek Rd			Southbound Beaver Creek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	5	45	0	10	4	0	17	2	0			0	83	0	0	0	0
7:05 AM	8	59	0	7	8	0	16	2	0			0	100	0	0	0	0
7:10 AM	9	44	0	7	10	0	33	1	0			0	104	0	0	0	1
7:15 AM	5	49	0	12	18	0	25	3	0			0	112	0	0	0	1
7:20 AM	17	73	0	6	17	0	29	1	0			0	143	0	0	0	0
7:25 AM	19	45	0	12	36	0	27	3	0			0	142	0	0	0	0
7:30 AM	37	60	0	14	27	0	34	3	0			0	175	0	0	0	1
7:35 AM	22	61	0	15	23	0	34	7	0			0	162	0	0	0	1
7:40 AM	4	45	0	23	21	0	36	5	0			0	134	0	0	0	0
7:45 AM	2	51	0	17	8	0	29	0	0			0	107	0	0	0	0
7:50 AM	0	70	0	16	3	0	17	0	0			0	106	0	0	0	0
7:55 AM	0	51	0	14	5	0	8	2	0			0	80	0	0	0	0
8:00 AM	0	45	0	9	3	0	16	0	0			0	73	0	0	0	0
8:05 AM	2	42	0	13	2	0	1	0	0			0	60	0	0	0	0
8:10 AM	1	34	0	10	2	0	4	0	0			0	51	0	0	0	0
8:15 AM	1	39	0	14	2	0	8	1	1			0	65	0	0	0	0
8:20 AM	0	40	0	14	2	0	5	1	0			0	62	0	0	0	0
8:25 AM	0	30	0	13	2	0	3	1	0			0	49	0	0	0	0
8:30 AM	2	38	0	13	1	0	6	1	0			0	61	0	0	0	0
8:35 AM	4	40	0	12	0	0	6	0	0			0	62	0	0	0	0
8:40 AM	2	39	0	10	3	0	6	1	0			0	61	0	0	0	0
8:45 AM	1	55	0	13	7	0	10	0	0			0	86	0	0	0	0
8:50 AM	4	38	0	18	6	0	9	3	0			0	78	0	0	0	0
8:55 AM	1	31	0	23	5	0	13	0	0			0	73	0	0	0	0
Total Survey	146	1,124	0	315	215	0	392	37	1			0	2,229	0	0	0	4

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Beaver Creek Rd			Southbound Beaver Creek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	22	148	0	24	22	0	66	5	0			0	287	0	0	0	1
7:15 AM	41	167	0	30	71	0	81	7	0			0	397	0	0	0	1
7:30 AM	63	166	0	52	71	0	104	15	0			0	471	0	0	0	2
7:45 AM	2	172	0	47	16	0	54	2	0			0	293	0	0	0	0
8:00 AM	3	121	0	32	7	0	21	0	0			0	184	0	0	0	0
8:15 AM	1	109	0	41	6	0	16	3	1			0	176	0	0	0	0
8:30 AM	8	117	0	35	4	0	18	2	0			0	184	0	0	0	0
8:45 AM	6	124	0	54	18	0	32	3	0			0	237	0	0	0	0
Total Survey	146	1,124	0	315	215	0	392	37	1			0	2,229	0	0	0	4

Peak Hour Summary

7:00 AM to 8:00 AM

By Approach	Northbound Beaver Creek Rd				Southbound Beaver Creek Rd				Eastbound Meyers Rd				Westbound Meyers 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	781	182	963	0	333	958	1,291	0	334	308	642	0	0	0	0	0	1,448	0	0	0	4
%HV	0.9%				2.4%				9.0%				0.0%				3.1%				
PHF	0.78				0.66				0.70				0.00				0.76				

By Movement	Northbound Beaver Creek Rd			Southbound Beaver Creek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Total				
	L	T	Total	T	R	Total	L	R	Total			Total					
Volume	128	653	781	153	180	333	305	29	334			0	1,448				
%HV	0.8%	0.9%	NA	0.9%	NA	2.0%	2.8%	2.4%	9.5%	NA	3.4%	9.0%	NA	NA	NA	0.0%	3.1%
PHF	0.41	0.92	0.78	0.68	0.52	0.66	0.73	0.48	0.70			0.00	0.76				

Rolling Hour Summary

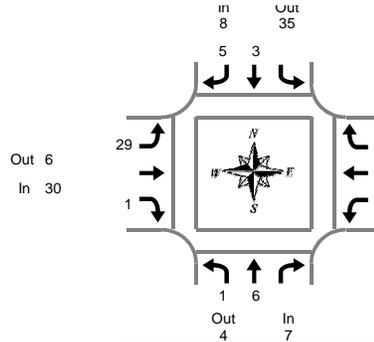
7:00 AM to 9:00 AM

Interval Start Time	Northbound Beaver Creek Rd			Southbound Beaver Creek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	128	653	0	153	180	0	305	29	0			0	1,448	0	0	0	4
7:15 AM	109	626	0	161	165	0	260	24	0			0	1,345	0	0	0	3
7:30 AM	69	568	0	172	100	0	195	20	1			0	1,124	0	0	0	2
7:45 AM	14	519	0	155	33	0	109	7	1			0	837	0	0	0	0
8:00 AM	18	471	0	162	35	0	87	8	1			0	781	0	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
7:00 AM to 8:00 AM

Beavercreek Rd & Meyers Rd

Thursday, October 23, 2014

7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Beavercreek Rd			Southbound Beavercreek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	0	0	0	1	0	1	4	1	5			0	6
7:05 AM	1	1	2	0	1	1	6	0	6			0	9
7:10 AM	0	0	0	1	0	1	9	0	9			0	10
7:15 AM	0	0	0	0	0	0	4	0	4			0	4
7:20 AM	0	0	0	0	0	0	1	0	1			0	1
7:25 AM	0	0	0	0	2	2	0	0	0			0	2
7:30 AM	0	0	0	0	0	0	2	0	2			0	2
7:35 AM	0	1	1	0	2	2	2	0	2			0	5
7:40 AM	0	1	1	0	0	0	0	0	0			0	1
7:45 AM	0	0	0	0	0	0	0	0	0			0	0
7:50 AM	0	1	1	1	0	1	1	0	1			0	3
7:55 AM	0	2	2	0	0	0	0	0	0			0	2
8:00 AM	0	0	0	0	1	1	1	0	1			0	2
8:05 AM	0	1	1	2	0	2	0	0	0			0	3
8:10 AM	0	0	0	2	0	2	0	0	0			0	2
8:15 AM	0	0	0	0	0	0	1	0	1			0	1
8:20 AM	0	2	2	0	0	0	1	0	1			0	3
8:25 AM	0	1	1	2	1	3	0	0	0			0	4
8:30 AM	0	0	0	0	0	0	0	0	0			0	0
8:35 AM	0	1	1	1	0	1	0	0	0			0	2
8:40 AM	0	1	1	0	0	0	0	0	0			0	1
8:45 AM	0	3	3	1	0	1	0	0	0			0	4
8:50 AM	0	0	0	2	1	3	0	0	0			0	3
8:55 AM	0	0	0	0	0	0	0	0	0			0	0
Total Survey	1	15	16	13	8	21	32	1	33			0	70

Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Beavercreek Rd			Southbound Beavercreek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	1	1	2	2	1	3	19	1	20			0	25
7:15 AM	0	0	0	0	2	2	5	0	5			0	7
7:30 AM	0	2	2	0	2	2	4	0	4			0	8
7:45 AM	0	3	3	1	0	1	1	0	1			0	5
8:00 AM	0	1	1	4	1	5	1	0	1			0	7
8:15 AM	0	3	3	2	1	3	2	0	2			0	8
8:30 AM	0	2	2	1	0	1	0	0	0			0	3
8:45 AM	0	3	3	3	1	4	0	0	0			0	7
Total Survey	1	15	16	13	8	21	32	1	33			0	70

Heavy Vehicle Peak Hour Summary

7:00 AM to 8:00 AM

By Approach	Northbound Beavercreek Rd			Southbound Beavercreek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	4	11	8	35	43	30	6	36	0	0	0	45
PHF	0.58			0.50			0.38			0.00			0.45

By Movement	Northbound Beavercreek Rd			Southbound Beavercreek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Total
	L	T	Total	T	R	Total	L	R	Total			Total	
Volume	1	6	7	3	5	8	29	1	30			0	45
PHF	0.25	0.50	0.58	0.38	0.31	0.50	0.38	0.25	0.38			0.00	0.45

Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Beavercreek Rd			Southbound Beavercreek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	1	6	7	3	5	8	29	1	30			0	45
7:15 AM	0	6	6	5	5	10	11	0	11			0	27
7:30 AM	0	9	9	7	4	11	8	0	8			0	28
7:45 AM	0	9	9	8	2	10	4	0	4			0	23
8:00 AM	0	9	9	10	3	13	3	0	3			0	25

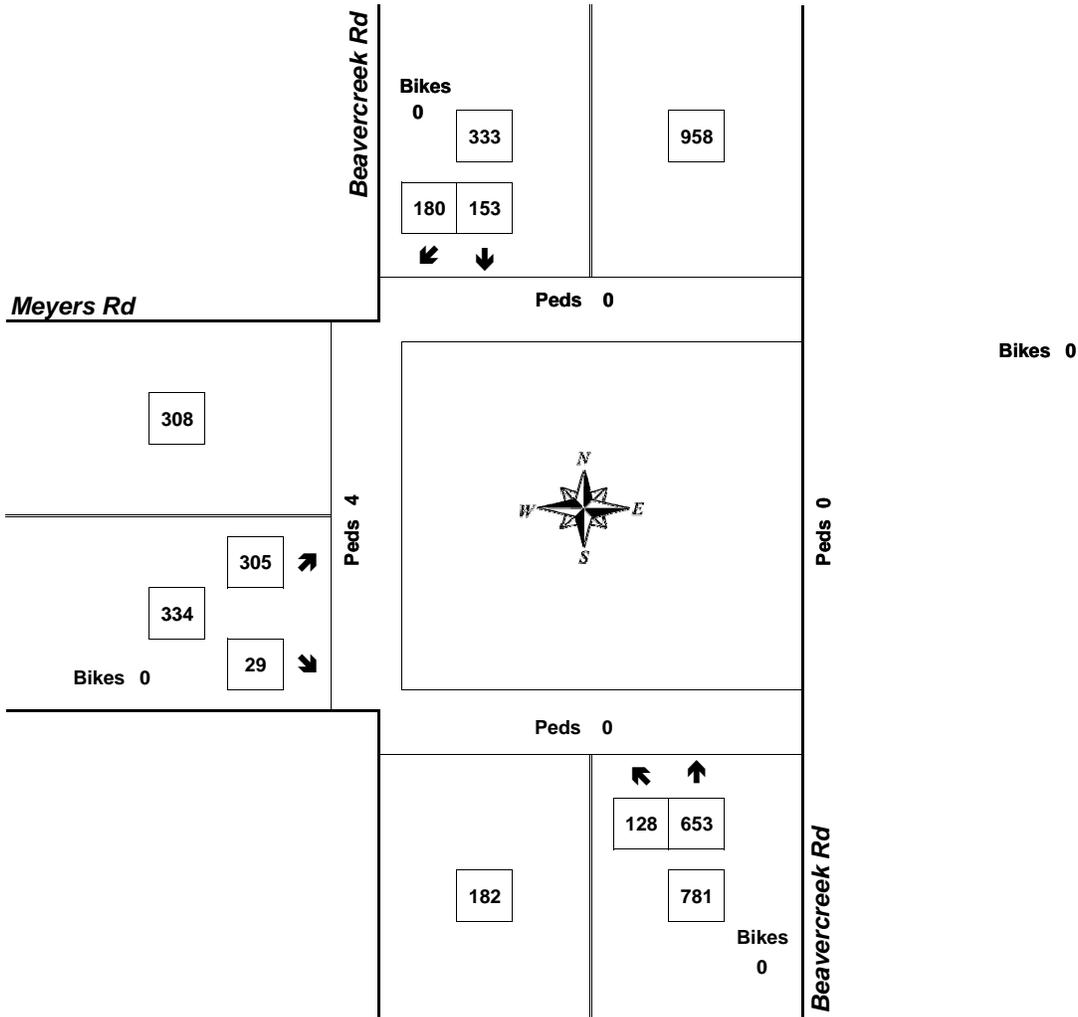
Peak Hour Summary



Clay Carney
(503) 833-2740

Beavercreek Rd & Meyers Rd

7:00 AM to 8:00 AM
Thursday, October 23, 2014



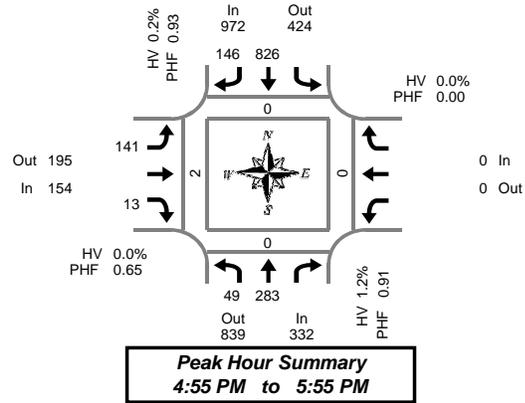
Approach	PHF	HV%	Volume
EB	0.70	9.0%	334
WB	0.00	0.0%	0
NB	0.78	0.9%	781
SB	0.66	2.4%	333
Intersection	0.76	3.1%	1,448

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Beaver Creek Rd & Meyers Rd

Wednesday, October 22, 2014

4:00 PM to 6:00 PM

5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Beaver Creek Rd			Southbound Beaver Creek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	1	29	0	45	8	0	7	1	0			0	91	0	0	0	1
4:05 PM	3	30	0	44	5	0	7	1	0			0	90	0	0	0	0
4:10 PM	0	19	0	53	9	0	5	2	0			0	88	0	0	0	0
4:15 PM	0	28	0	50	8	0	10	1	0			0	97	0	0	0	0
4:20 PM	0	30	0	50	4	0	12	0	0			0	96	0	0	0	0
4:25 PM	0	21	0	52	8	0	7	1	0			0	89	0	0	0	0
4:30 PM	1	21	0	46	13	0	8	0	0			0	89	0	0	0	0
4:35 PM	2	27	0	54	8	0	5	2	0			0	98	0	0	0	0
4:40 PM	1	26	0	39	7	0	3	0	0			0	76	0	0	0	0
4:45 PM	4	21	1	59	9	0	6	0	0			0	99	0	0	0	0
4:50 PM	1	14	0	64	13	0	6	0	0			0	98	0	0	0	0
4:55 PM	4	20	0	57	12	0	9	3	0			0	105	0	0	0	0
5:00 PM	3	26	0	63	13	0	10	2	0			0	117	0	0	0	1
5:05 PM	6	16	0	61	14	0	6	0	0			0	103	0	0	0	0
5:10 PM	5	24	0	90	12	0	7	1	0			0	139	0	0	0	0
5:15 PM	3	25	0	70	15	0	5	0	0			0	118	0	0	0	0
5:20 PM	4	20	0	66	9	0	9	0	0			0	108	0	0	0	0
5:25 PM	8	25	0	73	19	0	8	0	0			0	133	0	0	0	0
5:30 PM	4	27	0	70	12	0	11	0	0			0	124	0	0	0	0
5:35 PM	2	19	0	74	9	0	22	4	0			0	130	0	0	0	0
5:40 PM	6	28	0	60	12	0	12	2	0			0	120	0	0	0	0
5:45 PM	2	20	0	61	14	0	19	0	0			0	116	0	0	0	1
5:50 PM	2	33	0	81	5	0	23	1	0			0	145	0	0	0	0
5:55 PM	1	22	0	57	9	0	7	4	0			0	100	0	0	0	0
Total Survey	63	571	1	1,439	247	0	224	25	0			0	2,569	0	0	0	3

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Beaver Creek Rd			Southbound Beaver Creek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	4	78	0	142	22	0	19	4	0			0	269	0	0	0	1
4:15 PM	0	79	0	152	20	0	29	2	0			0	282	0	0	0	0
4:30 PM	4	74	0	139	28	0	16	2	0			0	263	0	0	0	0
4:45 PM	9	55	1	180	34	0	21	3	0			0	302	0	0	0	0
5:00 PM	14	66	0	214	39	0	23	3	0			0	359	0	0	0	1
5:15 PM	15	70	0	209	43	0	22	0	0			0	359	0	0	0	0
5:30 PM	12	74	0	204	33	0	45	6	0			0	374	0	0	0	0
5:45 PM	5	75	0	199	28	0	49	5	0			0	361	0	0	0	1
Total Survey	63	571	1	1,439	247	0	224	25	0			0	2,569	0	0	0	3

Peak Hour Summary

4:55 PM to 5:55 PM

By Approach	Northbound Beaver Creek Rd				Southbound Beaver Creek Rd				Eastbound Meyers Rd				Westbound Meyers 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	332	839	1,171	0	972	424	1,396	0	154	195	349	0	0	0	0	0	1,458	0	0	0	2
%HV	1.2%				0.2%				0.0%				0.0%				0.4%				
PHF	0.91				0.93				0.65				0.00				0.94				

By Movement	Northbound Beaver Creek Rd			Southbound Beaver Creek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Total				
	L	T	Total	T	R	Total	L	R	Total			Total					
Volume	49	283	332	826	146	972	141	13	154			0	1,458				
%HV	0.0%	1.4%	NA	1.2%	NA	0.1%	0.7%	0.2%	0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	0.4%
PHF	0.77	0.87	0.91	0.91	0.85	0.93	0.65	0.54	0.65			0.00	0.94				

Rolling Hour Summary

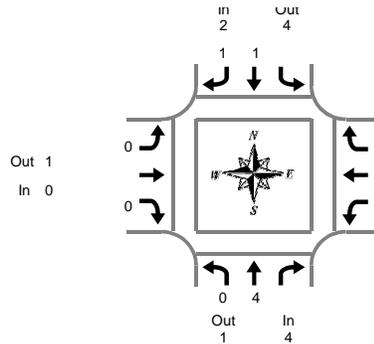
4:00 PM to 6:00 PM

Interval Start Time	Northbound Beaver Creek Rd			Southbound Beaver Creek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	17	286	1	613	104	0	85	11	0			0	1,116	0	0	0	1
4:15 PM	27	274	1	685	121	0	89	10	0			0	1,206	0	0	0	1
4:30 PM	42	265	1	742	144	0	82	8	0			0	1,283	0	0	0	1
4:45 PM	50	265	1	807	149	0	111	12	0			0	1,394	0	0	0	1
5:00 PM	46	285	0	826	143	0	139	14	0			0	1,453	0	0	0	2

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
4:55 PM to 5:55 PM

Beaver Creek Rd & Meyers Rd

Wednesday, October 22, 2014

4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Beaver Creek Rd			Southbound Beaver Creek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total		Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:05 PM	0	2	2	1	0	1	0	0	0	0	0	3	
4:10 PM	0	0	0	1	0	1	0	0	0	0	0	1	
4:15 PM	0	2	2	1	0	1	0	0	0	0	0	3	
4:20 PM	0	0	0	0	1	1	0	0	0	0	0	1	
4:25 PM	0	0	0	0	0	0	1	0	1	0	0	1	
4:30 PM	0	3	3	0	0	0	0	0	0	0	0	3	
4:35 PM	0	0	0	1	0	1	0	0	0	0	0	1	
4:40 PM	0	1	1	0	0	0	0	0	0	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	1	0	1	0	0	0	0	0	1	
5:05 PM	0	0	0	0	1	1	0	0	0	0	0	1	
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:20 PM	0	1	1	0	0	0	0	0	0	0	0	1	
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	1	1	0	0	0	0	0	0	0	0	1	
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:40 PM	0	2	2	0	0	0	0	0	0	0	0	2	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:50 PM	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	
Total Survey	0	12	12	5	2	7	1	0	1	0	0	20	

Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Beaver Creek Rd			Southbound Beaver Creek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total		Total		
4:00 PM	0	2	2	2	0	2	0	0	0	0	0	4	
4:15 PM	0	2	2	1	1	2	1	0	1	0	0	5	
4:30 PM	0	4	4	1	0	1	0	0	0	0	0	5	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	1	1	2	0	0	0	0	0	2	
5:15 PM	0	1	1	0	0	0	0	0	0	0	0	1	
5:30 PM	0	3	3	0	0	0	0	0	0	0	0	3	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
Total Survey	0	12	12	5	2	7	1	0	1	0	0	20	

Heavy Vehicle Peak Hour Summary

4:55 PM to 5:55 PM

By Approach	Northbound Beaver Creek Rd			Southbound Beaver Creek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	4	1	5	2	4	6	0	1	1	0	0	0	6
PHF	0.33			0.25			0.00			0.00			0.50

By Movement	Northbound Beaver Creek Rd			Southbound Beaver Creek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Total
	L	T	Total	T	R	Total	L	R	Total		Total		
Volume	0	4	4	1	1	2	0	0	0	0	0	0	6
PHF	0.00	0.33	0.33	0.25	0.25	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.50

Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Beaver Creek Rd			Southbound Beaver Creek Rd			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total		Total		
4:00 PM	0	8	8	4	1	5	1	0	1	0	0	14	
4:15 PM	0	6	6	3	2	5	1	0	1	0	0	12	
4:30 PM	0	5	5	2	1	3	0	0	0	0	0	8	
4:45 PM	0	4	4	1	1	2	0	0	0	0	0	6	
5:00 PM	0	4	4	1	1	2	0	0	0	0	0	6	

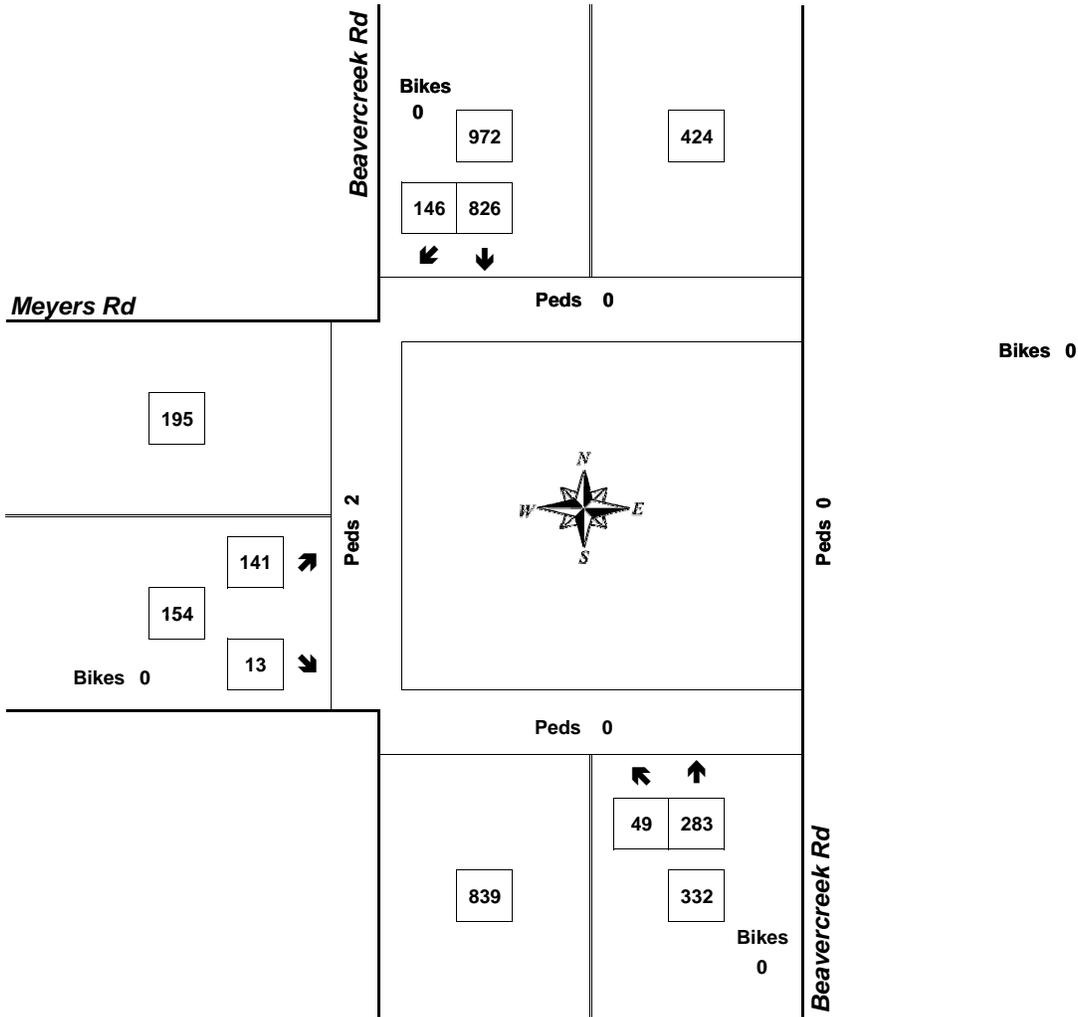
Peak Hour Summary



Clay Carney
(503) 833-2740

Beavercreek Rd & Meyers Rd

4:55 PM to 5:55 PM
Wednesday, October 22, 2014



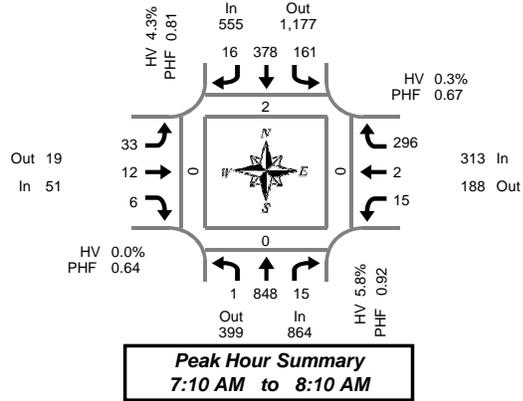
Approach	PHF	HV%	Volume
EB	0.65	0.0%	154
WB	0.00	0.0%	0
NB	0.91	1.2%	332
SB	0.93	0.2%	972
Intersection	0.94	0.4%	1,458

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 213 & Glen Oak Rd

Thursday, October 23, 2014

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 Glen Oak Rd				Westbound Glen Oak 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	76	4	0	8	26	2	0	9	0	0	0	0	0	15	0	140	0	0	0	0
7:05 AM	0	81	1	0	12	23	1	0	3	2	0	0	1	0	22	0	146	0	0	0	0
7:10 AM	0	84	3	0	14	19	0	0	1	0	0	0	0	0	18	0	139	0	0	0	0
7:15 AM	0	67	2	0	22	37	1	0	3	0	0	0	2	0	21	0	155	0	0	0	0
7:20 AM	0	61	0	0	23	20	1	0	5	1	0	0	2	0	27	0	140	2	0	0	0
7:25 AM	0	65	5	0	31	31	3	0	4	5	0	0	0	0	30	0	174	0	0	0	0
7:30 AM	0	66	1	0	25	20	3	0	2	3	0	0	3	0	38	0	161	0	0	0	0
7:35 AM	0	66	0	0	20	36	2	0	0	2	0	0	3	0	39	0	168	0	0	0	0
7:40 AM	0	79	0	0	2	22	1	0	6	0	0	0	2	1	31	0	144	0	0	0	0
7:45 AM	0	60	0	0	7	35	2	0	4	0	1	0	1	1	26	0	137	0	0	0	0
7:50 AM	0	70	1	0	4	40	1	0	1	0	1	0	2	0	26	0	146	0	0	0	0
7:55 AM	0	75	1	0	2	36	0	0	0	1	1	0	0	0	9	0	125	0	0	0	0
8:00 AM	0	82	1	0	0	40	1	0	2	0	1	0	0	0	16	0	143	0	0	0	0
8:05 AM	1	73	1	0	11	42	1	0	5	0	2	0	0	0	15	0	151	0	0	0	0
8:10 AM	0	69	0	0	3	29	1	1	3	1	0	0	1	0	18	0	125	0	0	0	0
8:15 AM	0	54	1	0	6	43	2	0	3	0	0	0	0	0	10	0	119	0	0	0	0
8:20 AM	0	56	0	0	8	24	2	0	2	0	0	0	0	0	13	0	105	0	0	0	0
8:25 AM	0	56	0	0	9	32	0	0	2	0	1	0	0	0	20	0	120	0	0	0	0
8:30 AM	0	55	0	0	4	26	1	0	4	0	0	0	1	0	7	0	98	0	0	0	0
8:35 AM	0	66	1	0	1	33	0	0	3	0	0	0	0	0	10	0	114	0	0	0	0
8:40 AM	0	80	1	0	7	42	1	0	2	0	0	0	0	0	11	0	144	0	0	0	0
8:45 AM	0	62	0	0	11	43	0	0	3	0	0	0	1	0	9	0	129	0	0	0	0
8:50 AM	0	86	2	0	9	28	0	0	1	0	0	0	1	0	10	0	136	0	0	0	0
8:55 AM	0	54	1	0	8	39	0	0	1	0	0	0	1	0	11	0	115	0	0	0	0
Total Survey	1	1,643	26	0	247	766	26	1	68	15	7	0	21	2	452	0	3,274	2	0	0	0

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak 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	241	8	0	34	68	3	0	13	2	0	0	1	0	55	0	425	0	0	0	0
7:15 AM	0	193	7	0	76	88	5	0	12	6	0	0	4	0	78	0	469	2	0	0	0
7:30 AM	0	211	1	0	47	78	6	0	8	5	0	0	8	1	108	0	473	0	0	0	0
7:45 AM	0	205	2	0	13	111	3	0	5	1	3	0	3	1	61	0	408	0	0	0	0
8:00 AM	1	224	2	0	14	111	3	1	10	1	3	0	1	0	49	0	419	0	0	0	0
8:15 AM	0	166	1	0	23	99	4	0	7	0	1	0	0	0	43	0	344	0	0	0	0
8:30 AM	0	201	2	0	12	101	2	0	9	0	0	0	1	0	28	0	356	0	0	0	0
8:45 AM	0	202	3	0	28	110	0	0	4	0	0	0	3	0	30	0	380	0	0	0	0
Total Survey	1	1,643	26	0	247	766	26	1	68	15	7	0	21	2	452	0	3,274	2	0	0	0

Peak Hour Summary

7:10 AM to 8:10 AM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak 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	864	399	1,263	0	555	1,177	1,732	0	51	19	70	0	313	188	501	0	1,783	2	0	0	0
%HV	5.8%				4.3%				0.0%				0.3%				4.2%				
PHF	0.92				0.81				0.64				0.67				0.89				

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	848	15	864	161	378	16	555	33	12	6	51	15	2	296	313	1,783
%HV	0.0%	5.9%	0.0%	5.8%	0.6%	6.1%	0.0%	4.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.3%	4.2%
PHF	0.25	0.92	0.54	0.92	0.51	0.80	0.50	0.81	0.69	0.30	0.38	0.64	0.47	0.25	0.69	0.67	0.89

Rolling Hour Summary

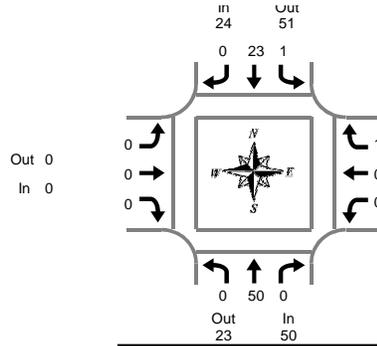
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak 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	850	18	0	170	345	17	0	38	14	3	0	16	2	302	0	1,775	2	0	0	0
7:15 AM	1	833	12	0	150	388	17	1	35	13	6	0	16	2	296	0	1,769	2	0	0	0
7:30 AM	1	806	6	0	97	399	16	1	30	7	7	0	12	2	261	0	1,644	0	0	0	0
7:45 AM	1	796	7	0	62	422	12	1	31	2	7	0	5	1	181	0	1,527	0	0	0	0
8:00 AM	1	793	8	0	77	421	9	1	30	1	4	0	5	0	150	0	1,499	0	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 213 & Glen Oak Rd

Thursday, October 23, 2014

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 Glen Oak Rd				Westbound Glen Oak Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	3	0	3	0	4	1	5	0	0	0	0	0	0	0	0	8
7:05 AM	0	0	0	0	1	1	0	2	1	0	0	1	0	0	0	0	3
7:10 AM	0	8	0	8	0	3	0	3	0	0	0	0	0	0	0	0	11
7:15 AM	0	4	0	4	0	4	0	4	0	0	0	0	0	0	0	0	8
7:20 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
7:25 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	4	0	4	1	1	0	2	0	0	0	0	0	0	0	0	6
7:35 AM	0	3	0	3	0	2	0	2	0	0	0	0	0	0	0	0	5
7:40 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	2	0	2	0	3	0	3	0	0	0	0	0	0	1	1	6
7:50 AM	0	8	0	8	0	4	0	4	0	0	0	0	0	0	0	0	12
7:55 AM	0	4	0	4	0	1	0	1	0	0	0	0	0	0	0	0	5
8:00 AM	0	7	0	7	0	3	0	3	0	0	0	0	0	0	0	0	10
8:05 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
8:10 AM	0	1	0	1	0	5	0	5	0	0	0	0	0	0	0	0	6
8:15 AM	0	0	0	0	0	7	0	7	0	0	0	0	0	0	0	0	7
8:20 AM	0	5	0	5	0	0	0	0	0	0	0	0	0	0	1	1	6
8:25 AM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	4
8:30 AM	0	2	0	2	0	4	0	4	0	0	0	0	0	0	0	0	6
8:35 AM	0	6	1	7	0	2	0	2	0	0	0	0	0	0	1	1	10
8:40 AM	0	4	0	4	0	3	0	3	0	0	0	0	0	0	0	0	7
8:45 AM	0	2	0	2	0	4	0	4	0	0	0	0	0	0	0	0	6
8:50 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	1	1	4
8:55 AM	0	1	0	1	0	7	0	7	0	0	0	0	0	0	0	0	8
Total Survey	0	76	1	77	2	65	1	68	1	0	0	1	0	0	4	4	150

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	11	0	11	1	8	1	10	1	0	0	1	0	0	0	0	22
7:15 AM	0	10	0	10	0	4	0	4	0	0	0	0	0	0	0	0	14
7:30 AM	0	10	0	10	1	3	0	4	0	0	0	0	0	0	0	0	14
7:45 AM	0	14	0	14	0	8	0	8	0	0	0	0	0	0	1	1	23
8:00 AM	0	9	0	9	0	10	0	10	0	0	0	0	0	0	0	0	19
8:15 AM	0	7	0	7	0	9	0	9	0	0	0	0	0	0	1	1	17
8:30 AM	0	12	1	13	0	9	0	9	0	0	0	0	0	0	1	1	23
8:45 AM	0	3	0	3	0	14	0	14	0	0	0	0	0	0	1	1	18
Total Survey	0	76	1	77	2	65	1	68	1	0	0	1	0	0	4	4	150

Heavy Vehicle Peak Hour Summary 7:10 AM to 8:10 AM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Glen Oak Rd			Westbound Glen Oak Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	50	23	73	24	51	75	0	0	0	1	1	2	75
PHF	0.66			0.75			0.00			0.25			0.69

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	50	0	50	1	23	0	24	0	0	0	0	0	0	1	1	75
PHF	0.00	0.66	0.00	0.66	0.25	0.72	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.69

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	45	0	45	2	23	1	26	1	0	0	1	0	0	1	1	73
7:15 AM	0	43	0	43	1	25	0	26	0	0	0	0	0	0	1	1	70
7:30 AM	0	40	0	40	1	30	0	31	0	0	0	0	0	0	2	2	73
7:45 AM	0	42	1	43	0	36	0	36	0	0	0	0	0	0	3	3	82
8:00 AM	0	31	1	32	0	42	0	42	0	0	0	0	0	0	3	3	77

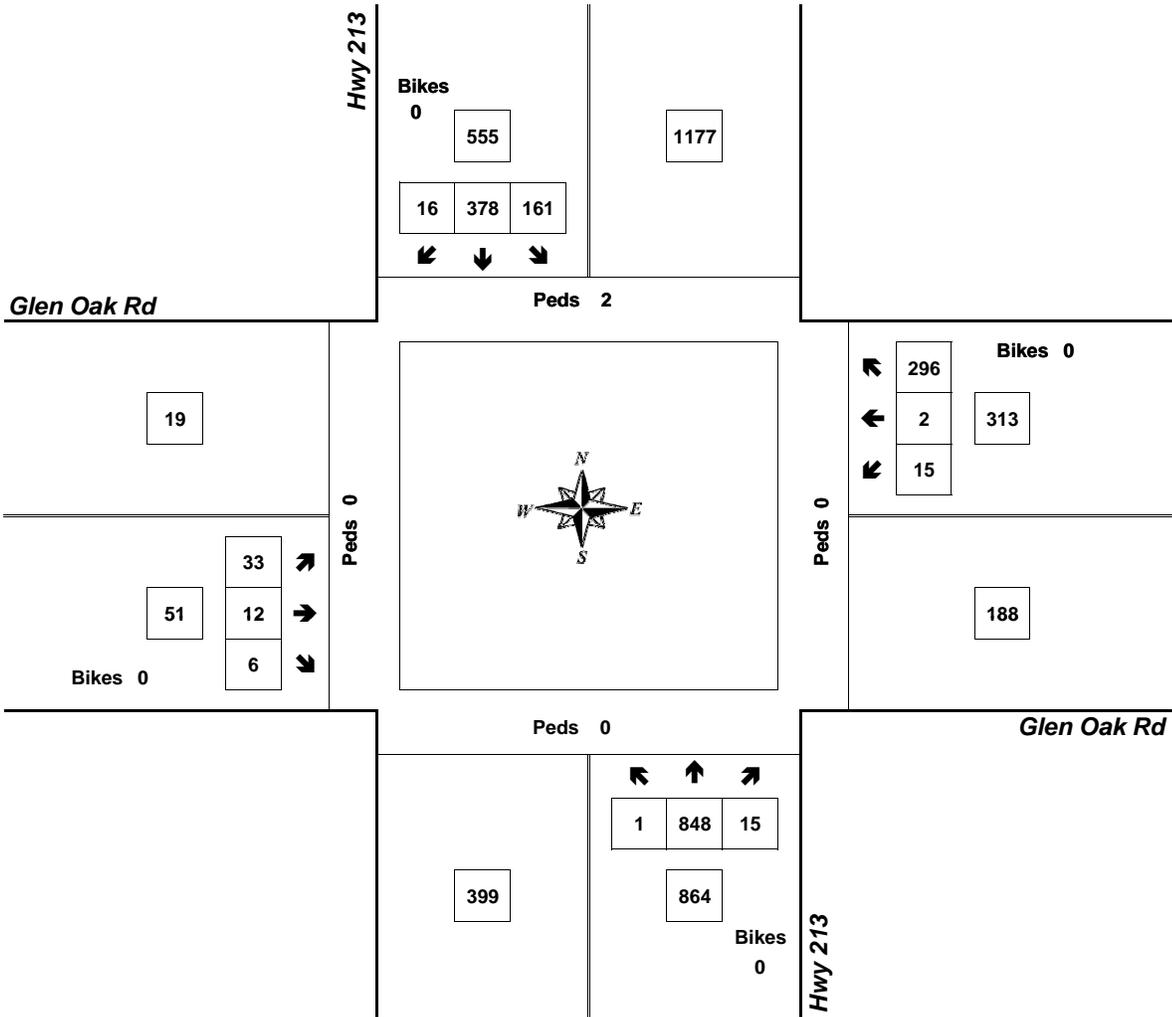
Peak Hour Summary



Clay Carney
(503) 833-2740

Hwy 213 & Glen Oak Rd

7:10 AM to 8:10 AM
Thursday, October 23, 2014



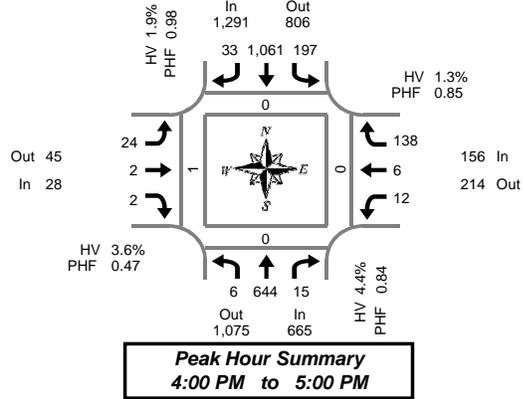
Approach	PHF	HV%	Volume
EB	0.64	0.0%	51
WB	0.67	0.3%	313
NB	0.92	5.8%	864
SB	0.81	4.3%	555
Intersection	0.89	4.2%	1,783

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 213 & Glen Oak Rd

Wednesday, October 22, 2014

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 Glen Oak Rd				Westbound Glen Oak 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	61	0	0	15	95	2	0	2	0	0	0	0	2	9	0	0	0	0	0	0	0
4:05 PM	0	66	4	0	15	95	2	0	0	0	0	0	2	1	15	0	0	0	0	0	0	0
4:10 PM	0	64	0	0	16	87	1	0	2	0	0	0	1	0	14	0	0	0	0	0	0	0
4:15 PM	2	57	0	0	18	84	0	0	0	0	0	0	0	1	7	0	0	0	0	0	0	1
4:20 PM	0	73	3	0	19	99	6	0	1	0	0	0	0	0	9	0	0	0	0	0	0	0
4:25 PM	1	50	1	0	12	90	1	0	5	1	0	0	0	0	15	0	0	0	0	0	0	0
4:30 PM	0	42	0	0	18	79	3	0	6	0	1	0	1	0	6	0	0	0	0	0	0	0
4:35 PM	2	47	0	0	8	94	2	0	1	1	0	0	1	0	9	0	0	0	0	0	0	0
4:40 PM	1	40	3	0	23	81	3	0	1	0	1	0	2	1	14	0	0	0	0	0	0	0
4:45 PM	0	45	0	0	11	83	5	0	1	0	0	0	1	0	13	0	0	0	0	0	0	0
4:50 PM	0	49	2	0	15	94	4	0	3	0	0	0	2	0	8	0	0	0	0	0	0	0
4:55 PM	0	50	2	0	27	80	4	0	2	0	0	0	2	1	19	0	0	0	0	0	0	0
5:00 PM	0	45	1	0	19	75	4	0	5	0	1	0	1	1	10	0	0	0	0	0	0	0
5:05 PM	0	37	1	0	15	88	4	0	0	0	0	0	2	0	15	0	0	0	0	0	0	0
5:10 PM	0	49	0	0	18	91	1	0	1	0	0	0	0	1	12	0	0	0	0	0	0	0
5:15 PM	0	36	1	0	17	94	2	0	1	0	0	0	3	0	17	0	0	0	0	0	0	0
5:20 PM	0	46	5	0	16	96	3	0	0	0	0	0	2	0	21	0	0	0	0	0	0	0
5:25 PM	0	51	2	0	21	80	8	0	2	0	2	0	2	1	20	0	0	0	0	0	0	0
5:30 PM	1	36	2	0	26	81	7	0	1	0	1	0	1	0	13	0	0	0	0	0	0	0
5:35 PM	1	47	2	0	14	82	4	0	3	0	0	0	2	0	16	0	0	0	0	0	0	0
5:40 PM	0	51	2	0	25	93	3	0	1	0	0	0	2	0	17	0	0	0	0	0	0	0
5:45 PM	0	51	1	0	22	89	3	0	4	0	0	0	1	0	12	0	0	0	0	0	0	0
5:50 PM	0	45	4	0	18	76	3	0	2	0	0	0	1	0	17	0	0	0	0	0	0	0
5:55 PM	1	44	2	0	17	85	3	0	3	0	0	0	1	0	19	0	0	0	0	0	0	0
Total Survey	9	1,182	38	0	425	2,091	78	0	47	2	6	0	30	9	327	0	4,244	0	0	0	0	1

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak 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	191	4	0	46	277	5	0	4	0	0	0	3	3	38	0	571	0	0	0	0	
4:15 PM	3	180	4	0	49	273	7	0	6	1	0	0	0	1	31	0	555	0	0	0	1	
4:30 PM	3	129	3	0	49	254	8	0	8	1	2	0	4	1	29	0	491	0	0	0	0	
4:45 PM	0	144	4	0	53	257	13	0	6	0	0	0	5	1	40	0	523	0	0	0	0	
5:00 PM	0	131	2	0	52	254	9	0	6	0	1	0	3	2	37	0	497	0	0	0	0	
5:15 PM	0	133	8	0	54	270	13	0	3	0	2	0	7	1	58	0	549	0	0	0	0	
5:30 PM	2	134	6	0	65	256	14	0	5	0	1	0	5	0	46	0	534	0	0	0	0	
5:45 PM	1	140	7	0	57	250	9	0	9	0	0	0	3	0	48	0	524	0	0	0	0	
Total Survey	9	1,182	38	0	425	2,091	78	0	47	2	6	0	30	9	327	0	4,244	0	0	0	0	1

Peak Hour Summary

4:00 PM to 5:00 PM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak 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	665	1,075	1,740	0	1,291	806	2,097	0	28	45	73	0	156	214	370	0	2,140	0	0	0	1
%HV	4.4%				1.9%				3.6%				1.3%				2.7%				
PHF	0.84				0.98				0.47				0.85				0.94				

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	6	644	15	665	197	1,061	33	1,291	24	2	2	28	12	6	138	156	2,140
%HV	0.0%	4.5%	0.0%	4.4%	1.5%	1.9%	6.1%	1.9%	0.0%	50.0%	0.0%	3.6%	0.0%	0.0%	1.4%	1.3%	2.7%
PHF	0.50	0.83	0.75	0.84	0.93	0.96	0.63	0.98	0.50	0.25	0.25	0.47	0.60	0.50	0.86	0.85	0.94

Rolling Hour Summary

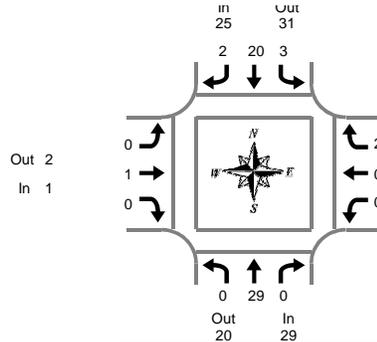
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak 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	6	644	15	0	197	1,061	33	0	24	2	2	0	12	6	138	0	2,140	0	0	0	1
4:15 PM	6	584	13	0	203	1,038	37	0	26	2	3	0	12	5	137	0	2,066	0	0	0	1
4:30 PM	3	537	17	0	208	1,035	43	0	23	1	5	0	19	5	164	0	2,060	0	0	0	0
4:45 PM	2	542	20	0	224	1,037	49	0	20	0	4	0	20	4	181	0	2,103	0	0	0	0
5:00 PM	3	538	23	0	228	1,030	45	0	23	0	4	0	18	3	189	0	2,104	0	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
4:00 PM to 5:00 PM

Hwy 213 & Glen Oak Rd

Wednesday, October 22, 2014

4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	2	0	2	1	2	0	3	0	0	0	0	0	0	0	0	5
4:05 PM	0	4	0	4	0	0	1	1	0	0	0	0	0	0	0	0	5
4:10 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	5	0	5	1	0	0	1	0	0	0	0	0	0	1	1	7
4:20 PM	0	4	0	4	0	3	0	3	0	0	0	0	0	0	0	0	7
4:25 PM	0	3	0	3	0	1	0	1	0	1	0	1	0	0	1	1	6
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	4
4:40 PM	0	2	0	2	0	6	0	6	0	0	0	0	0	0	0	0	8
4:45 PM	0	4	0	4	1	4	0	5	0	0	0	0	0	0	0	0	9
4:50 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
4:55 PM	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
5:00 PM	0	4	0	4	0	4	0	4	0	0	0	0	0	0	0	0	8
5:05 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:10 PM	0	3	0	3	1	4	0	5	0	0	0	0	0	0	1	1	9
5:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:20 PM	0	3	0	3	0	2	0	2	0	0	0	0	0	0	1	1	6
5:25 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1	3
5:30 PM	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
5:35 PM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
5:40 PM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	4
5:45 PM	0	1	1	2	0	2	0	2	0	0	0	0	0	0	0	0	4
5:50 PM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	1	1	5
5:55 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	4
Total Survey	0	51	1	52	4	45	2	51	0	1	0	1	0	0	6	6	110

Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	7	0	7	1	2	1	4	0	0	0	0	0	0	0	0	11
4:15 PM	0	12	0	12	1	4	0	5	0	1	0	1	0	0	2	2	20
4:30 PM	0	2	0	2	0	10	0	10	0	0	0	0	0	0	0	0	12
4:45 PM	0	8	0	8	1	4	1	6	0	0	0	0	0	0	0	0	14
5:00 PM	0	8	0	8	1	8	0	9	0	0	0	0	0	0	1	1	18
5:15 PM	0	6	0	6	0	3	0	3	0	0	0	0	0	0	2	2	11
5:30 PM	0	6	0	6	0	5	0	5	0	0	0	0	0	0	0	0	11
5:45 PM	0	2	1	3	0	9	0	9	0	0	0	0	0	0	1	1	13
Total Survey	0	51	1	52	4	45	2	51	0	1	0	1	0	0	6	6	110

Heavy Vehicle Peak Hour Summary

4:00 PM to 5:00 PM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Glen Oak Rd			Westbound Glen Oak Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	29	20	49	25	31	56	1	2	3	2	4	6	57
PHF	0.60			0.42			0.25			0.25			0.68

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	29	0	29	3	20	2	25	0	1	0	1	0	0	2	2	57
PHF	0.00	0.60	0.00	0.60	0.75	0.36	0.50	0.42	0.00	0.25	0.00	0.25	0.00	0.00	0.25	0.25	0.68

Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Glen Oak Rd				Westbound Glen Oak Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	29	0	29	3	20	2	25	0	1	0	1	0	0	2	2	57
4:15 PM	0	30	0	30	3	26	1	30	0	1	0	1	0	0	3	3	64
4:30 PM	0	24	0	24	2	25	1	28	0	0	0	0	0	0	3	3	55
4:45 PM	0	28	0	28	2	20	1	23	0	0	0	0	0	0	3	3	54
5:00 PM	0	22	1	23	1	25	0	26	0	0	0	0	0	0	4	4	53

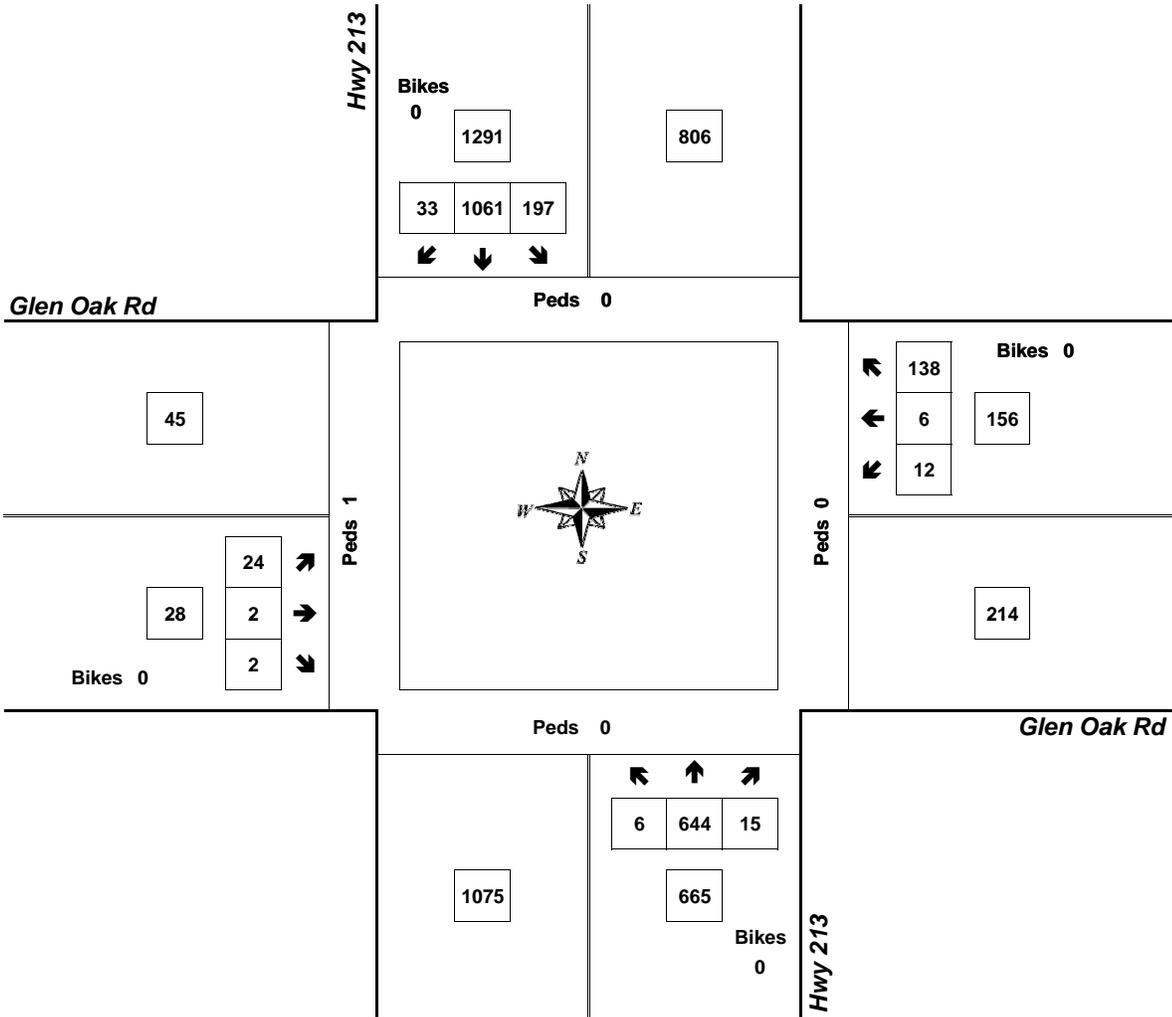
Peak Hour Summary



Clay Carney
(503) 833-2740

Hwy 213 & Glen Oak Rd

4:00 PM to 5:00 PM
Wednesday, October 22, 2014



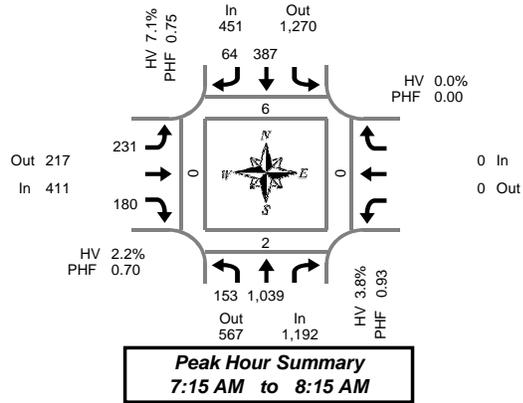
Approach	PHF	HV%	Volume
EB	0.47	3.6%	28
WB	0.85	1.3%	156
NB	0.84	4.4%	665
SB	0.98	1.9%	1,291
Intersection	0.94	2.7%	2,140

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 213 & Meyers Rd

Thursday, October 23, 2014

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 Meyers Rd			Westbound Meyers Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	7	96	0	29	3	0	16	6	0			0	157	0	0	0	0
7:05 AM	10	93	0	18	1	0	20	16	0			0	158	0	0	0	0
7:10 AM	14	92	0	27	6	0	17	22	0			0	178	0	0	0	0
7:15 AM	3	86	0	27	3	0	21	25	0			0	165	0	0	0	0
7:20 AM	16	84	0	29	5	0	20	27	0			0	181	0	0	0	0
7:25 AM	10	86	0	27	3	0	15	36	0			0	177	1	1	0	0
7:30 AM	26	83	0	24	6	0	26	22	0			0	187	1	0	0	0
7:35 AM	13	92	0	29	4	0	21	12	0			0	171	0	1	0	0
7:40 AM	14	91	0	27	8	0	23	6	0			0	169	0	0	0	0
7:45 AM	8	83	0	31	5	0	25	9	0			0	161	0	0	0	0
7:50 AM	14	91	0	38	6	0	12	13	0			0	174	0	0	0	0
7:55 AM	4	78	0	24	5	0	20	12	0			0	143	1	0	0	0
8:00 AM	17	85	0	40	7	0	14	8	0			0	171	0	0	0	0
8:05 AM	8	84	0	50	8	1	17	6	0			0	173	3	0	0	0
8:10 AM	20	96	0	41	4	0	17	4	0			0	182	0	0	0	0
8:15 AM	3	60	0	30	5	0	15	5	0			0	118	1	0	0	0
8:20 AM	7	71	0	30	8	0	13	5	0			0	134	0	1	0	0
8:25 AM	11	70	0	32	6	0	19	4	0			0	142	0	0	0	0
8:30 AM	8	63	0	30	9	0	14	5	0			0	129	1	0	0	0
8:35 AM	1	80	0	35	2	0	14	6	0			0	138	0	0	0	0
8:40 AM	7	77	0	41	10	0	18	12	0			0	165	0	1	0	0
8:45 AM	9	69	0	34	2	0	18	9	0			0	141	1	3	0	0
8:50 AM	15	91	0	39	9	0	22	6	0			0	182	1	0	0	0
8:55 AM	12	55	0	24	5	0	16	11	0			0	123	0	0	0	0
Total Survey	257	1,956	0	756	130	1	433	287	0			0	3,819	10	7	0	0

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	31	281	0	74	10	0	53	44	0			0	493	0	0	0	0
7:15 AM	29	256	0	83	11	0	56	88	0			0	523	1	1	0	0
7:30 AM	53	266	0	80	18	0	70	40	0			0	527	1	1	0	0
7:45 AM	26	252	0	93	16	0	57	34	0			0	478	1	0	0	0
8:00 AM	45	265	0	131	19	1	48	18	0			0	526	3	0	0	0
8:15 AM	21	201	0	92	19	0	47	14	0			0	394	1	1	0	0
8:30 AM	16	220	0	106	21	0	46	23	0			0	432	1	1	0	0
8:45 AM	36	215	0	97	16	0	56	26	0			0	446	2	3	0	0
Total Survey	257	1,956	0	756	130	1	433	287	0			0	3,819	10	7	0	0

Peak Hour Summary

7:15 AM to 8:15 AM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Meyers Rd				Westbound Meyers 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	1,192	567	1,759	0	451	1,270	1,721	1	411	217	628	0	0	0	0	0	2,054	6	2	0	0
%HV	3.8%				7.1%				2.2%				0.0%				4.2%				
PHF	0.93				0.75				0.70				0.00				0.94				

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Meyers Rd				Westbound Meyers Rd				Total
	L	T	Total	Bikes	T	R	Total	Bikes	L	R	Total	Bikes			Total	Bikes	
Volume	153	1,039	1,192	0	387	64	451	1	231	180	411	0			0	0	2,054
%HV	1.3%	4.1%	NA	3.8%	NA	7.8%	3.1%	7.1%	3.0%	NA	1.1%	2.2%	NA	NA	NA	0.0%	4.2%
PHF	0.72	0.98	0.93		0.74	0.80	0.75	0.83		0.51	0.70				0.00		0.94

Rolling Hour Summary

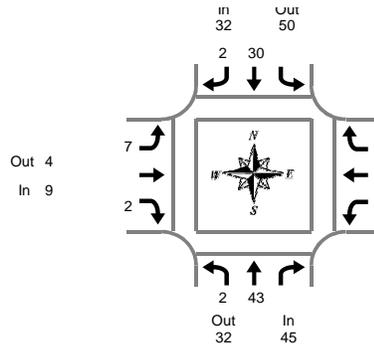
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	139	1,055	0	330	55	0	236	206	0			0	2,021	3	2	0	0
7:15 AM	153	1,039	0	387	64	1	231	180	0			0	2,054	6	2	0	0
7:30 AM	145	984	0	396	72	1	222	106	0			0	1,925	6	2	0	0
7:45 AM	108	938	0	422	75	1	198	89	0			0	1,830	6	2	0	0
8:00 AM	118	901	0	426	75	1	197	81	0			0	1,798	7	5	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Hwy 213 & Meyers Rd

Thursday, October 23, 2014

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 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	0	3	3	4	0	4	0	1	1			0	8
7:05 AM	0	2	2	1	0	1	3	0	3			0	6
7:10 AM	0	7	7	5	0	5	0	0	0			0	12
7:15 AM	1	4	5	4	0	4	0	0	0			0	9
7:20 AM	0	3	3	1	0	1	1	0	1			0	5
7:25 AM	0	2	2	1	0	1	1	0	1			0	4
7:30 AM	1	2	3	2	0	2	1	0	1			0	6
7:35 AM	0	4	4	1	0	1	1	0	1			0	6
7:40 AM	0	2	2	0	0	0	0	0	0			0	2
7:45 AM	0	4	4	4	0	4	1	0	1			0	9
7:50 AM	0	5	5	4	0	4	0	1	1			0	10
7:55 AM	0	7	7	1	0	1	1	1	2			0	10
8:00 AM	0	7	7	4	1	5	1	0	1			0	13
8:05 AM	0	1	1	6	1	7	0	0	0			0	8
8:10 AM	0	2	2	2	0	2	0	0	0			0	4
8:15 AM	0	0	0	4	1	5	0	1	1			0	6
8:20 AM	0	6	6	0	0	0	0	0	0			0	6
8:25 AM	0	2	2	3	0	3	0	0	0			0	5
8:30 AM	1	1	2	5	0	5	0	0	0			0	7
8:35 AM	0	7	7	4	0	4	1	0	1			0	12
8:40 AM	0	4	4	5	1	6	0	0	0			0	10
8:45 AM	0	2	2	2	0	2	0	0	0			0	4
8:50 AM	0	1	1	5	0	5	0	0	0			0	6
8:55 AM	0	0	0	3	0	3	0	0	0			0	3
Total Survey	3	78	81	71	4	75	11	4	15			0	171

Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	0	12	12	10	0	10	3	1	4			0	26
7:15 AM	1	9	10	6	0	6	2	0	2			0	18
7:30 AM	1	8	9	3	0	3	2	0	2			0	14
7:45 AM	0	16	16	9	0	9	2	2	4			0	29
8:00 AM	0	10	10	12	2	14	1	0	1			0	25
8:15 AM	0	8	8	7	1	8	0	1	1			0	17
8:30 AM	1	12	13	14	1	15	1	0	1			0	29
8:45 AM	0	3	3	10	0	10	0	0	0			0	13
Total Survey	3	78	81	71	4	75	11	4	15			0	171

Heavy Vehicle Peak Hour Summary

7:15 AM to 8:15 AM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	45	32	77	32	50	82	9	4	13	0	0	0	86
PHF	0.59			0.57			0.56			0.00			0.65

By Movement	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Total
	L	T	Total	T	R	Total	L	R	Total			Total	
Volume	2	43	45	30	2	32	7	2	9			0	86
PHF	0.50	0.57	0.59	0.63	0.25	0.57	0.58	0.25	0.56			0.00	0.65

Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	2	45	47	28	0	28	9	3	12			0	87
7:15 AM	2	43	45	30	2	32	7	2	9			0	86
7:30 AM	1	42	43	31	3	34	5	3	8			0	85
7:45 AM	1	46	47	42	4	46	4	3	7			0	100
8:00 AM	1	33	34	43	4	47	2	1	3			0	84

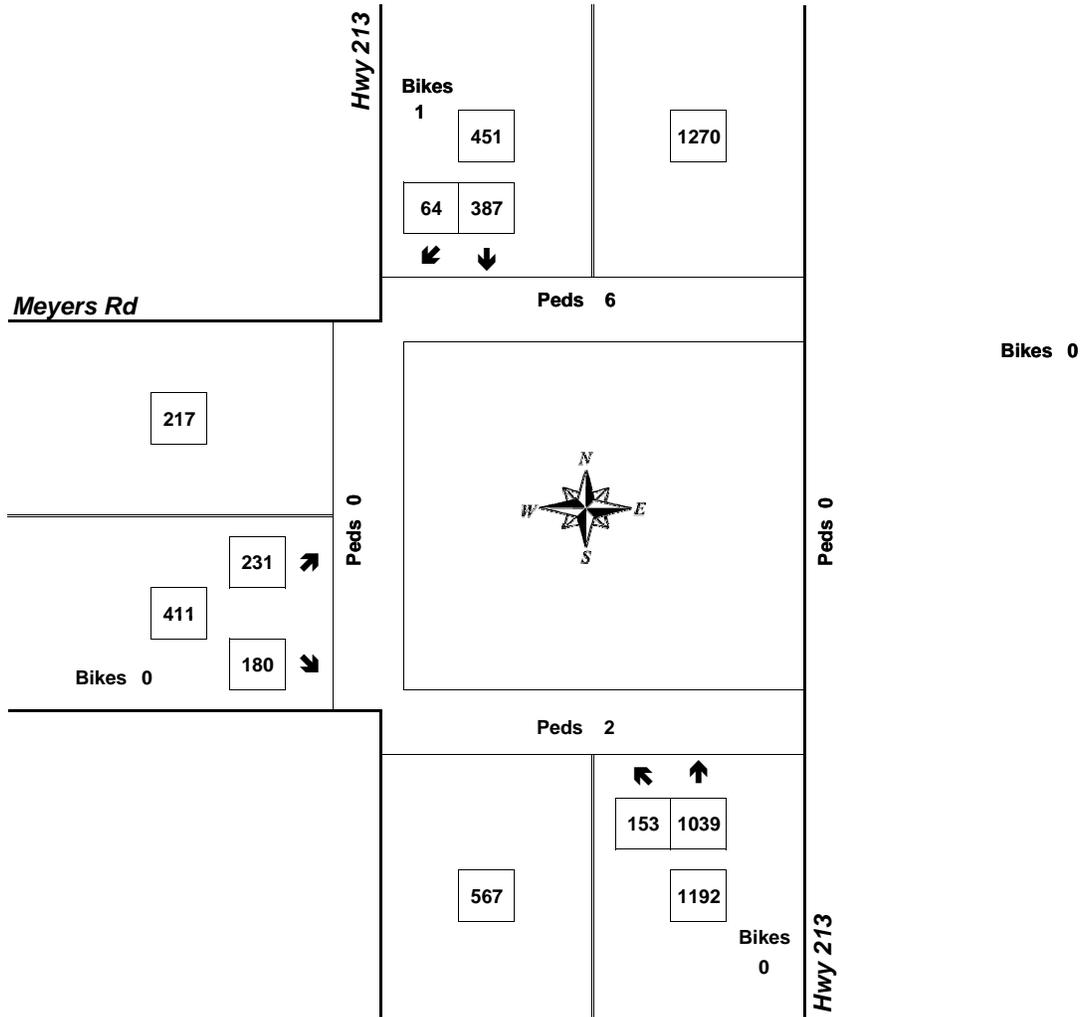
Peak Hour Summary



Clay Carney
(503) 833-2740

Hwy 213 & Meyers Rd

7:15 AM to 8:15 AM
Thursday, October 23, 2014



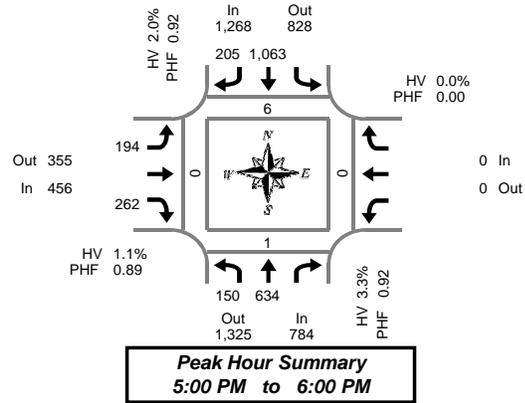
Approach	PHF	HV%	Volume
EB	0.70	2.2%	411
WB	0.00	0.0%	0
NB	0.93	3.8%	1,192
SB	0.75	7.1%	451
Intersection	0.94	4.2%	2,054

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 213 & Meyers Rd

Wednesday, October 22, 2014

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 Meyers Rd			Westbound Meyers Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	18	61	0	112	24	0	11	10	0			0	236	0	0	0	0
4:05 PM	14	64	0	100	10	0	12	11	0			0	211	1	0	0	0
4:10 PM	12	65	0	84	11	0	24	18	0			0	214	1	0	0	0
4:15 PM	13	58	0	102	11	0	12	12	0			0	208	0	0	0	0
4:20 PM	10	75	0	101	12	0	16	15	0			0	229	0	0	0	0
4:25 PM	10	56	0	84	19	0	15	24	0			0	208	0	0	0	0
4:30 PM	10	53	0	76	17	0	14	15	0			0	185	0	0	0	0
4:35 PM	8	48	0	108	22	0	17	14	0			0	217	1	0	0	0
4:40 PM	7	51	0	79	16	0	10	23	0			0	186	0	0	0	0
4:45 PM	7	51	0	84	12	0	14	13	0			0	181	0	0	0	0
4:50 PM	13	44	0	102	11	0	12	19	0			0	201	0	0	0	1
4:55 PM	16	55	0	86	17	0	6	22	0			0	202	0	0	0	0
5:00 PM	13	45	0	76	12	0	16	32	0			0	194	1	0	0	0
5:05 PM	13	52	0	92	15	0	14	22	0			0	208	0	0	0	0
5:10 PM	7	54	0	90	21	0	9	13	0			0	194	0	0	0	0
5:15 PM	10	44	0	100	17	0	20	17	0			0	208	2	0	0	0
5:20 PM	13	62	0	83	24	0	12	29	0			0	223	0	0	0	0
5:25 PM	17	51	0	97	19	0	11	21	0			0	216	0	0	0	0
5:30 PM	10	41	0	75	9	0	21	28	0			0	184	1	1	0	0
5:35 PM	9	57	0	99	16	0	15	15	0			0	211	0	0	0	0
5:40 PM	12	60	0	93	22	0	18	20	0			0	225	0	0	0	0
5:45 PM	12	57	0	92	21	0	21	23	0			0	226	1	0	0	0
5:50 PM	20	52	0	71	11	0	19	27	0			0	200	0	0	0	0
5:55 PM	14	59	0	95	18	0	18	15	0			0	219	1	0	0	0
Total Survey	288	1,315	0	2,181	387	0	357	458	0			0	4,986	9	1	0	1

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	44	190	0	296	45	0	47	39	0			0	661	2	0	0	0
4:15 PM	33	189	0	287	42	0	43	51	0			0	645	0	0	0	0
4:30 PM	25	152	0	263	55	0	41	52	0			0	588	1	0	0	0
4:45 PM	36	150	0	272	40	0	32	54	0			0	584	0	0	0	1
5:00 PM	33	151	0	258	48	0	39	67	0			0	596	1	0	0	0
5:15 PM	40	157	0	280	60	0	43	67	0			0	647	2	0	0	0
5:30 PM	31	158	0	267	47	0	54	63	0			0	620	1	1	0	0
5:45 PM	46	168	0	258	50	0	58	65	0			0	645	2	0	0	0
Total Survey	288	1,315	0	2,181	387	0	357	458	0			0	4,986	9	1	0	1

Peak Hour Summary

5:00 PM to 6:00 PM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Total	Pedestrians Crosswalk							
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total		North	South	East	West				
Volume	784	1,325	2,109	0	1,268	828	2,096	0	456	355	811	0	0	0	0	0	2,508	6	1	0	0
%HV	3.3%			2.0%			1.1%			0.0%				2.2%							
PHF	0.92			0.92			0.89			0.00				0.95							

By Movement	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Total				
	L	T	Total	T	R	Total	L	R	Total			Total					
Volume	150	634	784	1,063	205	1,268	194	262	456			0	2,508				
%HV	0.0%	4.1%	NA	3.3%	NA	2.3%	0.5%	2.0%	0.5%	NA	1.5%	1.1%	NA	NA	NA	0.0%	2.2%
PHF	0.82	0.91	0.92	0.94	0.83	0.92	0.84	0.84	0.89			0.00	0.95				

Rolling Hour Summary

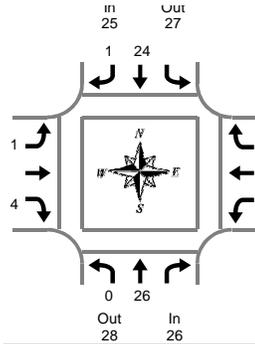
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	138	681	0	1,118	182	0	163	196	0			0	2,478	3	0	0	1
4:15 PM	127	642	0	1,080	185	0	155	224	0			0	2,413	2	0	0	1
4:30 PM	134	610	0	1,073	203	0	155	240	0			0	2,415	4	0	0	1
4:45 PM	140	616	0	1,077	195	0	168	251	0			0	2,447	4	1	0	1
5:00 PM	150	634	0	1,063	205	0	194	262	0			0	2,508	6	1	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
5:00 PM to 6:00 PM

Hwy 213 & Meyers Rd

Wednesday, October 22, 2014

4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	0	2	2	3	2	5	1	1	2			0	9
4:05 PM	0	4	4	0	0	0	0	0	0			0	4
4:10 PM	0	2	2	0	0	0	1	0	1			0	3
4:15 PM	1	5	6	2	0	2	0	0	0			0	8
4:20 PM	0	4	4	3	0	3	0	0	0			0	7
4:25 PM	0	4	4	0	0	0	1	0	1			0	5
4:30 PM	0	0	0	2	1	3	0	0	0			0	3
4:35 PM	0	0	0	3	0	3	0	1	1			0	4
4:40 PM	0	2	2	4	0	4	1	0	1			0	7
4:45 PM	0	3	3	4	0	4	0	0	0			0	7
4:50 PM	0	3	3	0	0	0	1	0	1			0	4
4:55 PM	0	1	1	1	0	1	0	0	0			0	2
5:00 PM	0	4	4	3	1	4	0	1	1			0	9
5:05 PM	0	1	1	2	0	2	0	0	0			0	3
5:10 PM	0	4	4	2	0	2	0	1	1			0	7
5:15 PM	0	2	2	1	0	1	1	0	1			0	4
5:20 PM	0	4	4	2	0	2	0	0	0			0	6
5:25 PM	0	2	2	1	0	1	0	0	0			0	3
5:30 PM	0	4	4	1	0	1	0	0	0			0	5
5:35 PM	0	1	1	2	0	2	0	0	0			0	3
5:40 PM	0	1	1	3	0	3	0	0	0			0	4
5:45 PM	0	1	1	2	0	2	0	0	0			0	3
5:50 PM	0	2	2	1	0	1	0	2	2			0	5
5:55 PM	0	0	0	4	0	4	0	0	0			0	4
Total Survey	1	56	57	46	4	50	6	6	12			0	119

Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	0	8	8	3	2	5	2	1	3			0	16
4:15 PM	1	13	14	5	0	5	1	0	1			0	20
4:30 PM	0	2	2	9	1	10	1	1	2			0	14
4:45 PM	0	7	7	5	0	5	1	0	1			0	13
5:00 PM	0	9	9	7	1	8	0	2	2			0	19
5:15 PM	0	8	8	4	0	4	1	0	1			0	13
5:30 PM	0	6	6	6	0	6	0	0	0			0	12
5:45 PM	0	3	3	7	0	7	0	2	2			0	12
Total Survey	1	56	57	46	4	50	6	6	12			0	119

Heavy Vehicle Peak Hour Summary

5:00 PM to 6:00 PM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	26	28	54	25	27	52	5	1	6	0	0	0	56
PHF	0.65			0.78			0.63			0.00			0.74

By Movement	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Total
	L	T	Total	T	R	Total	L	R	Total			Total	
Volume	0	26	26	24	1	25	1	4	5			0	56
PHF	0.00	0.65	0.65	0.86	0.25	0.78	0.25	0.50	0.63			0.00	0.74

Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213			Southbound Hwy 213			Eastbound Meyers Rd			Westbound Meyers Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	1	30	31	22	3	25	5	2	7			0	63
4:15 PM	1	31	32	26	2	28	3	3	6			0	66
4:30 PM	0	26	26	25	2	27	3	3	6			0	59
4:45 PM	0	30	30	22	1	23	2	2	4			0	57
5:00 PM	0	26	26	24	1	25	1	4	5			0	56

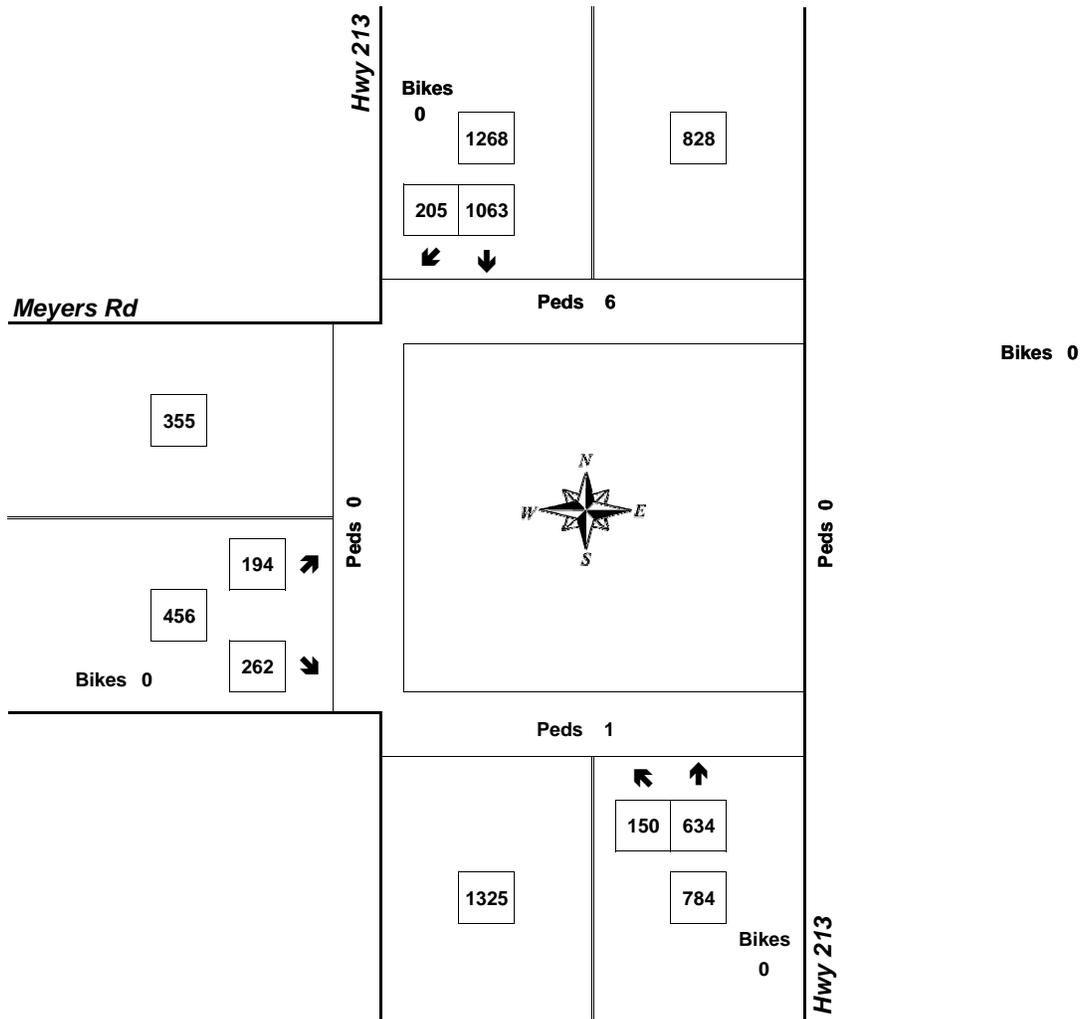
Peak Hour Summary



Clay Carney
(503) 833-2740

Hwy 213 & Meyers Rd

5:00 PM to 6:00 PM
Wednesday, October 22, 2014



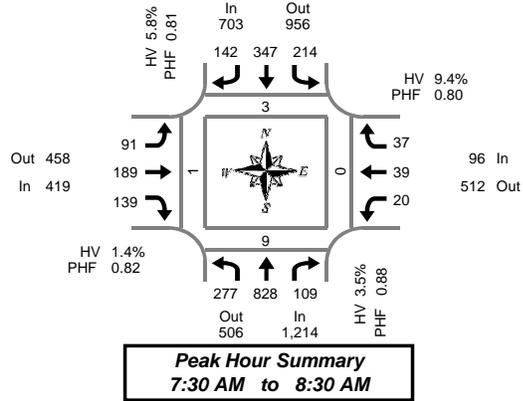
Approach	PHF	HV%	Volume
EB	0.89	1.1%	456
WB	0.00	0.0%	0
NB	0.92	3.3%	784
SB	0.92	2.0%	1,268
Intersection	0.95	2.2%	2,508

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 213 & Molalla Ave

Thursday, October 23, 2014

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 Molalla Ave				Westbound Molalla Ave				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	20	92	6	0	5	18	6	0	3	1	5	0	0	2	1	0	159	0	0	0	0
7:05 AM	28	92	3	0	8	12	7	0	4	6	9	0	0	1	2	0	172	0	0	0	0
7:10 AM	9	116	9	0	10	28	11	0	16	5	9	0	2	2	3	0	220	0	0	0	0
7:15 AM	22	87	2	0	15	21	13	0	16	2	9	0	0	2	2	0	191	0	0	0	0
7:20 AM	16	94	5	0	2	26	7	0	3	3	9	0	1	6	2	0	174	0	0	0	0
7:25 AM	21	76	8	0	15	22	18	0	7	9	7	0	0	6	2	0	191	0	1	0	0
7:30 AM	13	91	5	0	17	30	13	0	6	2	11	0	0	2	2	0	192	0	1	0	0
7:35 AM	26	71	8	0	7	21	10	0	13	12	10	0	3	5	3	0	189	0	0	0	0
7:40 AM	19	88	11	0	21	26	10	0	4	11	5	0	2	6	1	0	204	0	0	0	0
7:45 AM	28	74	15	0	14	20	7	0	6	29	13	0	0	3	1	0	210	0	1	0	0
7:50 AM	16	72	21	0	24	38	7	0	6	22	10	0	4	6	2	0	228	0	0	0	0
7:55 AM	20	59	12	0	16	20	16	0	3	28	9	0	2	4	5	0	194	2	0	0	0
8:00 AM	17	65	13	0	26	42	4	0	2	18	12	0	1	3	3	0	206	1	4	0	0
8:05 AM	33	67	6	0	15	37	18	0	5	7	11	0	3	3	5	0	210	0	1	0	0
8:10 AM	19	83	4	0	16	36	23	0	11	10	16	0	0	2	2	0	222	0	2	0	0
8:15 AM	37	47	1	0	18	27	15	0	16	21	13	0	2	1	2	0	200	0	0	0	1
8:20 AM	15	61	7	0	25	18	15	0	8	7	20	0	1	2	6	0	185	0	0	0	0
8:25 AM	34	50	6	0	15	32	4	0	11	22	9	0	2	2	5	0	192	0	0	0	0
8:30 AM	19	48	8	0	26	32	3	0	6	7	4	0	0	2	2	0	157	0	0	0	0
8:35 AM	22	61	8	0	19	37	8	0	3	18	15	0	0	5	3	0	199	0	0	0	0
8:40 AM	18	58	10	0	28	40	15	0	6	5	11	0	2	3	2	0	198	0	0	0	0
8:45 AM	31	54	11	0	26	28	13	0	9	22	13	0	0	4	2	0	213	0	0	0	0
8:50 AM	34	62	25	0	16	39	13	0	4	23	15	0	1	2	7	0	241	1	2	0	0
8:55 AM	32	33	9	0	17	28	15	0	12	26	7	0	3	7	6	0	195	0	0	0	0
Total Survey	549	1,701	213	0	401	678	271	0	180	316	252	0	29	81	71	0	4,742	4	12	0	1

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				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	57	300	18	0	23	58	24	0	23	12	23	0	2	5	6	0	551	0	0	0	0
7:15 AM	59	257	15	0	32	69	38	0	26	14	25	0	1	14	6	0	556	0	1	0	0
7:30 AM	58	250	24	0	45	77	33	0	23	25	26	0	5	13	6	0	585	0	1	0	0
7:45 AM	64	205	48	0	54	78	30	0	15	79	32	0	6	13	8	0	632	2	1	0	0
8:00 AM	69	215	23	0	57	115	45	0	18	35	39	0	4	8	10	0	638	1	7	0	0
8:15 AM	86	158	14	0	58	77	34	0	35	50	42	0	5	5	13	0	577	0	0	0	1
8:30 AM	59	167	26	0	73	109	26	0	15	30	30	0	2	10	7	0	554	0	0	0	0
8:45 AM	97	149	45	0	59	95	41	0	25	71	35	0	4	13	15	0	649	1	2	0	0
Total Survey	549	1,701	213	0	401	678	271	0	180	316	252	0	29	81	71	0	4,742	4	12	0	1

Peak Hour Summary

7:30 AM to 8:30 AM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,214	506	1,720	0	703	956	1,659	0	419	458	877	0	96	512	608	0	2,432	3	9	0	1
%HV	3.5%				5.8%				1.4%				9.4%				4.1%				
PHF	0.88				0.81				0.82				0.80				0.95				

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	277	828	109	1,214	214	347	142	703	91	189	139	419	20	39	37	96	2,432
%HV	0.7%	4.8%	0.9%	3.5%	1.9%	9.2%	3.5%	5.8%	0.0%	2.1%	1.4%	1.4%	15.0%	7.7%	8.1%	9.4%	4.1%
PHF	0.78	0.83	0.57	0.88	0.81	0.75	0.63	0.81	0.65	0.60	0.71	0.82	0.71	0.65	0.71	0.80	0.95

Rolling Hour Summary

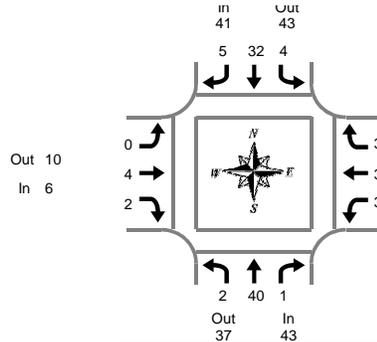
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				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	238	1,012	105	0	154	282	125	0	87	130	106	0	14	45	26	0	2,324	2	3	0	0
7:15 AM	250	927	110	0	188	339	146	0	82	153	122	0	16	48	30	0	2,411	3	10	0	0
7:30 AM	277	828	109	0	214	347	142	0	91	189	139	0	20	39	37	0	2,432	3	9	0	1
7:45 AM	278	745	111	0	242	379	135	0	83	194	143	0	17	36	38	0	2,401	3	8	0	1
8:00 AM	311	689	108	0	247	396	146	0	93	186	146	0	15	36	45	0	2,418	2	9	0	1

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
7:30 AM to 8:30 AM

Hwy 213 & Molalla Ave

Thursday, October 23, 2014

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 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	3	0	3	1	2	0	3	0	0	1	1	0	1	0	1	8
7:05 AM	1	4	0	5	0	1	0	1	1	1	0	2	0	1	1	2	10
7:10 AM	1	5	1	7	0	5	0	5	0	0	0	0	1	0	0	1	13
7:15 AM	0	3	0	3	1	4	0	5	0	0	0	0	0	0	0	0	8
7:20 AM	0	5	0	5	0	1	0	1	0	0	0	0	0	0	0	0	6
7:25 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	1	0	1	4
7:30 AM	0	1	0	1	0	3	0	3	0	1	0	1	0	0	1	1	6
7:35 AM	0	5	0	5	0	1	1	2	0	0	0	0	1	1	0	2	9
7:40 AM	0	3	0	3	0	1	1	2	0	0	0	0	0	0	0	0	5
7:45 AM	0	5	1	6	2	2	0	4	0	1	1	2	0	1	0	1	13
7:50 AM	0	6	0	6	0	4	0	4	0	0	0	0	1	0	0	1	11
7:55 AM	0	6	0	6	1	1	0	2	0	0	0	0	0	0	2	2	10
8:00 AM	0	6	0	6	0	4	0	4	0	0	0	0	0	0	0	0	10
8:05 AM	0	1	0	1	0	5	0	5	0	0	0	0	1	0	0	1	7
8:10 AM	1	1	0	2	0	3	1	4	0	0	0	0	0	0	0	0	6
8:15 AM	0	0	0	0	1	5	1	7	0	2	0	2	0	0	0	0	9
8:20 AM	0	5	0	5	0	0	1	1	0	0	0	0	0	0	0	0	6
8:25 AM	1	1	0	2	0	3	0	3	0	0	1	1	0	1	0	1	7
8:30 AM	0	2	0	2	0	5	0	5	0	0	0	0	0	0	0	0	7
8:35 AM	2	5	0	7	0	4	0	4	1	0	0	1	0	0	0	0	12
8:40 AM	1	3	0	4	0	5	0	5	0	0	0	0	0	0	2	2	11
8:45 AM	0	2	0	2	0	2	1	3	0	1	0	1	0	0	0	0	6
8:50 AM	1	1	0	2	0	6	0	6	0	0	0	0	0	0	0	0	8
8:55 AM	0	0	0	0	0	2	1	3	0	0	0	0	0	1	0	1	4
Total Survey	8	76	2	86	6	69	7	82	2	6	3	11	4	7	6	17	196

Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	2	12	1	15	1	8	0	9	1	1	1	3	1	2	1	4	31
7:15 AM	0	11	0	11	1	5	0	6	0	0	0	0	0	1	0	1	18
7:30 AM	0	9	0	9	0	5	2	7	0	1	0	1	1	1	1	3	20
7:45 AM	0	17	1	18	3	7	0	10	0	1	1	2	1	1	2	4	34
8:00 AM	1	8	0	9	0	12	1	13	0	0	0	0	1	0	0	1	23
8:15 AM	1	6	0	7	1	8	2	11	0	2	1	3	0	1	0	1	22
8:30 AM	3	10	0	13	0	14	0	14	1	0	0	1	0	0	2	2	30
8:45 AM	1	3	0	4	0	10	2	12	0	1	0	1	0	1	0	1	18
Total Survey	8	76	2	86	6	69	7	82	2	6	3	11	4	7	6	17	196

Heavy Vehicle Peak Hour Summary

7:30 AM to 8:30 AM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Molalla Ave			Westbound Molalla Ave			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	43	37	80	41	43	84	6	10	16	9	9	18	99
PHF	0.60			0.64			0.50			0.56			0.73

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	40	1	43	4	32	5	41	0	4	2	6	3	3	3	9	99
PHF	0.50	0.56	0.25	0.60	0.33	0.62	0.42	0.64	0.00	0.50	0.50	0.50	0.75	0.38	0.38	0.56	0.73

Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	2	49	2	53	5	25	2	32	1	3	2	6	3	5	4	12	103
7:15 AM	1	45	1	47	4	29	3	36	0	2	1	3	3	3	3	9	95
7:30 AM	2	40	1	43	4	32	5	41	0	4	2	6	3	3	3	9	99
7:45 AM	5	41	1	47	4	41	3	48	1	3	2	6	2	2	4	8	109
8:00 AM	6	27	0	33	1	44	5	50	1	3	1	5	1	2	2	5	93

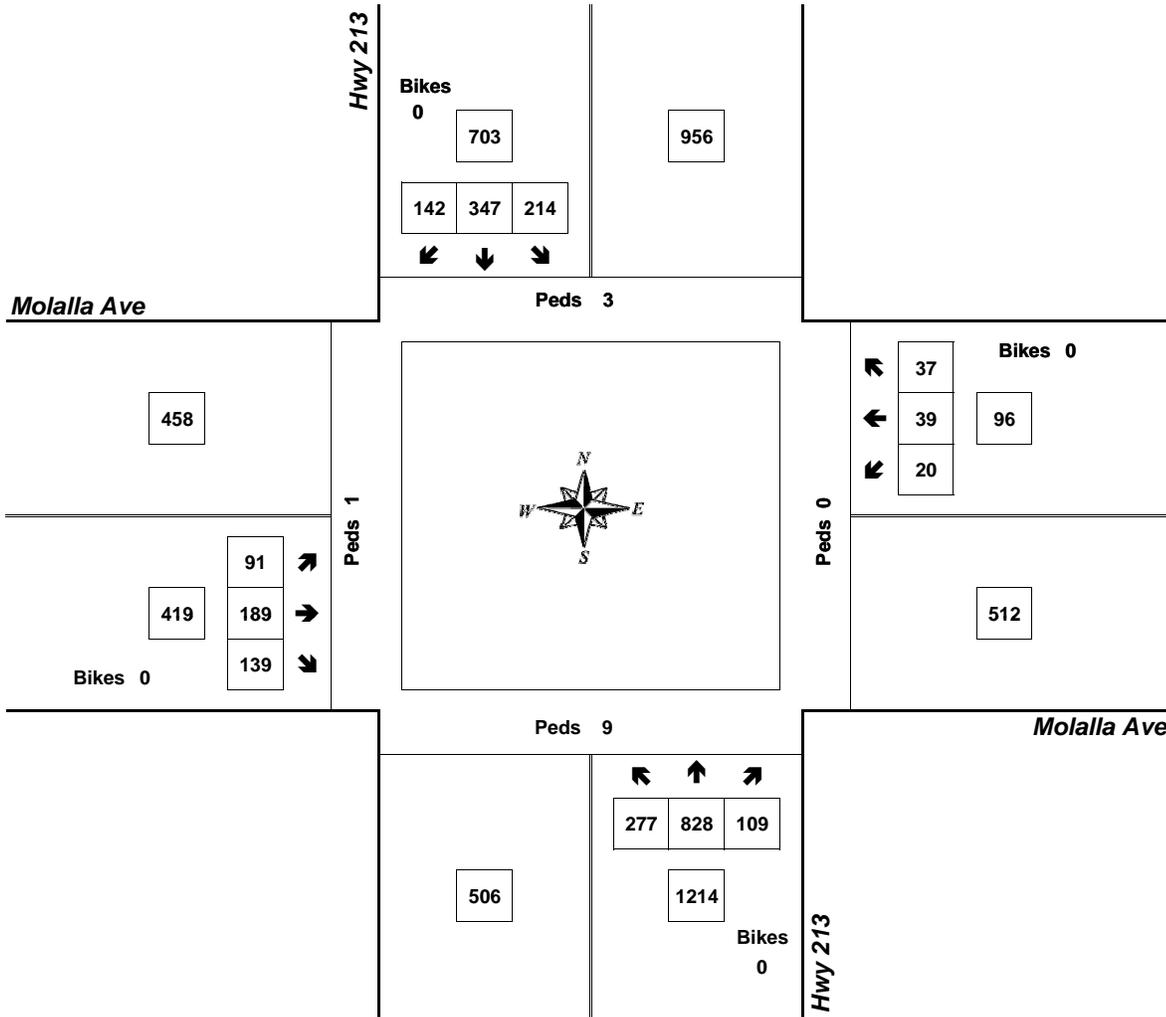
Peak Hour Summary



Clay Carney
(503) 833-2740

Hwy 213 & Molalla Ave

7:30 AM to 8:30 AM
Thursday, October 23, 2014



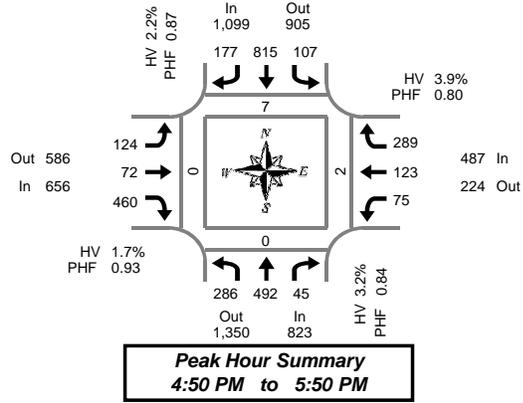
Approach	PHF	HV%	Volume
EB	0.82	1.4%	419
WB	0.80	9.4%	96
NB	0.88	3.5%	1,214
SB	0.81	5.8%	703
Intersection	0.95	4.1%	2,432

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 213 & Molalla Ave

Wednesday, October 22, 2014

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 Molalla Ave				Westbound Molalla Ave				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	14	61	3	0	20	73	21	0	13	7	39	0	20	17	24	0	312	0	0	0	0
4:05 PM	21	44	2	0	9	50	17	0	8	1	49	0	9	19	26	0	255	1	0	0	0
4:10 PM	28	45	2	0	5	58	19	0	10	8	40	0	12	25	26	0	278	3	0	0	0
4:15 PM	28	50	4	0	10	92	25	0	8	8	40	0	7	9	14	0	295	0	0	0	1
4:20 PM	28	41	2	0	12	66	12	0	7	11	38	0	5	15	12	0	249	0	1	0	1
4:25 PM	36	50	5	0	2	53	13	0	10	5	41	0	5	17	17	0	254	1	0	0	0
4:30 PM	13	52	1	0	9	62	15	0	8	8	34	0	5	3	12	0	222	1	0	0	0
4:35 PM	22	44	2	0	4	60	12	0	9	1	43	0	11	6	22	1	236	0	0	0	0
4:40 PM	26	37	3	0	3	70	20	0	8	5	43	0	9	12	23	0	259	0	0	0	0
4:45 PM	16	33	1	0	5	61	23	0	6	6	33	0	4	1	21	0	210	4	0	0	0
4:50 PM	15	51	1	0	14	62	14	0	11	8	37	0	3	4	15	0	235	0	0	0	0
4:55 PM	29	38	1	0	6	57	18	0	9	7	40	0	12	7	24	0	248	2	0	2	0
5:00 PM	16	28	4	0	4	58	14	0	13	5	38	0	7	19	25	0	231	1	0	0	0
5:05 PM	26	36	2	0	5	80	15	0	9	6	30	0	4	15	29	0	257	0	0	0	0
5:10 PM	30	44	3	0	5	58	20	0	9	5	39	0	13	14	27	0	267	0	0	0	0
5:15 PM	19	35	4	0	10	72	13	0	15	6	42	0	5	6	19	0	246	0	0	0	0
5:20 PM	26	35	3	0	15	90	14	0	11	6	37	0	6	11	20	0	274	2	0	0	0
5:25 PM	20	51	4	0	10	79	12	0	11	1	27	0	5	8	28	0	256	0	0	0	0
5:30 PM	21	29	6	0	11	54	13	0	13	5	39	0	3	10	21	0	225	1	0	0	0
5:35 PM	25	42	7	0	11	82	11	0	12	6	36	0	3	12	30	0	277	0	0	0	0
5:40 PM	27	59	5	0	9	70	16	0	5	7	36	0	6	3	30	0	273	1	0	0	0
5:45 PM	32	44	5	0	7	53	17	1	6	10	59	0	8	14	21	0	276	0	0	0	0
5:50 PM	20	33	7	0	12	56	9	0	13	13	24	0	5	3	6	0	201	0	0	0	0
5:55 PM	22	50	11	0	10	50	20	0	10	6	50	0	10	4	8	0	251	0	0	0	0
Total Survey	560	1,032	88	0	208	1,566	383	1	234	151	934	0	177	254	500	1	6,087	17	1	2	2

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				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	63	150	7	0	34	181	57	0	31	16	128	0	41	61	76	0	845	4	0	0	0
4:15 PM	92	141	11	0	24	211	50	0	25	24	119	0	17	41	43	0	798	1	1	0	2
4:30 PM	61	133	6	0	16	192	47	0	25	14	120	0	25	21	57	1	717	1	0	0	0
4:45 PM	60	122	3	0	25	180	55	0	26	21	110	0	19	12	60	0	693	6	0	2	0
5:00 PM	72	108	9	0	14	196	49	0	31	16	107	0	24	48	81	0	755	1	0	0	0
5:15 PM	65	121	11	0	35	241	39	0	37	13	106	0	16	25	67	0	776	2	0	0	0
5:30 PM	73	130	18	0	31	206	40	0	30	18	111	0	12	25	81	0	775	2	0	0	0
5:45 PM	74	127	23	0	29	159	46	1	29	29	133	0	23	21	35	0	728	0	0	0	0
Total Survey	560	1,032	88	0	208	1,566	383	1	234	151	934	0	177	254	500	1	6,087	17	1	2	2

Peak Hour Summary

4:50 PM to 5:50 PM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	823	1,350	2,173	0	1,099	905	2,004	1	656	586	1,242	0	487	224	711	0	3,065	7	0	2	0
%HV	3.2%				2.2%				1.7%				3.9%				2.6%				
PHF	0.84				0.87				0.93				0.80				0.93				

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	286	492	45	823	107	815	177	1,099	124	75	477	656	75	123	289	487	3,065
%HV	2.4%	3.5%	4.4%	3.2%	3.7%	2.3%	0.6%	2.2%	3.2%	6.9%	0.4%	1.7%	4.0%	1.6%	4.8%	3.9%	2.6%
PHF	0.85	0.85	0.63	0.84	0.74	0.85	0.90	0.87	0.84	0.78	0.88	0.93	0.78	0.64	0.89	0.80	0.93

Rolling Hour Summary

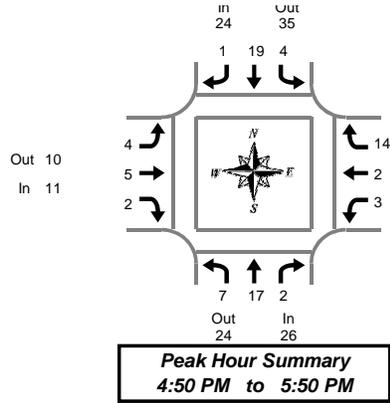
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				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	276	546	27	0	99	764	209	0	107	75	477	0	102	135	236	1	3,053	12	1	2	2
4:15 PM	285	504	29	0	79	779	201	0	107	75	456	0	85	122	241	1	2,963	9	1	2	2
4:30 PM	258	484	29	0	90	809	190	0	119	64	443	0	84	106	265	1	2,941	10	0	2	0
4:45 PM	270	481	41	0	105	823	183	0	124	68	434	0	71	110	289	0	2,999	11	0	2	0
5:00 PM	284	486	61	0	109	802	174	1	127	76	457	0	75	119	264	0	3,034	5	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 213 & Molalla Ave

Wednesday, October 22, 2014

4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
4:00 PM	0	3	0	3	0	3	0	3	0	0	0	0	0	0	0	0	0	6
4:05 PM	1	2	0	3	1	1	0	2	0	0	0	0	0	0	0	0	0	5
4:10 PM	1	2	0	3	0	2	1	3	0	0	0	0	0	1	1	2	8	
4:15 PM	0	5	0	5	1	1	0	2	0	1	0	1	0	0	0	0	8	
4:20 PM	1	2	0	3	2	1	0	3	1	0	1	2	0	0	1	1	9	
4:25 PM	1	2	1	4	0	1	1	2	0	0	0	0	0	0	1	1	7	
4:30 PM	0	1	0	1	2	4	1	7	0	0	0	0	0	1	0	1	9	
4:35 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3	
4:40 PM	0	4	0	4	0	3	2	5	0	0	0	0	0	0	1	1	10	
4:45 PM	0	2	1	3	0	2	0	2	0	0	0	0	0	0	2	2	7	
4:50 PM	0	4	0	4	1	0	0	1	0	0	0	0	0	0	0	0	5	
4:55 PM	1	0	0	1	0	1	1	2	1	0	1	2	1	0	0	1	6	
5:00 PM	0	3	0	3	0	3	0	3	0	0	0	0	0	0	0	0	6	
5:05 PM	1	0	0	1	0	3	0	3	1	3	0	4	0	0	0	0	8	
5:10 PM	1	2	0	3	0	1	0	1	2	0	0	2	0	0	2	2	8	
5:15 PM	0	2	0	2	1	1	0	2	0	0	0	0	0	0	1	1	5	
5:20 PM	1	2	0	3	1	2	0	3	0	1	0	1	0	0	0	0	7	
5:25 PM	1	1	0	2	0	2	0	2	0	0	0	0	0	0	3	3	7	
5:30 PM	1	1	1	3	0	1	0	1	0	0	0	0	0	1	0	1	5	
5:35 PM	1	0	0	1	1	1	0	2	0	1	1	2	1	0	1	2	7	
5:40 PM	0	2	0	2	0	3	0	3	0	0	0	0	0	0	3	3	8	
5:45 PM	0	0	1	1	0	1	0	1	0	0	0	0	1	1	4	6	8	
5:50 PM	1	1	0	2	0	2	0	2	0	2	0	2	0	0	2	2	8	
5:55 PM	0	0	0	0	0	1	0	1	0	0	1	1	1	0	2	3	5	
Total Survey	12	41	4	57	10	43	6	59	5	8	4	17	4	4	24	32	165	

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	2	7	0	9	1	6	1	8	0	0	0	0	0	1	1	2	19
4:15 PM	2	9	1	12	3	3	1	7	1	1	1	3	0	0	2	2	24
4:30 PM	0	5	0	5	2	10	3	15	0	0	0	0	0	1	1	2	22
4:45 PM	1	6	1	8	1	3	1	5	1	0	1	2	1	0	2	3	18
5:00 PM	2	5	0	7	0	7	0	7	3	3	0	6	0	0	2	2	22
5:15 PM	2	5	0	7	2	5	0	7	0	1	0	1	0	0	4	4	19
5:30 PM	2	3	1	6	1	5	0	6	0	1	1	2	1	1	4	6	20
5:45 PM	1	1	1	3	0	4	0	4	0	2	1	3	2	1	8	11	21
Total Survey	12	41	4	57	10	43	6	59	5	8	4	17	4	4	24	32	165

Heavy Vehicle Peak Hour Summary 4:50 PM to 5:50 PM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Molalla Ave			Westbound Molalla Ave			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	26	24	50	24	35	59	11	10	21	19	11	30	80
PHF	0.81			0.75			0.46			0.43			0.87

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	7	17	2	26	4	19	1	24	4	5	2	11	3	2	14	19	80
PHF	0.58	0.61	0.50	0.81	0.50	0.68	0.25	0.75	0.33	0.42	0.50	0.46	0.38	0.50	0.44	0.43	0.87

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Molalla Ave				Westbound Molalla Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	5	27	2	34	7	22	6	35	2	1	2	5	1	2	6	9	83
4:15 PM	5	25	2	32	6	23	5	34	5	4	2	11	1	1	7	9	86
4:30 PM	5	21	1	27	5	25	4	34	4	4	1	9	1	1	9	11	81
4:45 PM	7	19	2	28	4	20	1	25	4	5	2	11	2	1	12	15	79
5:00 PM	7	14	2	23	3	21	0	24	3	7	2	12	3	2	18	23	82

Peak Hour Summary

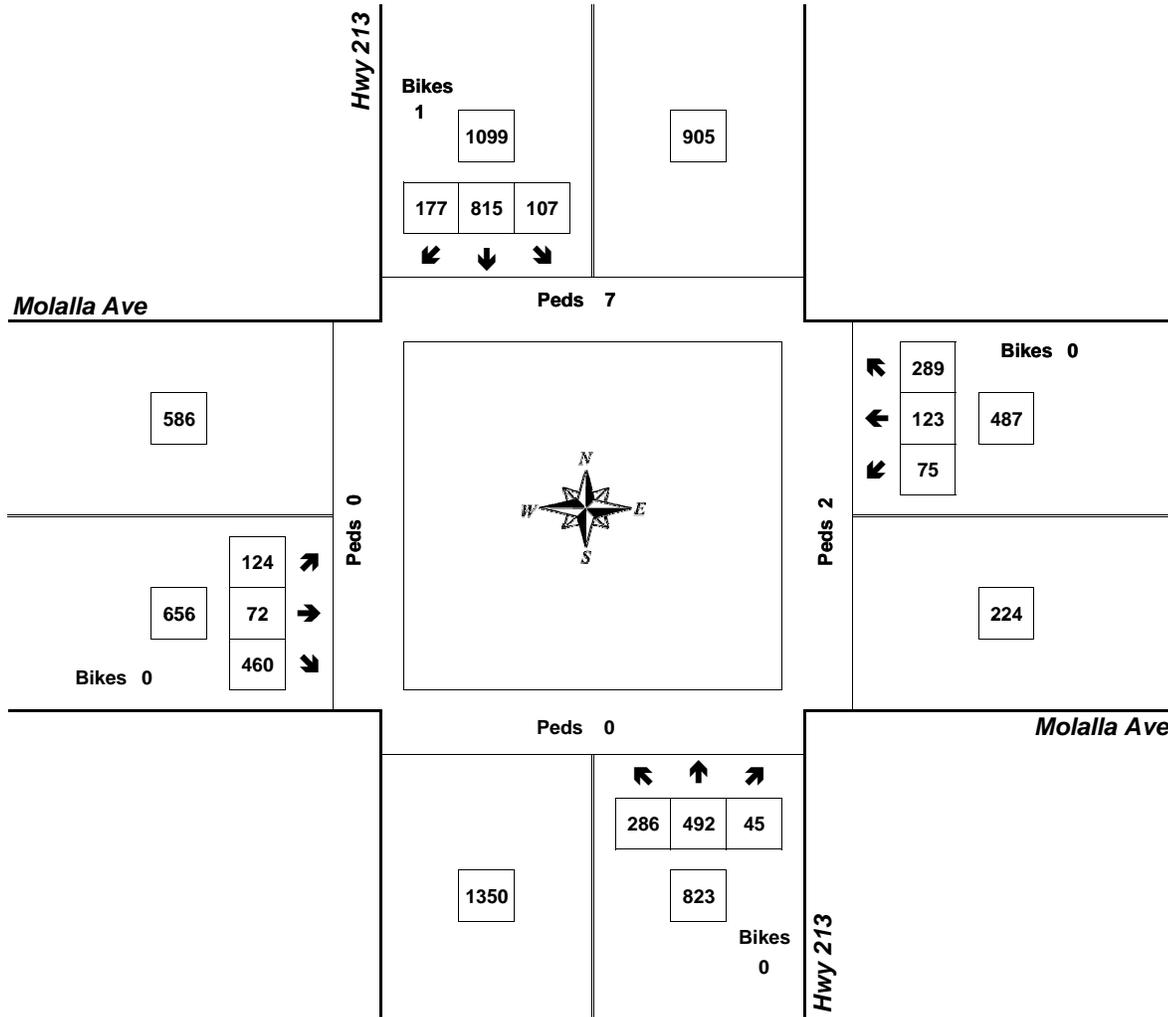


Clay Carney
(503) 833-2740

Hwy 213 & Molalla Ave

4:50 PM to 5:50 PM

Wednesday, October 22, 2014



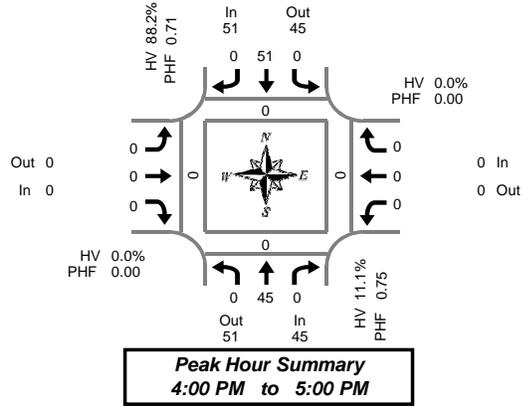
Approach	PHF	HV%	Volume
EB	0.93	1.7%	656
WB	0.80	3.9%	487
NB	0.84	3.2%	823
SB	0.87	2.2%	1,099
Intersection	0.93	2.6%	3,065

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



S Maple Lane Ct & Driveway Access

Thursday, January 22, 2015
4:00 PM to 6:00 PM

5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound S Maple Lane Ct				Southbound S Maple Lane Ct				Eastbound Driveway Access				Westbound Driveway Access				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	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:05 PM	0	1	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:10 PM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	5	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	0	7	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:40 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:50 PM	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:55 PM	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:10 PM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5:25 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	1	0	0	0	1	1	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	0	0	0	0	0	0	0	0	0
Total Survey	0	63	0	0	0	55	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0

15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound S Maple Lane Ct				Southbound S Maple Lane Ct				Eastbound Driveway Access				Westbound Driveway Access				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	6	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	13	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	13	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	13	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	7	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
5:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	2	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	63	0	0	0	55	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0

Peak Hour Summary 4:00 PM to 5:00 PM

By Approach	Northbound S Maple Lane Ct				Southbound S Maple Lane Ct				Eastbound Driveway Access				Westbound Driveway Access				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	45	51	96	0	51	45	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%HV	11.1%				88.2%				0.0%				0.0%				52.1%				
PHF	0.75				0.71				0.00				0.00				0.77				

By Movement	Northbound S Maple Lane Ct				Southbound S Maple Lane Ct				Eastbound Driveway Access				Westbound Driveway Access				Total				
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total					
Volume	0	45	0	45	0	51	0	51	0	0	0	0	0	0	0	0	0	0	0	0	96
%HV	0.0%	11.1%	0.0%	11.1%	0.0%	88.2%	0.0%	88.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	52.1%
PHF	0.00	0.75	0.00	0.75	0.00	0.71	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77

Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound S Maple Lane Ct				Southbound S Maple Lane Ct				Eastbound Driveway Access				Westbound Driveway Access				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	45	0	0	0	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96
4:15 PM	0	46	0	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85
4:30 PM	0	40	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	1	0	61
4:45 PM	0	29	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	1	0	0	41
5:00 PM	0	18	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	1	0	0	23

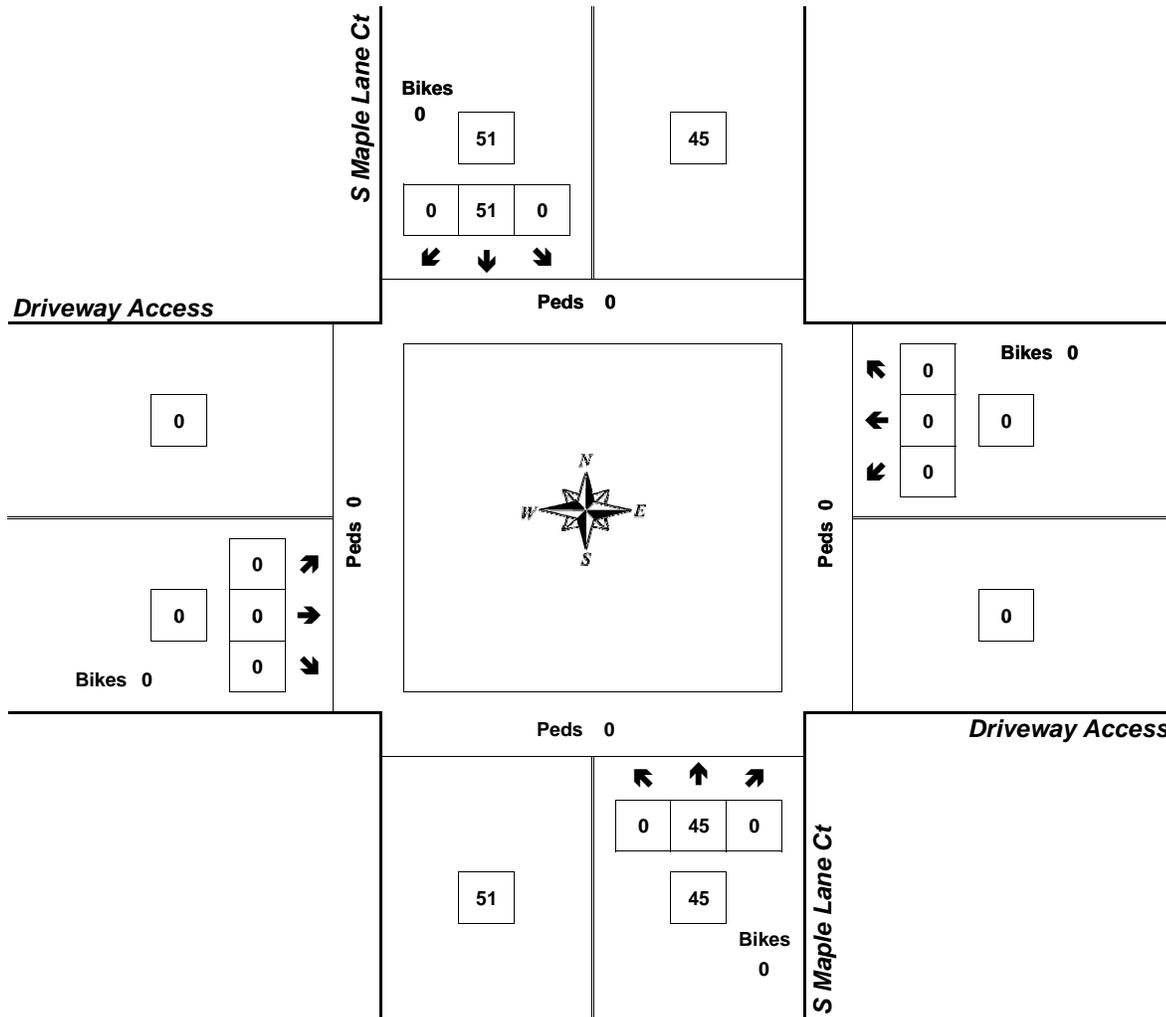
Peak Hour Summary



Clay Carney
(503) 833-2740

S Maple Lane Ct & Driveway Access

4:00 PM to 5:00 PM
Thursday, January 22, 2015



Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.00	0.0%	0
NB	0.75	11.1%	45
SB	0.71	88.2%	51
Intersection	0.77	52.1%	96

Count Period: 4:00 PM to 6:00 PM

OREGON CITY SCHOOL DISTRICT

ENROLLMENT FORECASTS

2014-15 TO 2023-24



Portland State
UNIVERSITY

Population Research
Center



JUNE, 2014

**Table A5
Oregon City S.D., High Range Enrollment Forecasts, 2014-15 to 2023-24**

Grade	Actual		Forecast											
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2013-14 to 2023-24		
												5 yr. chg.	Pct.	
K	554	551	551	555	566	583	586	604	614	621	626	218	13.0%	
1	577	587	584	572	573	594	611	609	630	640	645	151	9.0%	
2	587	604	612	608	595	596	617	630	629	651	660	154	6.0%	
3	540	605	620	627	623	610	610	627	642	641	662	324	4.2%	
4	567	543	607	621	628	624	610	606	624	639	637	432	5.4%	
5	605	581	555	619	634	641	636	616	612	630	645	324	4.2%	
6	554	633	606	578	645	660	667	653	633	629	647	432	5.4%	
7	570	556	633	605	577	644	658	658	645	625	621	432	5.4%	
8	616	582	567	644	616	587	655	662	663	650	629	432	5.4%	
9	653	639	602	586	666	637	606	673	680	681	668	432	5.4%	
10	649	655	640	602	586	666	637	604	671	678	679	432	5.4%	
11	641	644	649	634	596	580	659	629	596	663	669	432	5.4%	
12	593	656	658	662	647	608	592	670	640	607	674	432	5.4%	
US	30	30	30	30	30	30	30	30	30	30	30	30	30	
Total	7,736	7,866	7,914	7,943	7,982	8,060	8,174	8,271	8,309	8,385	8,492	756	9.8%	
Annual change		130	48	29	39	78	114	97	38	76	107			
		1.7%	0.6%	0.4%	0.5%	1.0%	1.4%	1.2%	0.5%	0.9%	1.3%			
K-5	3,430	3,471	3,529	3,602	3,619	3,648	3,670	3,692	3,751	3,822	3,875	445	13.0%	
6-8	1,740	1,771	1,806	1,827	1,838	1,891	1,980	1,973	1,941	1,904	1,897	157	9.0%	
9-12	2,566	2,624	2,579	2,514	2,525	2,521	2,524	2,606	2,617	2,659	2,720	154	6.0%	
Total			324	4.2%		432	5.4%		756	9.8%				

Population Research Center, Portland State University, May 2014.

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

MEYERS RD at HIGH SCHOOL AVE, City of Oregon City, Clackamas County, 01/01/2009 to 12/31/2013

No Rows to Display

CDS380
11/10/2014

CITY OF OREGON CITY, CLACKAMAS COUNTY

SER#	INVEST	D	C	S	L	K	T	IME	FROM	CLASS	CITY STREET	FIRST STREET	SECOND STREET	LOCIN	RD CHAR	INT-TYPE (MEDIAN)	INT-BEL	OFFRD	WTHR	CRASH	SPCL USE	TRLR QTY	MOVE	FROM	PH	TYPE	SVRTY	E	X	RES	LOC	ACT	EVENT	CAUSE

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

GLEN OAK RD at S BEAVERCREEK RD, City of Oregon city, Clackamas County, 01/01/2009 to 12/31/2013

Total crash records: 6

SPCL USE	TRLR QTY	OWNER	PH TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE
MOVE			01	DRVR	NONE	76	F	OR-Y	011	000	000	10
BACK								OR<25		000	000	00
ME-SW										000	000	10
STOP										011	000	00
SW-NE			01	DRVR	NONE	00	M	UNK	000	000	000	00
TURN-L								OR<25				08
SE-W			01	DRVR	NONE	78	F	OR-Y	002,007	000	000	08
PSNGR CAR								OR<25				00
STOP										012	000	00
W -E			01	DRVR	NONE	16	F	OR-Y	000	000	000	00
PSNGR CAR								OR<25				00
TURN-L												02
W -NW			01	DRVR	NONE	56	M	OR-Y	028	000	000	02
PSNGR CAR								OR<25				00
STOP										012	000	00
SE-NW			01	DRVR	NONE	43	F	OR-Y	000	000	000	00
PSNGR CAR								OR<25				00
STRGHT												02
NW-SE			01	DRVR	INJC	18	M	OR-Y	000	000	000	00
PSNGR CAR								OR<25				00
TURN-L										015	000	00
SW-NW			01	DRVR	NONE	38	M	OR-Y	028	000	000	02
PSNGR CAR								OR<25				00
STRGHT												02
NW-SE			01	DRVR	INJC	37	M	OTH-Y	000	000	000	00
PSNGR CAR								N-RES				00
TURN-L										015	000	00
SW-NW			01	DRVR	NONE	25	F	OR-Y	028	000	000	02
PSNGR CAR								OR<25				00
TURN-L										015	000	00
SW-NW			02	PSNG	NO<5	04	F		000	000	000	00
PSNGR CAR												00
STRGHT												02
NW-SE			01	DRVR	NONE	62	M	OR-Y	000	000	000	00
PSNGR CAR								OR<25				00
TURN-L										015	000	00
SW-NW			01	DRVR	NONE	68	F	OR-Y	028	000	000	02
PSNGR CAR												00

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 URBAN NON-SYSTEM CRASH LISTING

GLEN OAK RD at HIGH SCHOOL AVE, city of Oregon City, Clackamas County, 01/01/2009 to 12/31/2013

Total crash records: 2

CDS380
 11/10/2014

CITY OF OREGON CITY, CLACKAMAS COUNTY

SR#	INVEST	D.C.S.I.K	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	INT-BEL	OFFRD	WTHR	CRASH	SPCL USE	PH TYPE	SVRTY	E X RES	LOC	ERROR	ACT EVENT	CAUSE
					FIRST STREET	DIRECT	(MEDIAN)	TRAF-	ENDPT	SURF	COLL	TRLR QTY	TO	ING	G E LICNS				
					SECOND STREET	LOCIN	(LANES)	CONTL	DRVWY	LIGHT	SVRTY	VH TYPE	OWNER	FROM	PRTC				
04849	N N N		12/17/2010	0 19	HIGH SCHOOL AVE	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE	STRGHT	01 DRVR	NONE	00 F	UNK	000	07
NONE					GLEN OAK RD	N	0	STOP SIGN	N	DRY	REAR	PRVTE	N -S				026	000	00
						06			N	DAY	POO	PSNGR CAR	UNK					000	07
												02 NONE	STOP	01 DRVR	NONE	36 F	OR-Y	000	00
												PRVTE	N -S					011	00
												PSNGR CAR						000	00
00623	N N N		02/22/2013	17	HIGH SCHOOL AVE	INTER	3-LEG	N	N	RAIN	S-1STOP	01 NONE	STRGHT	01 DRVR	NONE	18 M	OR-Y	000	07
NONE					GLEN OAK RD	N	0	STOP SIGN	N	WET	REAR	PRVTE	N -S					000	00
						06			N	DAY	ING	PSNGR CAR						000	07
												02 NONE	STOP	01 DRVR	INJB	18 F	OR-Y	011	00
												PRVTE	N -S					000	00
												PSNGR CAR						000	00

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

GLEN OAK RD at CASCADE HW SOUTH, City of Oregon city, Clackamas County, 01/01/2009 to 12/31/2013

Total crash records: 5

SPCL USE	TRLR QTY	OWNER	PH TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT EVENT	CAUSE
00486	0	01 NONE	01	DRVR	NONE	21	F	OR-Y	052,026	000	00
STATE	06	PSNGR CAR	01	DRVR	NONE	21	F	OR<25	000	000	32,07
01081	0	02 NONE	0	DRVR	INJC	25	M	OR-Y	000	011	00
NONE	06	PSNGR CAR	01	DRVR	INJC	25	M	OR<25	000	000	00
02545	0	02 NONE	0	DRVR	NONE	19	F	OR-Y	000	022	00
STATE	05	PSNGR CAR	01	DRVR	NONE	19	F	OR<25	000	000	00
02301	0	01 NONE	0	DRVR	NONE	31	F	SUSP	047,080,081	000	01
NONE	06	PSNGR CAR	01	DRVR	NONE	31	F	OR<25	000	040	00
00191	0	01 NONE	0	DRVR	NONE	00	F	UNK	026	000	07
NONE	03	PSNGR CAR	01	DRVR	NONE	00	F	OR<25	000	000	00

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CDS380
11/10/2014

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

MEYERS RD at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2009 to 12/31/2013

Total crash records: 21

SPCL USE	TRLR QTY	OWNER	PH TYPE	SVRTY	E X RES	LOC	ERROR	ACT EVENT	CAUSE
02508	0	STRGHT SE-NW	01	DRVR	INJB	59 F	026,043	000	07
02508	0	STOP SE-NW	01	DRVR	INJC	20 M	000	011	00
02508	0	STOP SE-NW	02	PSNG	INJC	46 F	000	011	00
02508	0	STOP SE-NW	03	PSNG	INJC	17 F	000	011	00
03154	0	STRGHT SE-NW	01	DRVR	NONE	19 M	026	000	07
03154	0	STOP SE-NW	01	DRVR	INJC	21 M	000	011	00
03154	0	STOP SE-NW	02	PSNG	INJC	20 F	000	011	00
03106	0	STRGHT SE-NW	01	DRVR	NONE	49 M	026	000	07
03106	0	STOP SE-NW	01	DRVR	INJC	33 M	000	011	00
03106	0	STOP SE-NW	02	PSNG	INJC	33 F	000	011	00
03106	0	STOP SE-NW	03	PSNG	NO<5	04 F	000	011	00
03106	0	STOP SE-NW	04	PSNG	NO<5	02 M	000	011	00
03874	0	STRGHT SE-NW	01	DRVR	NONE	19 M	026	000	07
03874	0	STOP SE-NW	01	DRVR	INJC	19 M	026	000	07

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

MEYERS RD at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2009 to 12/31/2013

Total crash records: 21

SPCL USE	TRLR QTY	OWNER	MOVE	PH TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE													
02 NONE	0	STOP	SE-NW	01	DRVR	INJC	36	M	OR-Y	000	011	000	00													
PRVTE	PSNGR	CAR							OR<25				00													
04005	N N N	10/31/2010	14	CASCADE HY SOUTH	INTER	SE	06	3-LEG	N	CLR	S-1STOP	REAR	01 NONE	0	STRGHT	SE-NW	01	DRVR	NONE	37	M	OR-Y	000	00	07	
NONE		SU	12P	MEYERS RD	SE	06		0	L-TURN	REF	N	DAY	PRVTE	0	SE-NW		01	DRVR	NONE	026		OR<25	000	00	07	
													PSNGR	CAR			01	DRVR	NONE	000		OR<25	000	00	07	
													02 NONE	0	STOP	SE-NW		01	DRVR	INJC	29	F	OR-Y	000	00	00
													PRVTE	PSNGR	CAR			01	DRVR	INJC	000		OR<25	000	00	00
													02 NONE	0	STOP	SE-NW		02	PSNG	NO<5	04	F	OR-Y	012	00	00
													PRVTE	PSNGR	CAR			01	DRVR	NONE	000		OR<25	000	00	00
													01 NONE	0	STRGHT	SE-NW		01	DRVR	NONE	18	F	OR-Y	016	00	27
04318	N N N	11/16/2010	14	CASCADE HY SOUTH	INTER	SE	06	CROSS	N	CLD	S-1STOP	REAR	PRVTE	0	STRGHT	SE-NW	01	DRVR	NONE	016		OR<25	000	00	00	
NONE		TU	6P	MEYERS RD	SE	06		0	TRF	SIGNAL	N	DLIT	PSNGR	CAR			01	DRVR	NONE	016		OR<25	000	00	27	
													02 NONE	0	STOP	SE-NW		01	DRVR	NONE	00	UNK	UNK	011	00	00
													PSNGR	CAR			01	DRVR	NONE	000		UNK	000	00	00	
													01 NONE	0	STRGHT	SE-NW		01	DRVR	NONE	00	M	OR-Y	042	00	07
02526	N N N	07/16/2011	14	CASCADE HY SOUTH	INTER	SE	06	3-LEG	N	CLR	S-STRGHT	REAR	PRVTE	0	STRGHT	SE-NW	01	DRVR	NONE	00	M	OR-Y	000	00	00	
NONE		SA	4P	MEYERS RD	SE	06		0	TRF	SIGNAL	N	DAY	PSNGR	CAR			01	DRVR	NONE	042		UNK	000	00	07	
													02 NONE	0	STOP	SE-NW		01	DRVR	NONE	000		OR<25	000	00	00
													PRVTE	PSNGR	CAR			01	DRVR	NONE	000		OR<25	000	00	00
													01 NONE	0	STRGHT	SE-NW		01	DRVR	NONE	000		OR<25	000	00	07
02661	N N N	07/27/2011	14	CASCADE HY SOUTH	INTER	SE	06	3-LEG	N	CLR	S-1STOP	REAR	PRVTE	0	STRGHT	SE-NW	01	DRVR	INJB	49	M	OR-Y	026	00	07	
CITY		WE	9A	MEYERS RD	SE	06		0	TRF	SIGNAL	N	DAY	PSNGR	CAR			01	DRVR	INJB	026		OR<25	000	00	07	
													02 NONE	0	STOP	SE-NW		01	DRVR	NONE	000		OR<25	000	00	00
													PRVTE	PSNGR	CAR			01	DRVR	NONE	000		OR<25	000	00	00
													01 NONE	0	STRGHT	SE-NW		01	DRVR	NONE	000		OR<25	000	00	07
04126	Y N Y	11/03/2011	14	CASCADE HY SOUTH	INTER	SE	06	3-LEG	N	CLD	S-1STOP	REAR	PRVTE	0	STRGHT	SE-NW	01	DRVR	INJB	60	F	OR-Y	052,047,026	000	32,01	
STATE		TH	12P	MEYERS RD	SE	06		0	TRF	SIGNAL	N	DAY	PSNGR	CAR			01	DRVR	INJB	052,047,026		OR<25	000	32,01		
													02 NONE	0	STOP	SE-NW		01	DRVR	NONE	000		OR<25	000	00	
													PRVTE	PSNGR	CAR			01	DRVR	NONE	000		OR<25	000	00	
													01 NONE	0	STRGHT	SE-NW		01	DRVR	NONE	000		OR<25	000	00	
04218	N N N	11/09/2011	14	CASCADE HY SOUTH	INTER	SE	06	3-LEG	N	CLR	S-1STOP	REAR	PRVTE	0	STRGHT	SE-NW	01	DRVR	NONE	000		OR<25	000	00	07	
NONE		WE		MEYERS RD	SE	06		0	TRF	SIGNAL	N	DAY	PSNGR	CAR			01	DRVR	NONE	000		OR<25	000	00	00	

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CDS380
11/10/2014

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

MEYERS RD at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2009 to 12/31/2013

Total crash records: 21

SPCL USE	TRLR QTY	OWNER	PH TYPE	SVRTY	E X RES	LOC	ERROR	ACT EVENT	CAUSE
MOVE	A S	FROM	01	DRVR	NONE	17 M	OR<25	000	07
02 NONE	0	STOP	01	DRVR	NONE	44 F	OR<25	011	00
PRVTE		SE-NW	01	DRVR	NONE	000	OR<25	000	00
PSNGR CAR			01	DRVR	NONE	29 M	OR<25	000	07
01 NONE	0	STRGHT	01	DRVR	NONE	026	OR<25	000	07
SE-NW		SE-NW	01	DRVR	NONE	000	OR<25	000	07
PRVTE			01	DRVR	NONE	026	OR<25	000	07
PSNGR CAR			01	DRVR	INJC	37 F	OR<25	011	00
02 NONE	0	STOP	01	DRVR	NONE	000	OR<25	000	00
SE-NW		SE-NW	01	DRVR	NONE	000	OR<25	000	00
PRVTE			01	DRVR	NONE	72 F	OR<25	000	07
PSNGR CAR			01	DRVR	NONE	026	OR<25	000	07
01 NONE	0	STRGHT	01	DRVR	NONE	000	OR<25	000	07
SE-NW		SE-NW	01	DRVR	NONE	000	OR<25	000	07
PRVTE			01	DRVR	NONE	026	OR<25	000	07
PSNGR CAR			01	DRVR	NONE	37 F	OR<25	011	00
02 NONE	0	STOP	01	DRVR	NONE	000	OR<25	000	00
SE-NW		SE-NW	01	DRVR	NONE	000	OR<25	000	00
PRVTE			01	DRVR	NONE	000	OR<25	000	00
PSNGR CAR			01	DRVR	NONE	57 M	OR<25	011	00
01 NONE	0	STRGHT	01	DRVR	NONE	000	OR<25	000	07
SE-NW		SW-NE	01	DRVR	NONE	000	OR<25	000	07
PRVTE			01	DRVR	NONE	000	OR<25	000	07
PSNGR CAR			01	DRVR	NONE	026	OR<25	000	07
02 NONE	0	STOP	01	DRVR	NONE	000	OR<25	011	00
SE-NW		SW-NE	01	DRVR	NONE	000	OR<25	000	00
PRVTE			01	DRVR	NONE	000	OR<25	000	00
PSNGR CAR			01	DRVR	NONE	48 M	OR<25	011	00
01 NONE	0	STRGHT	01	DRVR	NONE	000	OR<25	000	07
SE-NW		SW-NE	01	DRVR	NONE	000	OR<25	000	07
PRVTE			01	DRVR	NONE	026	OR<25	000	07
PSNGR CAR			01	DRVR	NONE	18 M	OR<25	000	07
02 NONE	0	STOP	01	DRVR	NONE	000	OR<25	011	013
SE-NW		SW-NE	01	DRVR	NONE	000	OR<25	000	00
PRVTE			01	DRVR	NONE	000	OR<25	000	00
PSNGR CAR			01	DRVR	INJB	62 M	OR<25	011	013
03 NONE	0	STOP	01	DRVR	NONE	000	OR<25	000	00
SE-NW		SW-NE	01	DRVR	NONE	000	OR<25	000	00
PRVTE			01	DRVR	NONE	44 F	OR<25	022	00
PSNGR CAR			01	DRVR	NONE	000	OR<25	000	00
01 NONE	0	STRGHT	01	DRVR	NONE	000	OR<25	000	27, 07
SE-NW		SW-NE	01	DRVR	NONE	000	OR<25	000	00

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

MEYERS RD at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2009 to 12/31/2013

Total crash records: 21

SR	TH	MO	DA	YR	CLASS	CITY STREET	RD CHAR	INT-TYPE	INT-BEL	OFFRD	WTHR	CRASH	SPL USE	SPCL USE	TRLR QTY	OWNER	MOVE	FROM	PRTC	INJ	G	E	L	L	C	S	PH	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE		
NO	RPT																																						
01597	N	N	N	04/25/2011	14	CASCADE HY SOUTH MEYERS RD	INTER NW	3-LEG	N	TRF SIGNAL	N	CLR	S-1STOP	0	0	0	0	0	0	0	0	0	0	0	0	0	01	DRVR	NONE	32	F	OR-Y	OR<25	016,026	000	000	27,07		
01681	N	N	N	05/15/2013	14	CASCADE HY SOUTH MEYERS RD	INTER NW	3-LEG	N	TRF SIGNAL	N	RAIN	S-1STOP	0	0	0	0	0	0	0	0	0	0	0	0	01	DRVR	NONE	59	F	OTH-Y	OR<25	026	000	000	07			
00155	N	N	N	01/13/2011	14	CASCADE HY SOUTH MEYERS RD	INTER CN	3-LEG	N	TRF SIGNAL	N	CLD	S-1STOP	0	0	0	0	0	0	0	0	0	0	0	0	01	DRVR	NONE	19	F	OR-Y	OR<25	043,026	000	000	07			
81696	N	N	N	02/16/2012	14	CASCADE HY SOUTH MEYERS RD	INTER CN	3-LEG	N	TRF SIGNAL	N	RAIN	ANGL-OTH	0	0	0	0	0	0	0	0	0	0	0	0	01	DRVR	NONE	17	M	OR-Y	OR<25	020	000	000	04			
02761	N	N	N	07/30/2013	14	CASCADE HY SOUTH MEYERS RD	INTER CN	3-LEG	N	TRF SIGNAL	N	CLR	O-1TURN	0	0	0	0	0	0	0	0	0	0	0	0	01	DRVR	NONE	51	F	OR-Y	OR<25	020	000	000	04			

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CDS380
11/10/2014

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CASCADE HY SOUTH at MOLALLA AVE, City of Oregon city, Clackamas County, 01/01/2009 to 12/31/2013

Total crash records: 25

SPCL USE	TRLR QTY	OWNER	PH TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE														
03386	N N N N	09/20/2010	14	CASCADE HY SOUTH	INTER	N	CROSS	N	TRF SIGNAL	N	CLD BIKE	0	STRGHT	N -S	01	DRVR	NONE	42	M	OR-Y	00	000	000	00	14,19	
STATE	MO	6A		MOLALLA AVE	06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00863	N N N	03/11/2011	14	CASCADE HY SOUTH	INTER	N	CROSS	N	TRF SIGNAL	N	CLR S-1STOP	0	STRGHT	N -S	01	DRVR	NONE	17	F	OR-Y	00	000	000	00	27,07	
NONE	FR	7A		MOLALLA AVE	06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03954	N N N N	10/21/2011	14	CASCADE HY SOUTH	INTER	N	CROSS	N	TRF SIGNAL	N	CLR S-1STOP	0	STRGHT	N -S	01	DRVR	NONE	34	F	OR-Y	00	000	000	00	27,07	
CITY	FR	3P		MOLALLA AVE	06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04071	N N N N	10/31/2011	14	CASCADE HY SOUTH	INTER	N	CROSS	N	TRF SIGNAL	N	CLR S-1STOP	0	STRGHT	N -S	01	DRVR	NONE	32	M	OR-Y	00	000	000	00	27,07	
NONE	MO	3P		MOLALLA AVE	06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03885	N N N N	10/17/2012	14	CASCADE HY SOUTH	INTER	N	CROSS	N	TRF SIGNAL	N	CLR S-1STOP	0	STRGHT	N -S	01	DRVR	NONE	56	M	OR-Y	00	000	000	00	07	
NONE	WE	2P		MOLALLA AVE	06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01196	N N N	04/08/2010	14	CASCADE HY SOUTH	INTER	N	CROSS	N	TRF SIGNAL	N	CLR S-1STOP	0	STRGHT	N -S	01	DRVR	NONE	36	F	OR-Y	00	000	000	00	07	
NONE	TH	8A		MOLALLA AVE	06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00866	N N N	03/06/2009	14	CASCADE HY SOUTH	INTER	N	CROSS	N	UNKNOWN	N	CLR S-1STOP	0	STRGHT	N -S	01	DRVR	NONE	54	M	OR-Y	00	000	000	00	07	
NONE	FR			MOLALLA AVE	S																					

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CASCADE HY SOUTH at MOLLALA AVE, Clackamas County, 01/01/2009 to 12/31/2013

Total crash records: 25

SPCL USE	TRLR QTY	OWNER	PH TYPE	SVRTY	E X RES	LOC	ERROR	ACT EVENT	CAUSE																	
01	DRVR	NONE	00	F	UNK	OR<25	026	000	07																	
02497	N N N	07/07/2009	14	CASCADE HY SOUTH	INTER	S	06	0	CROSS	N	CLR	S-1STOP	01	NONE	0	STOP	NONE	25	M	OR-Y	00	011	000	000	00	
NONE																										
00405	N N N	02/05/2010	14	CASCADE HY SOUTH	INTER	S	06	0	CROSS	N	CLD	S-1STOP	01	NONE	0	STRGHT	S-N	NONE	24	M	OR-Y	000	000	000	000	27
COUNTY																										
00267	Y N N	01/20/2012	14	CASCADE HY SOUTH	INTER	S	06	0	CROSS	N	CLD	S-1STOP	01	NONE	0	STRGHT	S-N	NONE	16	M	OR-Y	047,026	000	000	000	01,07
CITY																										
04514	N N N	11/07/2013	14	CASCADE HY SOUTH	INTER	S	06	0	CROSS	N	CLR	S-1STOP	01	NONE	0	STRGHT	S-N	NONE	00	F	OR-Y	026	000	000	000	07
NONE																										
04438	N N N	11/15/2013	14	CASCADE HY SOUTH	INTER	W	05	1	CROSS	N	CLR	O-OTHER	01	NONE	0	TURN-L	S-W	NONE	18	F	OR-Y	028	000	000	000	02
NONE																										
00361	Y N N	01/30/2013	14	CASCADE HY SOUTH	INTER	S	06	0	CROSS	N	RAIN	ANGL-STP	01	NONE	0	STRGHT	S-N	NONE	70	M	OR-Y	000	000	000	000	00
NONE																										

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URBAN NON-SYSTEM CRASH LISTING

CASCADE HY SOUTH at MOLALLA AVE, City of Oregon city, Clackamas County, 01/01/2009 to 12/31/2013

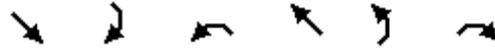
Total crash records: 25

SR#	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE (MEDIAN)	INT-BEL	OFFRD	WTHR	CRASH	SPL USE	PH TYPE	SVRTY	E X RES	LOC	ERROR	ACT EVENT	CAUSE				
INVEST	D.C.S.I.K.TIME	DIST	FIRST STREET	LOCIN	LEGS (LANES)	CONTL	DRVVY	LIGHT	SVRTY	VH TYPE	TO	PH TYPE	SVRTY	E X RES	LOC	ERROR	CAUSE				
CITY	WE	FROM	SECOND STREET	NW		TRF SIGNAL	N	WET	DLIT	PDO	N	DRVR	NONE	00	Unk	UNK	00				
00559	N N N	02/09/2009	16	CASCADE HY SOUTH	INTER	3-LEG	N	CLR	S-1STOP	0	STRGHT	01	DRVR	NONE	00	Unk	UNK	047,020	000	00	04,01
NONE	MO	0		NW	UNKN	UNKN	N	DRY	REAR	PRVTE	SE-NW	01	DRVR	NONE	18	M	OR-Y	026	000	000	07
	7A			06	0		N	DAY	PDO	PSNGR CAR	OR<25	01	DRVR	NONE	00	M	OR-Y	000	000	000	00
01798	N N N	05/29/2010	14	CASCADE HY SOUTH	INTER	CROSS	N	CLR	S-1STOP	0	STRGHT	01	DRVR	NONE	71	M	OR-Y	026	000	000	00
NONE	SA	0		NW	0		N	DRY	REAR	PRVTE	NW-SE	01	DRVR	NONE	00	F	OR-Y	026	000	000	07
	1P			06	0		N	DAY	PDO	PSNGR CAR	OR<25	01	DRVR	NONE	62	M	OR-Y	000	000	000	00
04782	N N N	12/12/2011	16	CASCADE HY SOUTH	INTER	CROSS	N	CLR	S-1STOP	0	STRGHT	01	DRVR	NONE	00	F	OR-Y	026	000	000	00
NONE	MO	0		NW	0		N	DRY	REAR	PRVTE	NW-SE	01	DRVR	NONE	00	F	OR-Y	026	000	000	07
	6P			06	0		N	DLIT	PDO	PSNGR CAR	UNK	01	DRVR	NONE	00	F	OR-Y	026	000	000	07
01543	Y N N	04/26/2012	16	CASCADE HY SOUTH	INTER	CROSS	N	CLR	S-1STOP	0	STRGHT	01	DRVR	NONE	51	M	OR-Y	047,026	000	000	00
NONE	TH	0		NW	0		N	DRY	REAR	PRVTE	NW-SE	01	DRVR	NONE	00	F	OR-Y	047,026	000	000	01,07
	12P			06	0		N	DAY	INJ	PSNGR CAR	OR<25	01	DRVR	NONE	00	F	OR-Y	047,026	000	000	01,07
05111	N N N	12/22/2012	16	CASCADE HY SOUTH	INTER	CROSS	N	UNK	S-1STOP	0	STRGHT	01	DRVR	NONE	86	M	OR-Y	000	000	000	00
NONE	SA	0		NW	0		N	WET	REAR	UNKN	NW-SE	01	DRVR	NONE	21	M	OR-Y	026	000	000	07
	4P			06	0		N	DUSK	INJ	PSNGR CAR	UNK	01	DRVR	NONE	00	F	OR-Y	026	000	000	07
01434	N N N	05/20/2010	14	CASCADE HY SOUTH	INTER	CROSS	N	RAIN	O-1TURN	0	STRGHT	01	DRVR	NONE	37	F	OTH-Y	000	000	000	00
STATE	TH			CN	0		N	WET	TURN	PRVTE	S-N	01	DRVR	NONE	00	F	OR-Y	020	000	000	04
	4P			04	0		Y	DAY	PAT	PSNGR CAR	OR<25	01	DRVR	NONE	00	F	OR-Y	020	000	000	04

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

HCM Signalized Intersection Capacity Analysis
 1: Beaver Creek Rd & Meyers Rd

OCSO Maintenance Facility
 2014 Existing Conditions - AM Peak Period



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↩		↩	↩	↩	↩
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frbp, ped/bikes	0.99		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.93		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1689		1781	1881	1703	1524
Flt Permitted	1.00		0.43	1.00	0.95	1.00
Satd. Flow (perm)	1689		806	1881	1703	1524
Volume (vph)	158	173	117	636	289	25
Peak-hour factor, PHF	0.73	0.73	0.73	0.73	0.73	0.73
Adj. Flow (vph)	216	237	160	871	396	34
RTOR Reduction (vph)	47	0	0	0	0	24
Lane Group Flow (vph)	406	0	160	871	396	10
Conf. Peds. (#/hr)		4	4			
Heavy Vehicles (%)	3%	3%	1%	1%	6%	6%
Turn Type			Perm			Perm
Protected Phases	6			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	36.1		36.1	36.1	19.2	19.2
Effective Green, g (s)	36.1		36.1	36.1	19.2	19.2
Actuated g/C Ratio	0.57		0.57	0.57	0.30	0.30
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	963		460	1073	517	462
v/s Ratio Prot	0.24			c0.46	c0.23	
v/s Ratio Perm			0.20			0.01
v/c Ratio	0.42		0.35	0.81	0.77	0.02
Uniform Delay, d1	7.7		7.3	10.9	20.0	15.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3		0.5	4.8	6.7	0.0
Delay (s)	8.0		7.7	15.6	26.7	15.5
Level of Service	A		A	B	C	B
Approach Delay (s)	8.0			14.4	25.8	
Approach LOS	A			B	C	

Intersection Summary

HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
5: S Glen Oak Rd & Highway 213

OCSD Maintenance Facility
2014 Existing Conditions - AM Peak Period



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↗	↖	↖	↗	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00	1.00	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	
Frt		0.98			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1786			1793	1599	1703	1788		1736	1816	
Flt Permitted		0.81			0.78	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1493			1460	1599	1703	1788		1736	1816	
Volume (vph)	33	12	6	15	2	296	1	848	15	161	378	16
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)	37	13	7	17	2	333	1	953	17	181	425	18
RTOR Reduction (vph)	0	6	0	0	0	207	0	1	0	0	1	0
Lane Group Flow (vph)	0	51	0	0	19	126	1	969	0	181	442	0
Confl. Peds. (#/hr)			2	2								
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	6%	6%	6%	4%	4%	4%
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		11.0			11.0	11.0	0.8	54.4		10.8	64.4	
Effective Green, g (s)		11.0			11.0	11.0	0.8	54.4		10.8	64.4	
Actuated g/C Ratio		0.12			0.12	0.12	0.01	0.62		0.12	0.73	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		186			182	199	15	1103		213	1326	
v/s Ratio Prot							0.00	c0.54		c0.10	0.24	
v/s Ratio Perm		0.03			0.01	c0.08						
v/c Ratio		0.27			0.10	0.64	0.07	0.88		0.85	0.33	
Uniform Delay, d1		35.0			34.2	36.7	43.3	14.1		37.9	4.2	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			0.3	6.5	1.9	10.0		25.8	0.7	
Delay (s)		35.8			34.5	43.2	45.2	24.1		63.7	4.9	
Level of Service		D			C	D	D	C		E	A	
Approach Delay (s)		35.8			42.7			24.2			22.0	
Approach LOS		D			D			C			C	

Intersection Summary

HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
6: Meyers Rd & Highway 213

OCSD Maintenance Facility
2014 Existing Conditions - AM Peak Period



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1549	1736	1827	3343	1464
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1770	1549	1736	1827	3343	1464
Volume (vph)	231	198	147	1035	373	66
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	246	211	156	1101	397	70
RTOR Reduction (vph)	0	174	0	0	0	31
Lane Group Flow (vph)	246	37	156	1101	397	39
Confl. Peds. (#/hr)	2	6				
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	2%	2%	4%	4%	8%	8%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	15.4	15.4	12.3	65.0	48.7	48.7
Effective Green, g (s)	15.4	15.4	12.3	65.0	48.7	48.7
Actuated g/C Ratio	0.17	0.17	0.14	0.74	0.55	0.55
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	308	270	242	1343	1842	807
v/s Ratio Prot	c0.14		0.09	c0.60	0.12	
v/s Ratio Perm		0.02				0.03
v/c Ratio	0.80	0.14	0.64	0.82	0.22	0.05
Uniform Delay, d1	35.0	30.9	36.0	7.8	10.1	9.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.4	0.2	5.8	5.7	0.3	0.1
Delay (s)	48.5	31.1	41.8	13.5	10.4	9.3
Level of Service	D	C	D	B	B	A
Approach Delay (s)	40.4			17.0	10.2	
Approach LOS	D			B	B	

Intersection Summary

HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

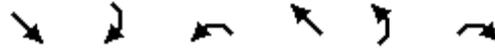
HCM Signalized Intersection Capacity Analysis
7: Molalla Ave & Highway 213

OCSD Maintenance Facility
2014 Existing Conditions - AM Peak Period

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	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	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	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1881	1573	1641	1727	1435	1736	3471	1553	1703	3406	1524
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	1881	1573	1641	1727	1435	1736	3471	1553	1703	3406	1524
Volume (vph)	87	148	115	18	48	31	240	960	115	182	331	134
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)	93	157	122	19	51	33	255	1021	122	194	352	143
RTOR Reduction (vph)	0	0	104	0	0	30	0	0	38	0	0	86
Lane Group Flow (vph)	93	157	18	19	51	3	255	1021	84	194	352	57
Confl. Peds. (#/hr)			3			8						
Heavy Vehicles (%)	1%	1%	1%	10%	10%	10%	4%	4%	4%	6%	6%	6%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	7.9	11.0	11.0	2.6	5.7	5.7	14.6	32.2	32.2	11.4	29.0	29.0
Effective Green, g (s)	7.9	11.0	11.0	2.6	5.7	5.7	14.6	32.2	32.2	11.4	29.0	29.0
Actuated g/C Ratio	0.11	0.15	0.15	0.04	0.08	0.08	0.20	0.44	0.44	0.16	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	193	283	236	58	134	112	346	1527	683	265	1349	604
v/s Ratio Prot	0.05	c0.08		0.01	c0.03		c0.15	c0.29		0.11	0.10	
v/s Ratio Perm			0.01			0.00			0.05			0.04
v/c Ratio	0.48	0.55	0.08	0.33	0.38	0.02	0.74	0.67	0.12	0.73	0.26	0.09
Uniform Delay, d1	30.7	28.8	26.7	34.4	32.1	31.2	27.5	16.3	12.1	29.4	14.9	13.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	2.4	0.1	3.3	1.8	0.1	8.0	2.3	0.4	10.0	0.5	0.3
Delay (s)	32.6	31.2	26.9	37.7	33.9	31.3	35.4	18.6	12.5	39.4	15.4	14.2
Level of Service	C	C	C	D	C	C	D	B	B	D	B	B
Approach Delay (s)		30.1			33.8			21.1			21.9	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			23.2				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			73.2				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			61.6%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 1: Beaver Creek Rd & Meyers Rd

OCSO Maintenance Facility
 2014 Existing Conditions - PM Peak Period



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↩		↩	↩	↩	↩
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frbp, 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	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1837		1787	1881	1787	1599
Flt Permitted	1.00		0.17	1.00	0.95	1.00
Satd. Flow (perm)	1837		326	1881	1787	1599
Volume (vph)	826	143	46	285	139	14
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	879	152	49	303	148	15
RTOR Reduction (vph)	7	0	0	0	0	13
Lane Group Flow (vph)	1024	0	49	303	148	2
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type			Perm			Perm
Protected Phases	6			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	52.8		52.8	52.8	11.0	11.0
Effective Green, g (s)	52.8		52.8	52.8	11.0	11.0
Actuated g/C Ratio	0.74		0.74	0.74	0.15	0.15
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1351		240	1383	274	245
v/s Ratio Prot	c0.56			0.16	c0.08	
v/s Ratio Perm			0.15			0.00
v/c Ratio	0.76		0.20	0.22	0.54	0.01
Uniform Delay, d1	5.7		3.0	3.0	28.1	25.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5		0.4	0.1	2.2	0.0
Delay (s)	8.2		3.4	3.1	30.2	25.8
Level of Service	A		A	A	C	C
Approach Delay (s)	8.2			3.1	29.8	
Approach LOS	A			A	C	

Intersection Summary

HCM Average Control Delay	9.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	71.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
5: S Glen Oak Rd & Highway 213

OCSD Maintenance Facility
2014 Existing Conditions - PM Peak Period

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.96			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1769			1786	1583	1736	1816		1770	1851	
Flt Permitted		0.75			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1379			1405	1583	1736	1816		1770	1851	
Volume (vph)	23	0	4	18	3	189	3	538	23	228	1030	45
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	24	0	4	19	3	197	3	560	24	238	1073	47
RTOR Reduction (vph)	0	4	0	0	0	179	0	1	0	0	1	0
Lane Group Flow (vph)	0	24	0	0	22	18	3	583	0	238	1119	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		7.5			7.5	7.5	0.7	46.1		14.9	60.3	
Effective Green, g (s)		7.5			7.5	7.5	0.7	46.1		14.9	60.3	
Actuated g/C Ratio		0.09			0.09	0.09	0.01	0.57		0.19	0.75	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		128			131	147	15	1040		328	1387	
v/s Ratio Prot							0.00	0.32		c0.13	c0.60	
v/s Ratio Perm		c0.02			0.02	0.01						
v/c Ratio		0.19			0.17	0.12	0.20	0.56		0.73	0.81	
Uniform Delay, d1		33.7			33.6	33.5	39.6	10.8		30.9	6.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			0.6	0.4	6.5	2.2		7.8	5.1	
Delay (s)		34.4			34.2	33.9	46.1	13.0		38.6	11.5	
Level of Service		C			C	C	D	B		D	B	
Approach Delay (s)		34.4			33.9			13.2			16.3	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			17.4				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			80.5				Sum of lost time (s)				12.0	
Intersection Capacity Utilization			78.5%				ICU Level of Service				D	
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: Meyers Rd & Highway 213

OCSD Maintenance Facility
2014 Existing Conditions - PM Peak Period



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.98	1.00	1.00	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	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1787	1565	1752	1845	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1787	1565	1752	1845	3539	1583
Volume (vph)	194	262	150	634	1063	205
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	204	276	158	667	1119	216
RTOR Reduction (vph)	0	228	0	0	0	101
Lane Group Flow (vph)	204	48	158	667	1119	115
Confl. Peds. (#/hr)	1	6				
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	14.6	14.6	12.6	61.2	44.6	44.6
Effective Green, g (s)	14.6	14.6	12.6	61.2	44.6	44.6
Actuated g/C Ratio	0.17	0.17	0.15	0.73	0.53	0.53
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	311	273	263	1347	1884	843
v/s Ratio Prot	c0.11		c0.09	0.36	c0.32	
v/s Ratio Perm		0.03				0.07
v/c Ratio	0.66	0.18	0.60	0.50	0.59	0.14
Uniform Delay, d1	32.3	29.5	33.3	4.8	13.4	9.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9	0.3	3.8	1.3	1.4	0.3
Delay (s)	37.2	29.8	37.1	6.1	14.8	10.2
Level of Service	D	C	D	A	B	B
Approach Delay (s)	32.9			12.0	14.1	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	83.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
7: Molalla Ave & Highway 213

OCSD Maintenance Facility
2014 Existing Conditions - PM Peak Period

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	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	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1553	1719	1810	1538	1752	3505	1568	1770	3539	1550
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1553	1719	1810	1538	1752	3505	1568	1770	3539	1550
Volume (vph)	127	76	457	75	119	264	284	486	61	109	802	174
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)	138	83	497	82	129	287	309	528	66	118	872	189
RTOR Reduction (vph)	0	0	388	0	0	248	0	0	37	0	0	125
Lane Group Flow (vph)	138	83	109	82	129	39	309	528	29	118	872	64
Conf. Peds. (#/hr)	5											
Conf. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	3%	3%	3%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	9.4	10.7	10.7	9.5	10.8	10.8	16.3	35.1	35.1	8.1	26.9	26.9
Effective Green, g (s)	9.4	10.7	10.7	9.5	10.8	10.8	16.3	35.1	35.1	8.1	26.9	26.9
Actuated g/C Ratio	0.12	0.13	0.13	0.12	0.14	0.14	0.21	0.44	0.44	0.10	0.34	0.34
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	210	251	209	206	246	209	360	1549	693	181	1199	525
v/s Ratio Prot	c0.08	0.04		0.05	c0.07		c0.18	0.15		0.07	c0.25	
v/s Ratio Perm			0.07			0.03			0.02			0.04
v/c Ratio	0.66	0.33	0.52	0.40	0.52	0.19	0.86	0.34	0.04	0.65	0.73	0.12
Uniform Delay, d1	33.5	31.1	32.0	32.3	31.9	30.4	30.4	14.6	12.6	34.3	23.0	18.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.2	0.8	2.2	1.3	2.0	0.4	18.0	0.6	0.1	8.1	3.9	0.5
Delay (s)	40.7	31.9	34.1	33.6	33.9	30.8	48.4	15.2	12.7	42.4	26.9	18.6
Level of Service	D	C	C	C	C	C	D	B	B	D	C	B
Approach Delay (s)		35.1			32.1			26.3			27.1	
Approach LOS		D			C			C			C	
Intersection Summary												
HCM Average Control Delay			29.4	HCM Level of Service				C				
HCM Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			79.4	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			65.2%	ICU Level of Service				C				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 1: Beaver Creek Rd & Meyers Rd

OCSD Maintenance Facility
 2016 Background Conditions - AM Peak Period



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↔		↵	↕	↵	↵
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frbp, ped/bikes	0.99		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.93		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1689		1781	1881	1703	1524
Flt Permitted	1.00		0.42	1.00	0.95	1.00
Satd. Flow (perm)	1689		779	1881	1703	1524
Volume (vph)	164	180	122	662	301	26
Peak-hour factor, PHF	0.73	0.73	0.73	0.73	0.73	0.73
Adj. Flow (vph)	225	247	167	907	412	36
RTOR Reduction (vph)	46	0	0	0	0	24
Lane Group Flow (vph)	426	0	167	907	412	12
Confl. Peds. (#/hr)		4	4			
Heavy Vehicles (%)	3%	3%	1%	1%	6%	6%
Turn Type			Perm			Perm
Protected Phases	6			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	38.8		38.8	38.8	20.3	20.3
Effective Green, g (s)	38.8		38.8	38.8	20.3	20.3
Actuated g/C Ratio	0.58		0.58	0.58	0.30	0.30
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	977		450	1088	515	461
v/s Ratio Prot	0.25			c0.48	c0.24	
v/s Ratio Perm			0.21			0.01
v/c Ratio	0.44		0.37	0.83	0.80	0.03
Uniform Delay, d1	8.0		7.6	11.5	21.5	16.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3		0.5	5.6	8.7	0.0
Delay (s)	8.3		8.1	17.1	30.2	16.5
Level of Service	A		A	B	C	B
Approach Delay (s)	8.3			15.7	29.1	
Approach LOS	A			B	C	
Intersection Summary						
HCM Average Control Delay			17.0		HCM Level of Service	B
HCM Volume to Capacity ratio			0.82			
Actuated Cycle Length (s)			67.1		Sum of lost time (s)	8.0
Intersection Capacity Utilization			58.2%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
5: S Glen Oak Rd & Highway 213

OCSD Maintenance Facility
2016 Background Conditions - AM Peak Period



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↗	↖	↖	↗	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00	1.00	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	
Frt		0.98			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1786			1792	1599	1703	1788		1736	1816	
Flt Permitted		0.81			0.78	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1497			1465	1599	1703	1788		1736	1816	
Volume (vph)	34	12	6	16	2	308	1	882	16	168	393	17
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)	38	13	7	18	2	346	1	991	18	189	442	19
RTOR Reduction (vph)	0	6	0	0	0	196	0	1	0	0	1	0
Lane Group Flow (vph)	0	52	0	0	20	150	1	1008	0	189	460	0
Confl. Peds. (#/hr)			2	2								
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	6%	6%	6%	4%	4%	4%
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		11.9			11.9	11.9	0.8	54.4		11.0	64.6	
Effective Green, g (s)		11.9			11.9	11.9	0.8	54.4		11.0	64.6	
Actuated g/C Ratio		0.13			0.13	0.13	0.01	0.61		0.12	0.72	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		199			195	213	15	1089		214	1314	
v/s Ratio Prot							0.00	c0.56		c0.11	0.25	
v/s Ratio Perm		0.03			0.01	c0.09						
v/c Ratio		0.26			0.10	0.70	0.07	0.93		0.88	0.35	
Uniform Delay, d1		34.8			34.0	37.0	43.9	15.6		38.5	4.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			0.2	10.1	1.9	14.4		32.0	0.7	
Delay (s)		35.5			34.2	47.1	45.8	30.1		70.5	5.3	
Level of Service		D			C	D	D	C		E	A	
Approach Delay (s)		35.5			46.4			30.1			24.3	
Approach LOS		D			D			C			C	

Intersection Summary

HCM Average Control Delay	31.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	89.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
6: Meyers Rd & Highway 213

OCSD Maintenance Facility
2016 Background Conditions - AM Peak Period



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1549	1736	1827	3343	1464
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1770	1549	1736	1827	3343	1464
Volume (vph)	240	206	153	1077	388	69
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	255	219	163	1146	413	73
RTOR Reduction (vph)	0	180	0	0	0	33
Lane Group Flow (vph)	255	39	163	1146	413	40
Confl. Peds. (#/hr)	2	6				
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	2%	2%	4%	4%	8%	8%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	15.7	15.7	12.5	65.0	48.5	48.5
Effective Green, g (s)	15.7	15.7	12.5	65.0	48.5	48.5
Actuated g/C Ratio	0.18	0.18	0.14	0.73	0.55	0.55
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	313	274	245	1339	1828	800
v/s Ratio Prot	c0.14		0.09	c0.63	0.12	
v/s Ratio Perm		0.03				0.03
v/c Ratio	0.81	0.14	0.67	0.86	0.23	0.05
Uniform Delay, d1	35.1	30.8	36.1	8.5	10.4	9.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.9	0.2	6.7	7.2	0.3	0.1
Delay (s)	50.0	31.0	42.8	15.7	10.7	9.5
Level of Service	D	C	D	B	B	A
Approach Delay (s)	41.3			19.1	10.5	
Approach LOS	D			B	B	

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	88.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

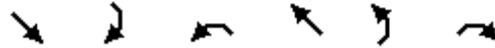
HCM Signalized Intersection Capacity Analysis
7: Molalla Ave & Highway 213

OCSD Maintenance Facility
2016 Background Conditions - AM Peak Period

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	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	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	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1881	1573	1641	1727	1434	1736	3471	1553	1703	3406	1524
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	1881	1573	1641	1727	1434	1736	3471	1553	1703	3406	1524
Volume (vph)	91	154	120	19	50	32	250	999	120	189	344	139
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)	97	164	128	20	53	34	266	1063	128	201	366	148
RTOR Reduction (vph)	0	0	106	0	0	30	0	0	39	0	0	93
Lane Group Flow (vph)	97	164	22	20	53	4	266	1063	89	201	366	56
Confl. Peds. (#/hr)			3			8						
Heavy Vehicles (%)	1%	1%	1%	10%	10%	10%	4%	4%	4%	6%	6%	6%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	7.7	13.0	13.0	2.7	8.0	8.0	15.3	31.7	31.7	11.8	28.2	28.2
Effective Green, g (s)	7.7	13.0	13.0	2.7	8.0	8.0	15.3	31.7	31.7	11.8	28.2	28.2
Actuated g/C Ratio	0.10	0.17	0.17	0.04	0.11	0.11	0.20	0.42	0.42	0.16	0.37	0.37
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	183	325	272	59	184	153	353	1463	655	267	1277	572
v/s Ratio Prot	0.05	c0.09		0.01	c0.03		c0.15	c0.31		0.12	0.11	
v/s Ratio Perm			0.01			0.00			0.06			0.04
v/c Ratio	0.53	0.50	0.08	0.34	0.29	0.02	0.75	0.73	0.14	0.75	0.29	0.10
Uniform Delay, d1	32.0	28.2	26.1	35.4	31.0	30.1	28.2	18.1	13.3	30.3	16.5	15.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	1.2	0.1	3.4	0.9	0.1	8.8	3.2	0.4	11.4	0.6	0.3
Delay (s)	35.0	29.4	26.2	38.8	31.8	30.2	37.0	21.3	13.8	41.7	17.0	15.6
Level of Service	C	C	C	D	C	C	D	C	B	D	B	B
Approach Delay (s)		29.7			32.6			23.5			23.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			24.8									HCM Level of Service C
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			75.2									Sum of lost time (s) 12.0
Intersection Capacity Utilization			63.4%									ICU Level of Service B
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 1: Beaver Creek Rd & Meyers Rd

OCSO Maintenance Facility
 2016 Background Conditions - PM Peak Period



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↗		↖	↗	↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frbp, 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	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1837		1787	1881	1787	1599
Flt Permitted	1.00		0.15	1.00	0.95	1.00
Satd. Flow (perm)	1837		290	1881	1787	1599
Volume (vph)	859	149	48	297	145	15
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	914	159	51	316	154	16
RTOR Reduction (vph)	7	0	0	0	0	14
Lane Group Flow (vph)	1066	0	51	316	154	2
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type			Perm			Perm
Protected Phases	6			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	54.2		54.2	54.2	11.3	11.3
Effective Green, g (s)	54.2		54.2	54.2	11.3	11.3
Actuated g/C Ratio	0.74		0.74	0.74	0.15	0.15
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1355		214	1387	275	246
v/s Ratio Prot	c0.58			0.17	c0.09	
v/s Ratio Perm			0.18			0.00
v/c Ratio	0.79		0.24	0.23	0.56	0.01
Uniform Delay, d1	6.0		3.1	3.0	28.8	26.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1		0.6	0.1	2.6	0.0
Delay (s)	9.1		3.7	3.1	31.4	26.4
Level of Service	A		A	A	C	C
Approach Delay (s)	9.1			3.2	30.9	
Approach LOS	A			A	C	

Intersection Summary

HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	73.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 5: S Glen Oak Rd & Highway 213

OCSD Maintenance Facility
 2016 Background Conditions - PM Peak Period

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.96			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1770			1785	1583	1736	1816		1770	1851	
Flt Permitted		0.75			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1376			1400	1583	1736	1816		1770	1851	
Volume (vph)	24	0	4	19	3	197	3	560	24	237	1072	47
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	25	0	4	20	3	205	3	583	25	247	1117	49
RTOR Reduction (vph)	0	4	0	0	0	186	0	1	0	0	1	0
Lane Group Flow (vph)	0	25	0	0	23	19	3	607	0	247	1165	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		7.6			7.6	7.6	0.7	46.0		15.2	60.5	
Effective Green, g (s)		7.6			7.6	7.6	0.7	46.0		15.2	60.5	
Actuated g/C Ratio		0.09			0.09	0.09	0.01	0.57		0.19	0.75	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		129			132	149	15	1034		333	1386	
v/s Ratio Prot							0.00	0.33		c0.14	c0.63	
v/s Ratio Perm		c0.02			0.02	0.01						
v/c Ratio		0.20			0.17	0.13	0.20	0.59		0.74	0.84	
Uniform Delay, d1		33.8			33.7	33.6	39.8	11.3		30.9	6.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			0.6	0.4	6.5	2.4		8.6	6.3	
Delay (s)		34.5			34.3	34.0	46.3	13.7		39.6	13.2	
Level of Service		C			C	C	D	B		D	B	
Approach Delay (s)		34.5			34.0			13.9			17.8	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			18.6				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			80.8				Sum of lost time (s)				12.0	
Intersection Capacity Utilization			80.8%				ICU Level of Service				D	
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: Meyers Rd & Highway 213

OCSO Maintenance Facility
2016 Background Conditions - PM Peak Period



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.98	1.00	1.00	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	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1787	1565	1752	1845	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1787	1565	1752	1845	3539	1583
Volume (vph)	202	273	156	660	1106	213
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	213	287	164	695	1164	224
RTOR Reduction (vph)	0	236	0	0	0	106
Lane Group Flow (vph)	213	51	164	695	1164	118
Confl. Peds. (#/hr)	1	6				
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	14.9	14.9	12.8	61.1	44.3	44.3
Effective Green, g (s)	14.9	14.9	12.8	61.1	44.3	44.3
Actuated g/C Ratio	0.18	0.18	0.15	0.73	0.53	0.53
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	317	278	267	1342	1866	835
v/s Ratio Prot	c0.12		c0.09	0.38	c0.33	
v/s Ratio Perm		0.03				0.07
v/c Ratio	0.67	0.18	0.61	0.52	0.62	0.14
Uniform Delay, d1	32.3	29.4	33.3	5.0	14.0	10.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.5	0.3	4.2	1.4	1.6	0.4
Delay (s)	37.8	29.7	37.4	6.4	15.6	10.5
Level of Service	D	C	D	A	B	B
Approach Delay (s)	33.1			12.4	14.7	
Approach LOS	C			B	B	

Intersection Summary

HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
7: Molalla Ave & Highway 213

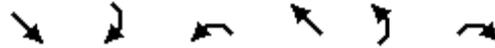
OCSD Maintenance Facility
2016 Background Conditions - PM Peak Period

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	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	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1553	1719	1810	1538	1752	3505	1568	1770	3539	1550
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1553	1719	1810	1538	1752	3505	1568	1770	3539	1550
Volume (vph)	132	79	475	78	124	275	295	506	63	113	834	181
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)	143	86	516	85	135	299	321	550	68	123	907	197
RTOR Reduction (vph)	0	0	382	0	0	257	0	0	38	0	0	132
Lane Group Flow (vph)	143	86	134	85	135	42	321	550	30	123	907	65
Conf. Peds. (#/hr)	5											
Conf. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	3%	3%	3%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	9.6	11.3	11.3	9.6	11.3	11.3	17.0	35.4	35.4	8.2	26.6	26.6
Effective Green, g (s)	9.6	11.3	11.3	9.6	11.3	11.3	17.0	35.4	35.4	8.2	26.6	26.6
Actuated g/C Ratio	0.12	0.14	0.14	0.12	0.14	0.14	0.21	0.44	0.44	0.10	0.33	0.33
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	211	262	218	205	254	216	370	1541	690	180	1169	512
v/s Ratio Prot	0.08	0.05		0.05	c0.07		c0.18	0.16		0.07	c0.26	
v/s Ratio Perm			c0.09			0.03			0.02			0.04
v/c Ratio	0.68	0.33	0.62	0.41	0.53	0.19	0.87	0.36	0.04	0.68	0.78	0.13
Uniform Delay, d1	34.0	31.2	32.6	32.8	32.1	30.6	30.7	15.0	12.9	34.9	24.3	18.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.3	0.7	5.1	1.4	2.1	0.4	18.8	0.6	0.1	10.2	5.1	0.5
Delay (s)	42.3	31.9	37.7	34.2	34.3	31.0	49.5	15.6	13.0	45.1	29.3	19.3
Level of Service	D	C	D	C	C	C	D	B	B	D	C	B
Approach Delay (s)		37.9			32.4			27.0			29.3	
Approach LOS		D			C			C			C	
Intersection Summary												
HCM Average Control Delay			31.0	HCM Level of Service				C				
HCM Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			80.5	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			67.3%	ICU Level of Service				C				
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: Beaver Creek Rd & Meyers Rd

OCSO Maintenance Facility
 2016 Background Plus Site - AM Peak Period



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↩		↩	↩	↩	↩
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frbp, ped/bikes	0.98		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.93		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1685		1781	1881	1703	1524
Flt Permitted	1.00		0.40	1.00	0.95	1.00
Satd. Flow (perm)	1685		754	1881	1703	1524
Volume (vph)	164	191	125	662	310	29
Peak-hour factor, PHF	0.73	0.73	0.73	0.73	0.73	0.73
Adj. Flow (vph)	225	262	171	907	425	40
RTOR Reduction (vph)	49	0	0	0	0	26
Lane Group Flow (vph)	438	0	171	907	425	14
Confl. Peds. (#/hr)		4	4			
Heavy Vehicles (%)	3%	3%	1%	1%	6%	6%
Turn Type			Perm			Perm
Protected Phases	6			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	39.1		39.1	39.1	21.0	21.0
Effective Green, g (s)	39.1		39.1	39.1	21.0	21.0
Actuated g/C Ratio	0.57		0.57	0.57	0.31	0.31
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	967		433	1080	525	470
v/s Ratio Prot	0.26			c0.48	c0.25	
v/s Ratio Perm			0.23			0.01
v/c Ratio	0.45		0.39	0.84	0.81	0.03
Uniform Delay, d1	8.3		8.0	11.9	21.7	16.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3		0.6	5.9	9.0	0.0
Delay (s)	8.7		8.6	17.8	30.7	16.5
Level of Service	A		A	B	C	B
Approach Delay (s)	8.7			16.3	29.5	
Approach LOS	A			B	C	
Intersection Summary						
HCM Average Control Delay			17.5		HCM Level of Service	B
HCM Volume to Capacity ratio			0.83			
Actuated Cycle Length (s)			68.1		Sum of lost time (s)	8.0
Intersection Capacity Utilization			58.7%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
5: S Glen Oak Rd & Highway 213

OCSD Maintenance Facility
2016 Background Plus Site - AM Peak Period



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↗	↖	↖	↗	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00	1.00	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	
Frt		0.98			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1786			1792	1599	1703	1787		1736	1816	
Flt Permitted		0.81			0.78	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1500			1469	1599	1703	1787		1736	1816	
Volume (vph)	34	12	6	16	2	314	1	882	17	175	393	17
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)	38	13	7	18	2	353	1	991	19	197	442	19
RTOR Reduction (vph)	0	6	0	0	0	195	0	1	0	0	1	0
Lane Group Flow (vph)	0	52	0	0	20	158	1	1009	0	197	460	0
Confl. Peds. (#/hr)			2	2								
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	6%	6%	6%	4%	4%	4%
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		12.2			12.2	12.2	0.8	54.4		11.0	64.6	
Effective Green, g (s)		12.2			12.2	12.2	0.8	54.4		11.0	64.6	
Actuated g/C Ratio		0.14			0.14	0.14	0.01	0.61		0.12	0.72	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		204			200	218	15	1085		213	1309	
v/s Ratio Prot							0.00	c0.56		c0.11	0.25	
v/s Ratio Perm		0.03			0.01	c0.10						
v/c Ratio		0.25			0.10	0.72	0.07	0.93		0.92	0.35	
Uniform Delay, d1		34.6			33.9	37.1	44.0	15.9		38.9	4.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			0.2	11.3	1.9	15.0		41.0	0.7	
Delay (s)		35.3			34.1	48.4	45.9	30.9		79.9	5.4	
Level of Service		D			C	D	D	C		E	A	
Approach Delay (s)		35.3			47.6			30.9			27.7	
Approach LOS		D			D			C			C	

Intersection Summary

HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	89.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
6: Meyers Rd & Highway 213

OCSD Maintenance Facility
2016 Background Plus Site - AM Peak Period



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1549	1736	1827	3343	1464
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1770	1549	1736	1827	3343	1464
Volume (vph)	240	208	156	1080	393	69
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	255	221	166	1149	418	73
RTOR Reduction (vph)	0	182	0	0	0	33
Lane Group Flow (vph)	255	39	166	1149	418	40
Confl. Peds. (#/hr)	2	6				
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	2%	2%	4%	4%	8%	8%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	15.7	15.7	12.6	65.0	48.4	48.4
Effective Green, g (s)	15.7	15.7	12.6	65.0	48.4	48.4
Actuated g/C Ratio	0.18	0.18	0.14	0.73	0.55	0.55
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	313	274	247	1339	1824	799
v/s Ratio Prot	c0.14		0.10	c0.63	0.13	
v/s Ratio Perm		0.03				0.03
v/c Ratio	0.81	0.14	0.67	0.86	0.23	0.05
Uniform Delay, d1	35.1	30.8	36.1	8.5	10.5	9.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.9	0.2	7.0	7.3	0.3	0.1
Delay (s)	50.0	31.1	43.1	15.8	10.8	9.5
Level of Service	D	C	D	B	B	A
Approach Delay (s)	41.2			19.3	10.6	
Approach LOS	D			B	B	
Intersection Summary						
HCM Average Control Delay			22.0		HCM Level of Service	C
HCM Volume to Capacity ratio			0.85			
Actuated Cycle Length (s)			88.7		Sum of lost time (s)	8.0
Intersection Capacity Utilization			76.8%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

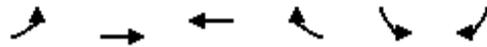
HCM Signalized Intersection Capacity Analysis
7: Molalla Ave & Highway 213

OCSD Maintenance Facility
2016 Background Plus Site - AM Peak Period

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	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	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	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1881	1573	1641	1727	1434	1736	3471	1553	1703	3406	1524
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	1881	1573	1641	1727	1434	1736	3471	1553	1703	3406	1524
Volume (vph)	91	154	124	19	50	32	253	999	120	189	345	139
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)	97	164	132	20	53	34	269	1063	128	201	367	148
RTOR Reduction (vph)	0	0	109	0	0	30	0	0	39	0	0	93
Lane Group Flow (vph)	97	164	23	20	53	4	269	1063	89	201	367	55
Confl. Peds. (#/hr)			3			8						
Heavy Vehicles (%)	1%	1%	1%	10%	10%	10%	4%	4%	4%	6%	6%	6%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	7.7	13.0	13.0	2.7	8.0	8.0	15.4	31.7	31.7	11.9	28.2	28.2
Effective Green, g (s)	7.7	13.0	13.0	2.7	8.0	8.0	15.4	31.7	31.7	11.9	28.2	28.2
Actuated g/C Ratio	0.10	0.17	0.17	0.04	0.11	0.11	0.20	0.42	0.42	0.16	0.37	0.37
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	183	325	272	59	183	152	355	1461	654	269	1276	571
v/s Ratio Prot	0.05	c0.09		0.01	c0.03		c0.15	c0.31		0.12	0.11	
v/s Ratio Perm			0.01			0.00			0.06			0.04
v/c Ratio	0.53	0.50	0.08	0.34	0.29	0.02	0.76	0.73	0.14	0.75	0.29	0.10
Uniform Delay, d1	32.1	28.2	26.2	35.4	31.0	30.2	28.2	18.2	13.4	30.3	16.5	15.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	1.2	0.1	3.4	0.9	0.1	8.9	3.2	0.4	10.8	0.6	0.3
Delay (s)	35.0	29.5	26.3	38.8	31.9	30.2	37.1	21.4	13.8	41.0	17.1	15.6
Level of Service	D	C	C	D	C	C	D	C	B	D	B	B
Approach Delay (s)		29.8			32.7			23.6			23.5	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			24.9				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			75.3				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			63.4%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
 10: S Glen Oak Rd &

OCSD Maintenance Facility
 2016 Background Plus Site - AM Peak Period



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	184	21	236	25	20	96
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	263	30	337	36	29	137
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		698				
pX, platoon unblocked						
vC, conflicting volume	373				911	355
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	373				911	355
tC, single (s)	4.1				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	78				88	80
cM capacity (veh/h)	1186				229	671

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	293	373	166
Volume Left	263	0	29
Volume Right	0	36	137
cSH	1186	1700	504
Volume to Capacity	0.22	0.22	0.33
Queue Length 95th (ft)	21	0	36
Control Delay (s)	8.2	0.0	15.6
Lane LOS	A		C
Approach Delay (s)	8.2	0.0	15.6
Approach LOS			C

Intersection Summary			
Average Delay		6.0	
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
 1: Beaver Creek Rd & Meyers Rd

OCSO Maintenance Facility
 2016 Background Plus Site - PM Peak Period



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↩		↩	↩	↩	↩
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frbp, 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	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1836		1787	1881	1787	1599
Flt Permitted	1.00		0.15	1.00	0.95	1.00
Satd. Flow (perm)	1836		279	1881	1787	1599
Volume (vph)	859	151	48	297	156	18
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	914	161	51	316	166	19
RTOR Reduction (vph)	7	0	0	0	0	16
Lane Group Flow (vph)	1068	0	51	316	166	3
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type			Perm			Perm
Protected Phases	6			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	52.9		52.9	52.9	11.5	11.5
Effective Green, g (s)	52.9		52.9	52.9	11.5	11.5
Actuated g/C Ratio	0.73		0.73	0.73	0.16	0.16
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1341		204	1374	284	254
v/s Ratio Prot	c0.58			0.17	c0.09	
v/s Ratio Perm			0.18			0.00
v/c Ratio	0.80		0.25	0.23	0.58	0.01
Uniform Delay, d1	6.3		3.2	3.2	28.2	25.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.4		0.6	0.1	3.1	0.0
Delay (s)	9.7		3.9	3.2	31.3	25.7
Level of Service	A		A	A	C	C
Approach Delay (s)	9.7			3.3	30.7	
Approach LOS	A			A	C	

Intersection Summary

HCM Average Control Delay	10.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	72.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
5: S Glen Oak Rd & Highway 213

OCSD Maintenance Facility
2016 Background Plus Site - PM Peak Period

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.96			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1770			1785	1583	1736	1816		1770	1851	
Flt Permitted		0.75			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1378			1396	1583	1736	1816		1770	1851	
Volume (vph)	24	0	4	20	3	203	3	560	24	239	1072	47
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	25	0	4	21	3	211	3	583	25	249	1117	49
RTOR Reduction (vph)	0	4	0	0	0	191	0	1	0	0	1	0
Lane Group Flow (vph)	0	25	0	0	24	20	3	607	0	249	1165	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		7.7			7.7	7.7	0.7	46.1		15.2	60.6	
Effective Green, g (s)		7.7			7.7	7.7	0.7	46.1		15.2	60.6	
Actuated g/C Ratio		0.10			0.10	0.10	0.01	0.57		0.19	0.75	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		131			133	150	15	1034		332	1385	
v/s Ratio Prot							0.00	0.33		c0.14	c0.63	
v/s Ratio Perm		c0.02			0.02	0.01						
v/c Ratio		0.19			0.18	0.13	0.20	0.59		0.75	0.84	
Uniform Delay, d1		33.8			33.7	33.6	39.9	11.3		31.1	6.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			0.7	0.4	6.5	2.4		9.2	6.3	
Delay (s)		34.5			34.4	34.0	46.4	13.7		40.3	13.2	
Level of Service		C			C	C	D	B		D	B	
Approach Delay (s)		34.5			34.0			13.9			18.0	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			18.8				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			81.0				Sum of lost time (s)				12.0	
Intersection Capacity Utilization			80.8%				ICU Level of Service				D	
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: Meyers Rd & Highway 213

OCSO Maintenance Facility
2016 Background Plus Site - PM Peak Period



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.98	1.00	1.00	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	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1787	1565	1752	1845	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1787	1565	1752	1845	3539	1583
Volume (vph)	202	273	158	664	1108	213
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	213	287	166	699	1166	224
RTOR Reduction (vph)	0	236	0	0	0	106
Lane Group Flow (vph)	213	51	166	699	1166	118
Confl. Peds. (#/hr)	1	6				
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	14.9	14.9	12.9	61.1	44.2	44.2
Effective Green, g (s)	14.9	14.9	12.9	61.1	44.2	44.2
Actuated g/C Ratio	0.18	0.18	0.15	0.73	0.53	0.53
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	317	278	269	1342	1862	833
v/s Ratio Prot	c0.12		c0.09	0.38	c0.33	
v/s Ratio Perm		0.03				0.07
v/c Ratio	0.67	0.18	0.62	0.52	0.63	0.14
Uniform Delay, d1	32.3	29.4	33.2	5.0	14.1	10.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.5	0.3	4.2	1.4	1.6	0.4
Delay (s)	37.8	29.7	37.4	6.5	15.7	10.5
Level of Service	D	C	D	A	B	B
Approach Delay (s)	33.1			12.4	14.8	
Approach LOS	C			B	B	

Intersection Summary

HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	84.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
7: Molalla Ave & Highway 213

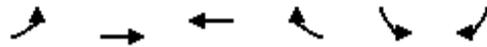
OCSD Maintenance Facility
2016 Background Plus Site - PM Peak Period

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	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	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1553	1719	1810	1538	1752	3505	1568	1770	3539	1550
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1553	1719	1810	1538	1752	3505	1568	1770	3539	1550
Volume (vph)	132	79	477	78	124	275	298	507	63	113	834	181
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)	143	86	518	85	135	299	324	551	68	123	907	197
RTOR Reduction (vph)	0	0	381	0	0	257	0	0	38	0	0	132
Lane Group Flow (vph)	143	86	137	85	135	42	324	551	30	123	907	65
Conf. Peds. (#/hr)	5											
Conf. Bikes (#/hr)	1											
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	3%	3%	3%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	9.7	11.4	11.4	9.6	11.3	11.3	17.2	35.5	35.5	8.2	26.5	26.5
Effective Green, g (s)	9.7	11.4	11.4	9.6	11.3	11.3	17.2	35.5	35.5	8.2	26.5	26.5
Actuated g/C Ratio	0.12	0.14	0.14	0.12	0.14	0.14	0.21	0.44	0.44	0.10	0.33	0.33
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	213	263	219	204	253	215	373	1542	690	180	1162	509
v/s Ratio Prot	0.08	0.05		0.05	c0.07		c0.18	0.16		0.07	c0.26	
v/s Ratio Perm			c0.09			0.03			0.02			0.04
v/c Ratio	0.67	0.33	0.62	0.42	0.53	0.19	0.87	0.36	0.04	0.68	0.78	0.13
Uniform Delay, d1	34.0	31.2	32.6	33.0	32.3	30.7	30.7	15.0	12.9	35.0	24.5	19.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.1	0.7	5.5	1.4	2.2	0.4	18.8	0.6	0.1	10.2	5.2	0.5
Delay (s)	42.0	31.9	38.1	34.3	34.4	31.1	49.4	15.7	13.0	45.2	29.7	19.5
Level of Service	D	C	D	C	C	C	D	B	B	D	C	B
Approach Delay (s)		38.1			32.5			27.1			29.6	
Approach LOS		D			C			C			C	
Intersection Summary												
HCM Average Control Delay			31.2	HCM Level of Service				C				
HCM Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			80.7	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			67.4%	ICU Level of Service				C				
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 10: S Glen Oak Rd & High School Ave

OCSD Maintenance Facility
 2016 Background Plus Site - PM Peak Period



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	↙
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	43	220	178	5	5	48
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	51	259	209	6	6	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		637				
pX, platoon unblocked						
vC, conflicting volume	215				572	212
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	215				572	212
tC, single (s)	4.1				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	96				99	93
cM capacity (veh/h)	1355				451	808

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	309	215	62
Volume Left	51	0	6
Volume Right	0	6	56
cSH	1355	1700	752
Volume to Capacity	0.04	0.13	0.08
Queue Length 95th (ft)	3	0	7
Control Delay (s)	1.6	0.0	10.2
Lane LOS	A		B
Approach Delay (s)	1.6	0.0	10.2
Approach LOS			B

Intersection Summary			
Average Delay		1.9	
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
 1: Beaver Creek Rd & Meyers Rd

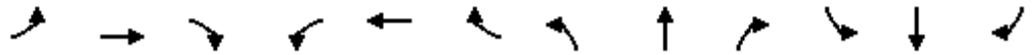
OCSO Maintenance Facility
 2020 Background Conditions - AM Peak Period



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↗		↖	↗	↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frbp, ped/bikes	0.98		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.93		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1682		1781	1881	1703	1524
Flt Permitted	1.00		0.37	1.00	0.95	1.00
Satd. Flow (perm)	1682		691	1881	1703	1524
Volume (vph)	178	209	188	716	333	59
Peak-hour factor, PHF	0.73	0.73	0.73	0.73	0.73	0.73
Adj. Flow (vph)	244	286	258	981	456	81
RTOR Reduction (vph)	39	0	0	0	0	40
Lane Group Flow (vph)	491	0	258	981	456	41
Confl. Peds. (#/hr)		4	4			
Heavy Vehicles (%)	3%	3%	1%	1%	6%	6%
Turn Type			Perm			Perm
Protected Phases	6			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	50.2		50.2	50.2	27.0	27.0
Effective Green, g (s)	50.2		50.2	50.2	27.0	27.0
Actuated g/C Ratio	0.59		0.59	0.59	0.32	0.32
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	991		407	1108	540	483
v/s Ratio Prot	0.29			c0.52	c0.27	
v/s Ratio Perm			0.37			0.03
v/c Ratio	0.50		0.63	0.89	0.84	0.08
Uniform Delay, d1	10.1		11.5	15.0	27.1	20.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4		3.2	8.7	11.6	0.1
Delay (s)	10.5		14.7	23.7	38.7	20.5
Level of Service	B		B	C	D	C
Approach Delay (s)	10.5			21.8	36.0	
Approach LOS	B			C	D	
Intersection Summary						
HCM Average Control Delay			22.5		HCM Level of Service	C
HCM Volume to Capacity ratio			0.87			
Actuated Cycle Length (s)			85.2		Sum of lost time (s)	8.0
Intersection Capacity Utilization			62.8%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
 5: S Glen Oak Rd & Highway 213

OCSD Maintenance Facility
 2020 Background Conditions - AM Peak Period



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00	1.00	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	
Frt		0.98			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1788			1792	1599	1703	1789		1736	1816	
Flt Permitted		0.80			0.84	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1479			1581	1599	1703	1789		1736	1816	
Volume (vph)	37	14	7	14	2	266	1	958	14	145	429	18
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)	42	16	8	16	2	299	1	1076	16	163	482	20
RTOR Reduction (vph)	0	4	0	0	0	186	0	0	0	0	1	0
Lane Group Flow (vph)	0	62	0	0	18	113	1	1092	0	163	501	0
Confl. Peds. (#/hr)			2	2								
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	6%	6%	6%	4%	4%	4%
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		11.8			11.8	11.8	0.8	73.0		13.2	85.4	
Effective Green, g (s)		11.8			11.8	11.8	0.8	73.0		13.2	85.4	
Actuated g/C Ratio		0.11			0.11	0.11	0.01	0.66		0.12	0.78	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		159			170	172	12	1187		208	1410	
v/s Ratio Prot							0.00	c0.61		c0.09	0.28	
v/s Ratio Perm		0.04			0.01	c0.07						
v/c Ratio		0.39			0.11	0.66	0.08	0.92		0.78	0.36	
Uniform Delay, d1		45.7			44.3	47.2	54.2	16.0		47.0	3.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.87	0.97	
Incremental Delay, d2		1.6			0.3	8.8	3.0	12.8		16.9	0.7	
Delay (s)		47.3			44.6	56.0	57.2	28.8		57.7	4.4	
Level of Service		D			D	E	E	C		E	A	
Approach Delay (s)		47.3			55.3			28.8			17.4	
Approach LOS		D			E			C			B	

Intersection Summary

HCM Average Control Delay	29.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
6: Meyers Rd & Highway 213

OCSD Maintenance Facility
2020 Background Conditions - AM Peak Period

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86		1.00	0.87		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1763	1562		1758	1592		1736	1826		1671	3343	1464
Flt Permitted	0.71	1.00		0.37	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1320	1562		687	1592		1736	1826		1671	3343	1464
Volume (vph)	260	12	211	3	8	59	158	1107	3	24	396	74
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	274	13	222	3	8	62	166	1165	3	25	417	78
RTOR Reduction (vph)	0	176	0	0	49	0	0	0	0	0	0	35
Lane Group Flow (vph)	274	59	0	3	21	0	166	1168	0	25	417	43
Confl. Peds. (#/hr)	2		6	6		2						
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	23.0	23.0		23.0	23.0		14.6	72.6		2.4	60.4	60.4
Effective Green, g (s)	23.0	23.0		23.0	23.0		14.6	72.6		2.4	60.4	60.4
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.13	0.66		0.02	0.55	0.55
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	276	327		144	333		230	1205		36	1836	804
v/s Ratio Prot		0.04			0.01		c0.10	c0.64		0.01	0.12	
v/s Ratio Perm	c0.21			0.00								0.03
v/c Ratio	0.99	0.18		0.02	0.06		0.72	0.97		0.69	0.23	0.05
Uniform Delay, d1	43.4	35.8		34.6	34.9		45.8	17.6		53.4	12.8	11.5
Progression Factor	1.00	1.00		1.00	1.00		1.23	0.48		0.87	0.71	0.45
Incremental Delay, d2	51.9	0.3		0.1	0.1		4.8	11.3		44.0	0.3	0.1
Delay (s)	95.4	36.0		34.6	34.9		61.0	19.8		90.3	9.3	5.3
Level of Service	F	D		C	C		E	B		F	A	A
Approach Delay (s)		68.0			34.9			24.9			12.6	
Approach LOS		E			C			C			B	
Intersection Summary												
HCM Average Control Delay			31.6				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			92.8%				ICU Level of Service			F		
Analysis Period (min)			15									

c Critical Lane Group

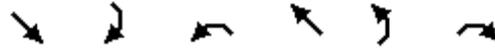
HCM Signalized Intersection Capacity Analysis
7: Molalla Ave & Highway 213

OCSD Maintenance Facility
2020 Background Conditions - AM Peak Period

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	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	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	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1881	1570	1641	1727	1427	1736	3471	1553	1703	3406	1524
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	1881	1570	1641	1727	1427	1736	3471	1553	1703	3406	1524
Volume (vph)	98	167	130	20	54	35	270	1081	130	205	373	151
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)	104	178	138	21	57	37	287	1150	138	218	397	161
RTOR Reduction (vph)	0	0	116	0	0	34	0	0	31	0	0	88
Lane Group Flow (vph)	104	178	22	21	57	3	287	1150	107	218	397	73
Confl. Peds. (#/hr)			3			8						
Heavy Vehicles (%)	1%	1%	1%	10%	10%	10%	4%	4%	4%	6%	6%	6%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	12.1	17.5	17.5	3.9	9.3	9.3	22.7	53.6	53.6	19.0	49.9	49.9
Effective Green, g (s)	12.1	17.5	17.5	3.9	9.3	9.3	22.7	53.6	53.6	19.0	49.9	49.9
Actuated g/C Ratio	0.11	0.16	0.16	0.04	0.08	0.08	0.21	0.49	0.49	0.17	0.45	0.45
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	197	299	250	58	146	121	358	1691	757	294	1545	691
v/s Ratio Prot	0.06	c0.09		0.01	c0.03		c0.17	c0.33		0.13	0.12	
v/s Ratio Perm			0.01			0.00			0.07			0.05
v/c Ratio	0.53	0.60	0.09	0.36	0.39	0.03	0.80	0.68	0.14	0.74	0.26	0.11
Uniform Delay, d1	46.3	43.0	39.4	51.8	47.7	46.2	41.5	21.6	15.5	43.2	18.6	17.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.15	0.87	0.87	1.00	1.00	1.00
Incremental Delay, d2	2.5	3.2	0.2	3.8	1.7	0.1	5.8	1.0	0.2	9.7	0.4	0.3
Delay (s)	48.8	46.1	39.6	55.7	49.4	46.3	53.5	19.9	13.7	52.8	19.0	17.6
Level of Service	D	D	D	E	D	D	D	B	B	D	B	B
Approach Delay (s)		44.6			49.5			25.5			28.2	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM Average Control Delay			30.0				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			67.1%				ICU Level of Service		C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 1: Beaver Creek Rd & Meyers Rd

OCSO Maintenance Facility
 2020 Background Conditions - PM Peak Period



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↗		↖	↗	↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frbp, 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	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1835		1787	1881	1787	1599
Flt Permitted	1.00		0.11	1.00	0.95	1.00
Satd. Flow (perm)	1835		208	1881	1787	1599
Volume (vph)	930	170	90	321	168	61
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	989	181	96	341	179	65
RTOR Reduction (vph)	6	0	0	0	0	55
Lane Group Flow (vph)	1164	0	96	341	179	10
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type			Perm			Perm
Protected Phases	6			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	62.4		62.4	62.4	13.3	13.3
Effective Green, g (s)	62.4		62.4	62.4	13.3	13.3
Actuated g/C Ratio	0.75		0.75	0.75	0.16	0.16
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1368		155	1402	284	254
v/s Ratio Prot	c0.63			0.18	c0.10	
v/s Ratio Perm			0.46			0.01
v/c Ratio	0.85		0.62	0.24	0.63	0.04
Uniform Delay, d1	7.4		5.0	3.3	32.9	29.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	5.3		7.2	0.1	4.5	0.1
Delay (s)	12.7		12.2	3.4	37.4	29.9
Level of Service	B		B	A	D	C
Approach Delay (s)	12.7			5.3	35.4	
Approach LOS	B			A	D	

Intersection Summary

HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	83.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
5: S Glen Oak Rd & Highway 213

OCSD Maintenance Facility
2020 Background Conditions - PM Peak Period

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.96			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1767			1787	1583	1736	1818		1770	1851	
Flt Permitted		0.75			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1373			1402	1583	1736	1818		1770	1851	
Volume (vph)	26	0	5	16	3	170	3	611	21	206	1164	51
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	27	0	5	17	3	177	3	636	22	215	1212	53
RTOR Reduction (vph)	0	5	0	0	0	164	0	1	0	0	1	0
Lane Group Flow (vph)	0	27	0	0	20	13	3	657	0	215	1264	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		8.0			8.0	8.0	1.3	72.2		17.8	88.7	
Effective Green, g (s)		8.0			8.0	8.0	1.3	72.2		17.8	88.7	
Actuated g/C Ratio		0.07			0.07	0.07	0.01	0.66		0.16	0.81	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		100			102	115	21	1193		286	1493	
v/s Ratio Prot							0.00	0.36		c0.12	c0.68	
v/s Ratio Perm		c0.02			0.01	0.01						
v/c Ratio		0.27			0.20	0.11	0.14	0.55		0.75	0.85	
Uniform Delay, d1		48.3			48.0	47.7	53.8	10.2		44.0	6.5	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.17	1.65	
Incremental Delay, d2		1.5			0.9	0.4	3.1	1.8		8.5	4.9	
Delay (s)		49.7			48.9	48.1	56.9	12.0		60.0	15.6	
Level of Service		D			D	D	E	B		E	B	
Approach Delay (s)		49.7			48.2			12.2			22.0	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM Average Control Delay			21.8				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)				12.0	
Intersection Capacity Utilization			86.1%				ICU Level of Service				E	
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: Meyers Rd & Highway 213

OCSD Maintenance Facility
2020 Background Conditions - PM Peak Period



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘		↗	↘		↗	↘↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	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	1.00
Frt	1.00	0.86		1.00	0.88		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1784	1572		1770	1633		1752	1843		1770	3539	1583
Flt Permitted	0.73	1.00		0.21	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1366	1572		393	1633		1752	1843		1770	3539	1583
Volume (vph)	218	10	285	4	8	35	161	679	5	41	1156	231
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	229	11	300	4	8	37	169	715	5	43	1217	243
RTOR Reduction (vph)	0	207	0	0	29	0	0	0	0	0	0	92
Lane Group Flow (vph)	229	104	0	4	16	0	169	720	0	43	1217	151
Confl. Peds. (#/hr)	1		6									
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	22.6	22.6		22.6	22.6		14.9	70.5		4.9	60.5	60.5
Effective Green, g (s)	22.6	22.6		22.6	22.6		14.9	70.5		4.9	60.5	60.5
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.14	0.64		0.04	0.55	0.55
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	281	323		81	336		237	1181		79	1946	871
v/s Ratio Prot		0.07			0.01		c0.10	c0.39		0.02	0.34	
v/s Ratio Perm	c0.17			0.01								0.10
v/c Ratio	0.81	0.32		0.05	0.05		0.71	0.61		0.54	0.63	0.17
Uniform Delay, d1	41.7	37.2		35.1	35.1		45.5	11.6		51.5	17.0	12.3
Progression Factor	1.00	1.00		1.00	1.00		0.87	1.34		0.97	0.48	0.18
Incremental Delay, d2	16.4	0.6		0.3	0.1		8.4	2.0		4.4	0.9	0.3
Delay (s)	58.1	37.7		35.3	35.1		48.2	17.6		54.2	9.0	2.5
Level of Service	E	D		D	D		D	B		D	A	A
Approach Delay (s)		46.4			35.1			23.4			9.2	
Approach LOS		D			D			C			A	

Intersection Summary

HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
7: Molalla Ave & Highway 213

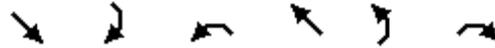
OCSD Maintenance Facility
2020 Background Conditions - PM Peak Period

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	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	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1548	1719	1810	1538	1752	3505	1568	1770	3539	1550
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1548	1719	1810	1538	1752	3505	1568	1770	3539	1550
Volume (vph)	143	86	515	84	134	297	320	547	69	123	903	196
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)	155	93	560	91	146	323	348	595	75	134	982	213
RTOR Reduction (vph)	0	0	355	0	0	277	0	0	34	0	0	136
Lane Group Flow (vph)	155	93	205	91	146	46	348	595	41	134	982	77
Conf. Peds. (#/hr)	5											
Conf. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	3%	3%	3%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	13.6	19.2	19.2	9.9	15.5	15.5	25.3	52.2	52.2	12.7	39.6	39.6
Effective Green, g (s)	13.6	19.2	19.2	9.9	15.5	15.5	25.3	52.2	52.2	12.7	39.6	39.6
Actuated g/C Ratio	0.12	0.17	0.17	0.09	0.14	0.14	0.23	0.47	0.47	0.12	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	219	325	270	155	255	217	403	1663	744	204	1274	558
v/s Ratio Prot	0.09	0.05		0.05	c0.08		c0.20	0.17		0.08	c0.28	
v/s Ratio Perm			c0.13			0.03			0.03			0.05
v/c Ratio	0.71	0.29	0.76	0.59	0.57	0.21	0.86	0.36	0.06	0.66	0.77	0.14
Uniform Delay, d1	46.3	39.4	43.2	48.1	44.2	41.8	40.7	18.3	15.6	46.6	31.2	23.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.15	0.94	1.35	1.00	1.00	1.00
Incremental Delay, d2	10.0	0.5	11.6	5.6	3.1	0.5	14.2	0.5	0.1	7.4	4.6	0.5
Delay (s)	56.3	39.9	54.8	53.7	47.2	42.3	61.1	17.7	21.1	54.0	35.7	24.2
Level of Service	E	D	D	D	D	D	E	B	C	D	D	C
Approach Delay (s)		53.4			45.4			32.8			35.7	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM Average Control Delay			40.2	HCM Level of Service				D				
HCM Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			110.0	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			72.0%	ICU Level of Service				C				
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 1: Beaver Creek Rd & Meyers Rd

OCSO Maintenance Facility
 2020 Background Plus Site - AM Peak Period



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↗		↖	↗	↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frbp, ped/bikes	0.98		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.93		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1678		1781	1881	1703	1524
Flt Permitted	1.00		0.35	1.00	0.95	1.00
Satd. Flow (perm)	1678		664	1881	1703	1524
Volume (vph)	178	221	192	716	344	62
Peak-hour factor, PHF	0.73	0.73	0.73	0.73	0.73	0.73
Adj. Flow (vph)	244	303	263	981	471	85
RTOR Reduction (vph)	42	0	0	0	0	41
Lane Group Flow (vph)	505	0	263	981	471	44
Confl. Peds. (#/hr)		4	4			
Heavy Vehicles (%)	3%	3%	1%	1%	6%	6%
Turn Type			Perm			Perm
Protected Phases	6			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	50.8		50.8	50.8	27.9	27.9
Effective Green, g (s)	50.8		50.8	50.8	27.9	27.9
Actuated g/C Ratio	0.59		0.59	0.59	0.32	0.32
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	983		389	1102	548	490
v/s Ratio Prot	0.30			c0.52	c0.28	
v/s Ratio Perm			0.40			0.03
v/c Ratio	0.51		0.68	0.89	0.86	0.09
Uniform Delay, d1	10.6		12.3	15.5	27.6	20.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5		4.6	9.2	12.7	0.1
Delay (s)	11.1		16.9	24.7	40.3	20.6
Level of Service	B		B	C	D	C
Approach Delay (s)	11.1			23.1	37.3	
Approach LOS	B			C	D	
Intersection Summary						
HCM Average Control Delay			23.6		HCM Level of Service	C
HCM Volume to Capacity ratio			0.88			
Actuated Cycle Length (s)			86.7		Sum of lost time (s)	8.0
Intersection Capacity Utilization			63.4%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
5: S Glen Oak Rd & Highway 213

OCSD Maintenance Facility
2020 Background Plus Site - AM Peak Period



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00			1.00	1.00	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	
Frt		0.98			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1788			1792	1599	1703	1788		1736	1816	
Flt Permitted		0.80			0.84	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1479			1581	1599	1703	1788		1736	1816	
Volume (vph)	37	14	7	14	2	266	1	958	15	145	429	18
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)	42	16	8	16	2	299	1	1076	17	163	482	20
RTOR Reduction (vph)	0	4	0	0	0	186	0	0	0	0	1	0
Lane Group Flow (vph)	0	62	0	0	18	113	1	1093	0	163	501	0
Confl. Peds. (#/hr)			2	2								
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	6%	6%	6%	4%	4%	4%
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		11.8			11.8	11.8	0.8	73.0		13.2	85.4	
Effective Green, g (s)		11.8			11.8	11.8	0.8	73.0		13.2	85.4	
Actuated g/C Ratio		0.11			0.11	0.11	0.01	0.66		0.12	0.78	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		159			170	172	12	1187		208	1410	
v/s Ratio Prot							0.00	c0.61		c0.09	0.28	
v/s Ratio Perm		0.04			0.01	c0.07						
v/c Ratio		0.39			0.11	0.66	0.08	0.92		0.78	0.36	
Uniform Delay, d1		45.7			44.3	47.2	54.2	16.0		47.0	3.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.87	0.94	
Incremental Delay, d2		1.6			0.3	8.8	3.0	12.9		16.9	0.7	
Delay (s)		47.3			44.6	56.0	57.2	28.9		57.8	4.3	
Level of Service		D			D	E	E	C		E	A	
Approach Delay (s)		47.3			55.3			28.9			17.4	
Approach LOS		D			E			C			B	

Intersection Summary

HCM Average Control Delay	29.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
6: Meyers Rd & Highway 213

OCSD Maintenance Facility
2020 Background Plus Site - AM Peak Period



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86		1.00	0.87		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1763	1565		1758	1605		1736	1826		1671	3343	1464
Flt Permitted	0.71	1.00		0.37	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1312	1565		679	1605		1736	1826		1671	3343	1464
Volume (vph)	260	14	211	3	11	62	158	1107	3	29	396	74
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	274	15	222	3	12	65	166	1165	3	31	417	78
RTOR Reduction (vph)	0	176	0	0	51	0	0	0	0	0	0	35
Lane Group Flow (vph)	274	61	0	3	26	0	166	1168	0	31	417	43
Confl. Peds. (#/hr)	2		6	6		2						
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	8%	8%	8%
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	23.0	23.0		23.0	23.0		14.6	72.6		2.4	60.4	60.4
Effective Green, g (s)	23.0	23.0		23.0	23.0		14.6	72.6		2.4	60.4	60.4
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.13	0.66		0.02	0.55	0.55
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	274	327		142	336		230	1205		36	1836	804
v/s Ratio Prot		0.04			0.02		c0.10	c0.64		0.02	0.12	
v/s Ratio Perm	c0.21			0.00								0.03
v/c Ratio	1.00	0.19		0.02	0.08		0.72	0.97		0.86	0.23	0.05
Uniform Delay, d1	43.5	35.8		34.6	35.0		45.8	17.6		53.6	12.8	11.5
Progression Factor	1.00	1.00		1.00	1.00		1.23	0.48		0.87	0.71	0.46
Incremental Delay, d2	54.4	0.3		0.1	0.1		4.8	11.3		93.8	0.3	0.1
Delay (s)	97.9	36.1		34.6	35.1		61.0	19.8		140.3	9.4	5.4
Level of Service	F	D		C	D		E	B		F	A	A
Approach Delay (s)		69.2			35.0			24.9			16.5	
Approach LOS		E			D			C			B	
Intersection Summary												
HCM Average Control Delay			32.7				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			92.8%				ICU Level of Service			F		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: Molalla Ave & Highway 213

OCSD Maintenance Facility
2020 Background Plus Site - AM Peak Period

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	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	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	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1787	1881	1570	1641	1727	1427	1736	3471	1553	1703	3406	1524
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1787	1881	1570	1641	1727	1427	1736	3471	1553	1703	3406	1524
Volume (vph)	98	167	134	20	54	35	273	1081	130	205	374	151
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)	104	178	143	21	57	37	290	1150	138	218	398	161
RTOR Reduction (vph)	0	0	120	0	0	34	0	0	31	0	0	88
Lane Group Flow (vph)	104	178	23	21	57	3	290	1150	107	218	398	73
Confl. Peds. (#/hr)			3			8						
Heavy Vehicles (%)	1%	1%	1%	10%	10%	10%	4%	4%	4%	6%	6%	6%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	12.1	17.5	17.5	3.9	9.3	9.3	22.9	53.6	53.6	19.0	49.7	49.7
Effective Green, g (s)	12.1	17.5	17.5	3.9	9.3	9.3	22.9	53.6	53.6	19.0	49.7	49.7
Actuated g/C Ratio	0.11	0.16	0.16	0.04	0.08	0.08	0.21	0.49	0.49	0.17	0.45	0.45
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	197	299	250	58	146	121	361	1691	757	294	1539	689
v/s Ratio Prot	0.06	c0.09		0.01	c0.03		c0.17	c0.33		0.13	0.12	
v/s Ratio Perm			0.01			0.00			0.07			0.05
v/c Ratio	0.53	0.60	0.09	0.36	0.39	0.03	0.80	0.68	0.14	0.74	0.26	0.11
Uniform Delay, d1	46.3	43.0	39.5	51.8	47.7	46.2	41.4	21.6	15.5	43.2	18.7	17.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.15	0.87	0.88	1.00	1.00	1.00
Incremental Delay, d2	2.5	3.2	0.2	3.8	1.7	0.1	5.8	1.0	0.2	9.7	0.4	0.3
Delay (s)	48.8	46.1	39.6	55.7	49.4	46.3	53.4	19.9	13.8	52.8	19.1	17.7
Level of Service	D	D	D	E	D	D	D	B	B	D	B	B
Approach Delay (s)		44.6			49.5			25.5			28.3	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM Average Control Delay			30.0				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			67.1%				ICU Level of Service		C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 1: Beaver Creek Rd & Meyers Rd

OCSO Maintenance Facility
 2020 Background Plus Site - PM Peak Period



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↗		↖	↗	↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frbp, 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	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1834		1787	1881	1787	1599
Flt Permitted	1.00		0.11	1.00	0.95	1.00
Satd. Flow (perm)	1834		199	1881	1787	1599
Volume (vph)	930	172	90	321	180	64
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	989	183	96	341	191	68
RTOR Reduction (vph)	6	0	0	0	0	57
Lane Group Flow (vph)	1166	0	96	341	191	11
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type			Perm			Perm
Protected Phases	6			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	62.5		62.5	62.5	13.8	13.8
Effective Green, g (s)	62.5		62.5	62.5	13.8	13.8
Actuated g/C Ratio	0.74		0.74	0.74	0.16	0.16
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1360		148	1395	293	262
v/s Ratio Prot	c0.64			0.18	c0.11	
v/s Ratio Perm			0.48			0.01
v/c Ratio	0.86		0.65	0.24	0.65	0.04
Uniform Delay, d1	7.7		5.4	3.4	33.0	29.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	5.6		9.4	0.1	5.1	0.1
Delay (s)	13.3		14.8	3.5	38.1	29.8
Level of Service	B		B	A	D	C
Approach Delay (s)	13.3			6.0	35.9	
Approach LOS	B			A	D	
Intersection Summary						
HCM Average Control Delay			14.7		HCM Level of Service	B
HCM Volume to Capacity ratio			0.82			
Actuated Cycle Length (s)			84.3		Sum of lost time (s)	8.0
Intersection Capacity Utilization			84.4%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
5: S Glen Oak Rd & Highway 213

OCSD Maintenance Facility
2020 Background Plus Site - PM Peak Period

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.96			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1767			1786	1583	1736	1818		1770	1851	
Flt Permitted		0.74			0.78	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1371			1449	1583	1736	1818		1770	1851	
Volume (vph)	26	0	5	17	3	170	3	611	21	206	1164	51
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	27	0	5	18	3	177	3	636	22	215	1212	53
RTOR Reduction (vph)	0	5	0	0	0	164	0	1	0	0	1	0
Lane Group Flow (vph)	0	27	0	0	21	13	3	657	0	215	1264	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Perm			Perm		Perm	Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		8.0			8.0	8.0	1.3	72.1		17.9	88.7	
Effective Green, g (s)		8.0			8.0	8.0	1.3	72.1		17.9	88.7	
Actuated g/C Ratio		0.07			0.07	0.07	0.01	0.66		0.16	0.81	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		100			105	115	21	1192		288	1493	
v/s Ratio Prot							0.00	0.36		c0.12	c0.68	
v/s Ratio Perm		c0.02			0.01	0.01						
v/c Ratio		0.27			0.20	0.11	0.14	0.55		0.75	0.85	
Uniform Delay, d1		48.3			48.0	47.7	53.8	10.2		43.9	6.5	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.17	1.64	
Incremental Delay, d2		1.5			0.9	0.4	3.1	1.8		8.1	4.9	
Delay (s)		49.7			48.9	48.1	56.9	12.1		59.5	15.5	
Level of Service		D			D	D	E	B		E	B	
Approach Delay (s)		49.7			48.2			12.3			21.9	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM Average Control Delay			21.8				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			110.0				Sum of lost time (s)				12.0	
Intersection Capacity Utilization			86.1%				ICU Level of Service				E	
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: Meyers Rd & Highway 213

OCSD Maintenance Facility
2020 Background Plus Site - PM Peak Period



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘		↗	↘		↗	↘↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	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	1.00
Frt	1.00	0.86		1.00	0.88		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1784	1572		1770	1641		1752	1843		1770	3539	1583
Flt Permitted	0.72	1.00		0.21	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1356	1572		397	1641		1752	1843		1770	3539	1583
Volume (vph)	218	10	285	4	10	40	161	679	5	43	1156	231
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	229	11	300	4	11	42	169	715	5	45	1217	243
RTOR Reduction (vph)	0	207	0	0	33	0	0	0	0	0	0	92
Lane Group Flow (vph)	229	104	0	4	20	0	169	720	0	45	1217	151
Confl. Peds. (#/hr)	1		6									
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)	22.7	22.7		22.7	22.7		14.9	69.0		6.3	60.4	60.4
Effective Green, g (s)	22.7	22.7		22.7	22.7		14.9	69.0		6.3	60.4	60.4
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.14	0.63		0.06	0.55	0.55
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	280	324		82	339		237	1156		101	1943	869
v/s Ratio Prot		0.07			0.01		c0.10	c0.39		0.03	0.34	
v/s Ratio Perm	c0.17			0.01								0.10
v/c Ratio	0.82	0.32		0.05	0.06		0.71	0.62		0.45	0.63	0.17
Uniform Delay, d1	41.7	37.1		35.0	35.1		45.5	12.5		50.2	17.0	12.4
Progression Factor	1.00	1.00		1.00	1.00		0.87	1.35		0.97	0.48	0.19
Incremental Delay, d2	16.7	0.6		0.2	0.1		8.4	2.2		1.8	0.9	0.3
Delay (s)	58.4	37.7		35.2	35.1		48.1	19.1		50.6	9.0	2.5
Level of Service	E	D		D	D		D	B		D	A	A
Approach Delay (s)		46.4			35.1			24.6			9.2	
Approach LOS		D			D			C			A	

Intersection Summary

HCM Average Control Delay	21.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
7: Molalla Ave & Highway 213

OCSD Maintenance Facility
2020 Background Plus Site - PM Peak Period



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	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	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1548	1719	1810	1538	1752	3505	1568	1770	3539	1550
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1548	1719	1810	1538	1752	3505	1568	1770	3539	1550
Volume (vph)	143	86	517	84	134	297	324	548	69	123	903	196
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)	155	93	562	91	146	323	352	596	75	134	982	213
RTOR Reduction (vph)	0	0	355	0	0	277	0	0	34	0	0	137
Lane Group Flow (vph)	155	93	207	91	146	46	352	596	41	134	982	76
Conf. Peds. (#/hr)	5											
Conf. Bikes (#/hr)	1											
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	3%	3%	3%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	13.6	19.3	19.3	9.9	15.6	15.6	25.6	52.1	52.1	12.7	39.2	39.2
Effective Green, g (s)	13.6	19.3	19.3	9.9	15.6	15.6	25.6	52.1	52.1	12.7	39.2	39.2
Actuated g/C Ratio	0.12	0.18	0.18	0.09	0.14	0.14	0.23	0.47	0.47	0.12	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	219	327	272	155	257	218	408	1660	743	204	1261	552
v/s Ratio Prot	0.09	0.05		0.05	c0.08		c0.20	0.17		0.08	c0.28	
v/s Ratio Perm			c0.13			0.03			0.03			0.05
v/c Ratio	0.71	0.28	0.76	0.59	0.57	0.21	0.86	0.36	0.06	0.66	0.78	0.14
Uniform Delay, d1	46.3	39.4	43.2	48.1	44.1	41.8	40.5	18.4	15.7	46.6	31.5	24.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.13	0.95	1.35	1.00	1.00	1.00
Incremental Delay, d2	10.0	0.5	11.9	5.6	2.9	0.5	13.8	0.5	0.1	7.4	4.8	0.5
Delay (s)	56.3	39.8	55.1	53.7	46.9	42.2	59.5	17.8	21.3	54.0	36.3	24.5
Level of Service	E	D	E	D	D	D	E	B	C	D	D	C
Approach Delay (s)		53.6			45.3			32.4			36.2	
Approach LOS		D			D			C			D	

Intersection Summary		
HCM Average Control Delay	40.3	HCM Level of Service D
HCM Volume to Capacity ratio	0.76	
Actuated Cycle Length (s)	110.0	Sum of lost time (s) 12.0
Intersection Capacity Utilization	72.2%	ICU Level of Service C
Analysis Period (min)	15	

c Critical Lane Group

**Table 12.50.320-3:
 Required Vehicle Parking Spaces for Industrial Uses
 (required spaces are per 1000 sq. ft. Net Floor Area (NFA)
 or per student/employee on the largest shift, unless otherwise specified)**

Use Type	Minimum	Maximum	
		Zone A	Zone B
Industrial Services			
All Uses	2	None	None
Manufacturing and Production			
All Uses	1.6	2.5	None
Solid Waste Treatment and Recycling			
All Uses	2	None	None
Vehicle Storage			
All Uses	0.5/employee	1.0/employee	None
Warehouse and Freight Movement			
All Uses	0.3	0.4	0.5
Wholesale sales			
All Uses	3	3	None