Rock Creek Industrial

Sherwood, OR

Updated Traffic Impact Analysis

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FINDINGS/CONCLUSIONS

This Traffic Impact Analysis (TIA) has been prepared for the proposed Rock Creek Industrial project located at 13700 SW Tonquin Road in the City of Sherwood, OR. This is an update to the prior TIA (dated October 13, 2023) to address City of Sherwood comments.

Project Proposal. The proposed project would include the development of one (1) warehouse building totaling 421,820 square feet (SF) on a site that is currently vacant. Vehicular access to the site is proposed via connection to the future planned north-south roadway (Tonquin Court) on the west side of the site to be constructed by the adjacent Sherwood Commerce Center project and provide access to SW Oregon Street. Full project buildout is expected in 2025.

Trip Generation. The proposed Rock Creek Industrial project is estimated to generate 705 new weekday daily trips with 74 trips occurring during the weekday AM peak hour (57 in, 17 out) and 77 trips during the weekday PM peak hour (22 in, 55 out).

Intersection Level of Service (LOS). Weekday AM and PM peak hour LOS analysis was conducted at five (5) off-site study intersections. Each of the off-site study intersections are anticipated to operate below the 0.99 V/C ratio operating standard during the weekday AM and PM peak hours in 2025 with exception to the SW Tonquin Road/SW Oregon Street intersection. The stop-controlled northbound left-turn movement at this intersection is anticipated to operate at LOS F with a v/c ratio above 0.99 during the weekday PM peak hour without or with the proposed project.

The City of Sherwood has future plans to construct a roundabout at the SW Tonquin Road/SW Oregon Street intersection. Mitigation for the proposed project could include a proportionate share contribution to the cost of this improvement. During the weekday PM peak hour, the proposed Panattoni Rock Creek Industrial project has a 2.0% proportionate share of the estimated future 2025 weekday PM peak hour traffic volumes at this intersection.

Intersection Queuing Analysis. Weekday AM and PM peak hour queuing analysis was conducted at the three (3) signalized off-site study intersections. The results of the queuing analysis show that the estimated 95th-percentile queues during both the weekday AM and PM peak hours in 2025 are anticipated to be accommodated within the available storage at each of the study intersections with the proposed project except for the westbound left-turn at the SW Oregon Street/SW Tualatin-Sherwood Road intersection. The future with-project queues during the weekday PM peak hour are estimated to exceed the available storage by approximately 25 feet (1 vehicle). It should be noted that these queues are 95th-percentile queues, which are only exceed 5% of the time. Average queues are anticipated to be accommodated within the available storage.

Site Access Evaluation. Vehicular access to the site is proposed via connection to the future planned north-south roadway (Tonquin Court) on the west side of the site to be constructed by the adjacent Sherwood Commerce Center project and provide access to SW Oregon Street. This access scenario is consistent with Alternative 2 of the *Sherwood Oregon Street Access Management Plan* (AMP). Based on results of the analysis, the individual movements at the Tonquin Court/SW Oregon Street intersection are expected to operate at LOS B or better with a V/C ratio less than 0.99 during both the weekday AM and PM peak hours in 2025 with the proposed project.

Additionally, as part of Alternative 2 of the *Sherwood Oregon Street AMP*, a temporary traffic signal shall be installed at the Tonquin Court/SW Oregon Street intersection when warranted. Based on the results of the peak hour signal warrant analysis, a temporary traffic signal would not be warranted at the Tonquin

Court/SW Oregon Street intersection with buildout of the proposed Rock Creek Industrial project. Further evaluation of signal warrants may be conducted as additional parcels develop with access to Tonquin Court.

Mitigation.

The City of Sherwood and Washington County requires payment of a Transportation Development Tax (TDT) for new developments to ensure that developments help pay for transportation improvements to accommodate growth caused by development. Per the Washington County Transportation Development Tax Rate (TDT) schedule, the current fee for a warehouse is $5,311 per 1,000 SF.

INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared for the proposed Rock Creek Industrial project located at 13700 SW Tonquin Road in Sherwood, OR as shown in Figure 1. This is an update to the prior TIA (dated October 13, 2023) to address City of Sherwood comments.

Project Description

The proposed project would include the development of one (1) warehouse building totaling 421,820 square feet (SF). Vehicular access to the site is proposed via connection to the future planned north-south roadway (Tonquin Court) on the west side of the site to be constructed by the adjacent Sherwood Commerce Center project and provide access to SW Oregon Street. Full project buildout is expected in 2025. A preliminary site plan is included in Appendix A.

Project Approach

To analyze the traffic impacts from the proposed Rock Creek Industrial project, the following tasks were undertaken:

- Assessed existing conditions through field reconnaissance and reviewed existing planning documents.
- Described and assessed existing transportation conditions in the area.
- Documented existing (2023) traffic volumes and intersection levels of service (LOS) at five (5) off-site study intersections during the weekday AM and PM peak hours.
- Evaluated existing (2023) intersection queuing at three (3) signalized off-site study intersections during the weekday AM and PM peak hours.
- Documented future planned transportation improvements in the project vicinity.
- Developed trip generation estimates for weekday daily, AM, and PM peak hour conditions based on the proposed land use.
- Documented trip distribution and assignment of weekday AM and PM peak hour project-generated traffic.
- Documented traffic forecasts and assumptions for year 2025 conditions at the five (5) off-site study intersections without and with the proposed project.
- Analyzed weekday AM and PM peak hour LOS for future year 2025 conditions without and with the proposed project at five (5) study intersections and one site access intersection.
- Analyzed weekday AM and PM peak hour queuing for future year 2025 conditions without and with the proposed project three (3) signalized study intersections.
- Evaluated weekday AM and PM peak hour signal warrants at the future Tonquin Court/SW Oregon Street intersection.
- Documented proposed traffic mitigation.

Primary Data and Information Sources

- 2019 weekday AM and PM peak hour traffic counts, Quality Counts.
- 2023 weekday AM and PM peak hour traffic counts, IDAX.
- *Highway Capacity Manual* (HCM 7th Edition), 2022.
- Oregon Department of Transportation (ODOT) *Analysis Procedures Manual* (APM), 2023.
- Sherwood *Transportation System Plan* (TSP), 2014.
- Sherwood Capital Improvement Plan (CIP), 2023.
- Washington County Transportation Improvement Projects (TIP).
- *Sherwood Oregon Street Access Management Plan (AMP),* 2021.
- Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.
- Institute of Transportation Engineers (ITE), *Trip Generation Handbook*, 3rd Edition, 2017.
- *Manual on Uniform Traffic Control Devices* (MUTCD), 2009.

Figure 1: Project Site Vicinity

EXISTING CONDITIONS

Roadway Network

Table 1 describes the existing characteristics of the streets that would be used as primary routes to and from the site. Roadway characteristics are described in terms of orientation, arterial classification, posted speed limits, parking, sidewalks, and bicycle facilities. The relationship of these roadways to the project site is shown in Figure 1.

Table 1
Existing Roadway Network Summary – Project Site Vicinity

Roadway	Orientation	Classification[1]	Speed Limit	Parking	Sidewalks	Bicycle Facilities
SW Tualatin-Sherwood Rd	E/W	Arterial	35	None	Both Sides	Bike Lanes
SW Oregon St	N/S	Collector[2]/ Arterial[3]	35	None	North Side	Bike Lanes
SW Tonquin Rd	N/S	Arterial	45	None	None	None

1. Source: Sherwood Transportation System Plan, Section 8 (2014).
2. West of SW Murdock Road.
3. East of SW Murdock Road.

Transit Service

Public Transportation in the study area is served by TriMet. No public transportation currently exists in the immediate project vicinity. The nearest transit stops are located over 0.5 miles northeast of the site on SW Tualatin-Sherwood Road at SW Oregon Street. This bus stop provides access to Route 97, which provides service between SW Langer Drive/Sherwood Plaza and the Tualatin WES Station.

Non-Motorized Transportation Facilities

Non-motorized transportation facilities in the project site vicinity include a mix of sidewalks and bike lanes. Bike lanes existing on both sides of SW Oregon Street in the study area. Sidewalks are present on the north side of SW Oregon Street. There are no non-motorized transportation facilities on SW Tonquin Road.

Traffic Volumes

Existing weekday AM and PM peak hour traffic volumes at the study intersections were based on counts collected by Quality Counts and IDAX in February 2019 and September 2023. The weekday AM peak hour traffic volumes represent the highest hour of traffic between 7:00 and 9:00 a.m. The weekday PM peak hour traffic volumes represent the highest hour of traffic between 4:00 and 6:00 p.m.

Note that as of the date of this study, SW Tualatin-Sherwood Road was undergoing a major construction project and collecting existing traffic counts was not feasible. Therefore, to estimate existing 2023 weekday AM and PM peak hour traffic volumes at the study intersections on SW Tualatin-Sherwood Road, a 1.5% annual growth rate was applied to the 2019 counts. This approach was deemed acceptable based on discussions with Washington County staff.

Figures 2-3 illustrate the existing 2023 weekday AM and PM peak hour traffic volumes at the study intersections. The existing traffic count sheets are included in Appendix B.

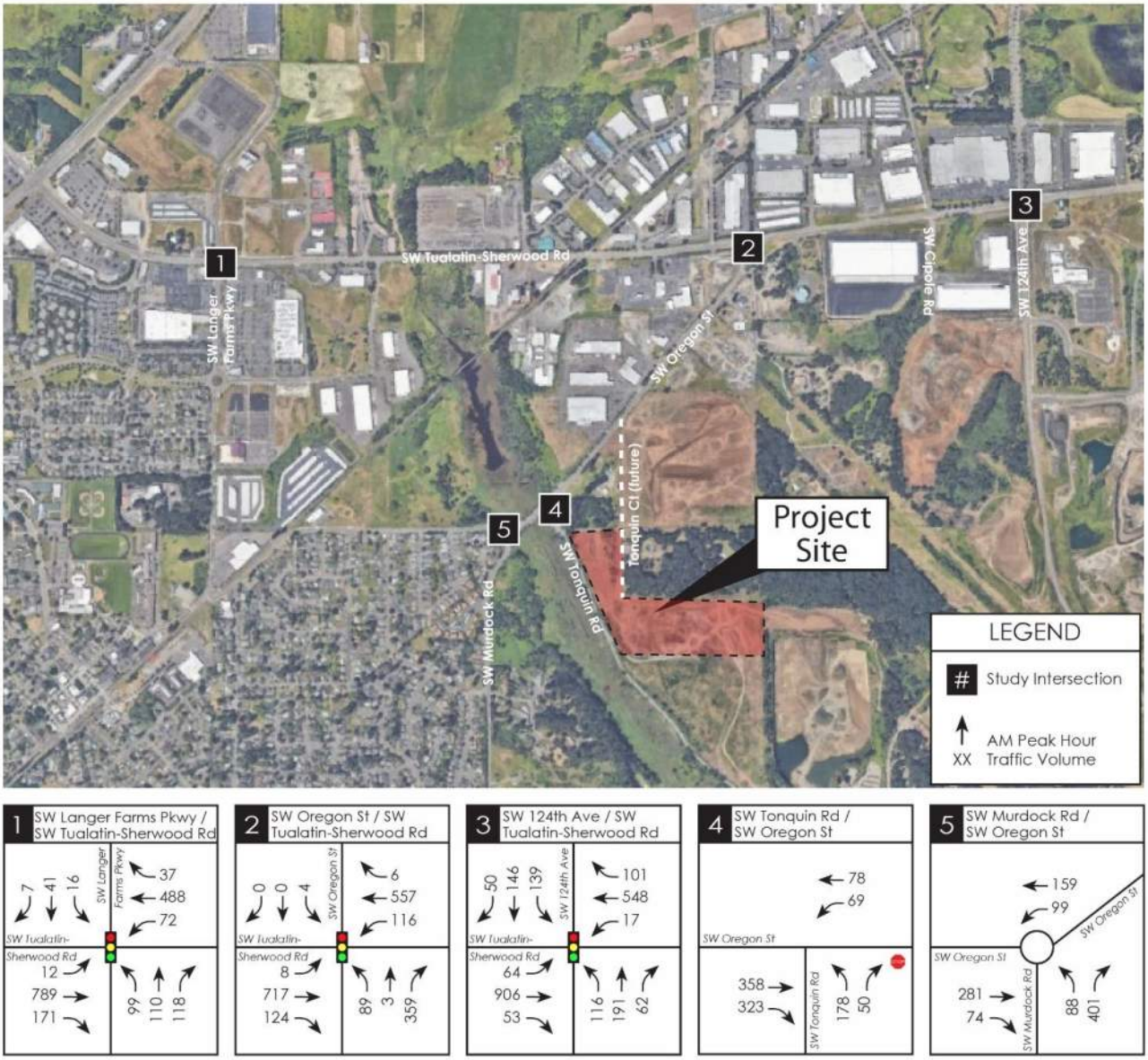

Figure 2: 2023 Existing Weekday AM Peak Hour Traffic Volumes

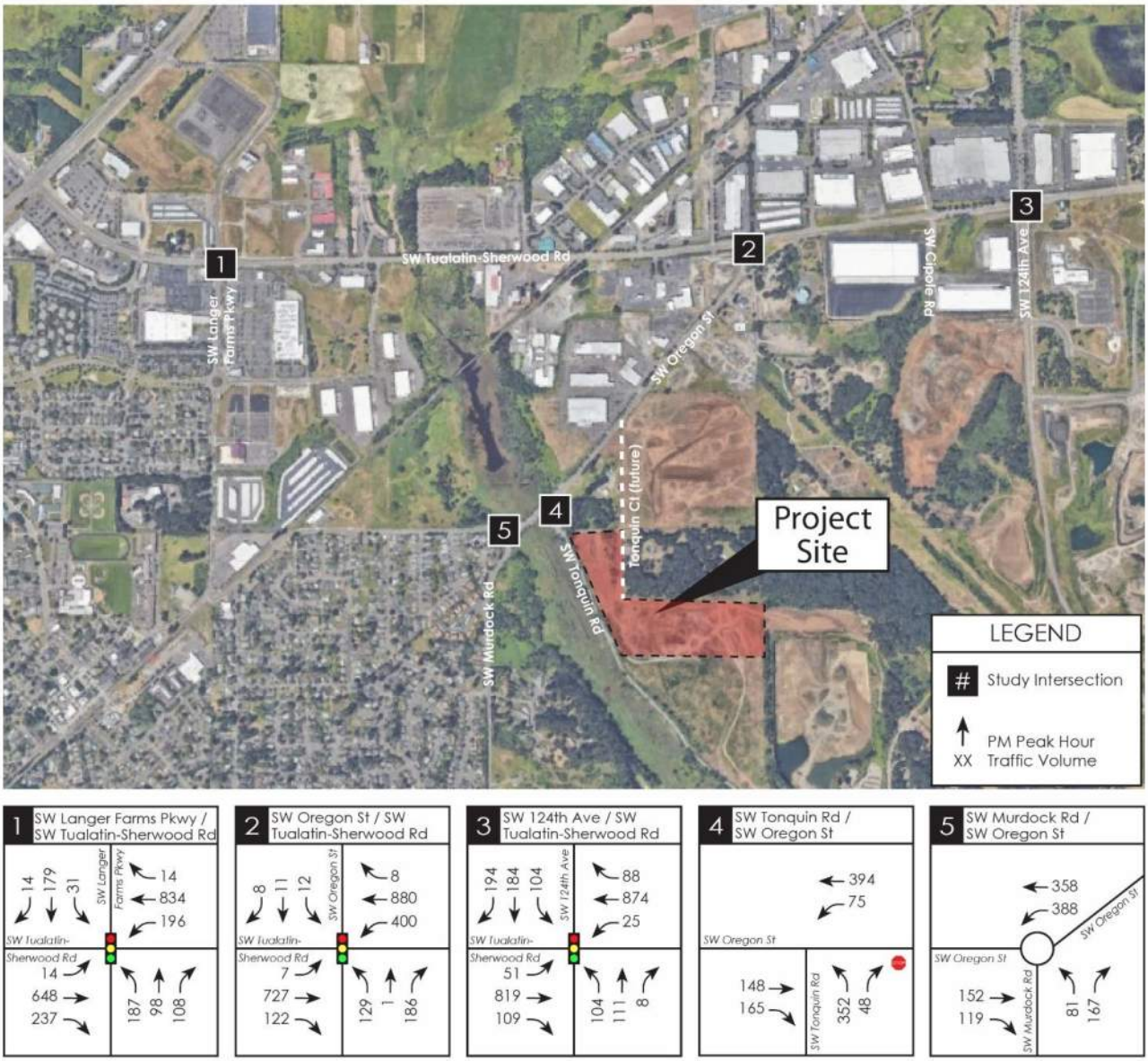

Figure 3: 2023 Existing Weekday PM Peak Hour Traffic Volumes

Crash History

Crash history for the five (5) off-site study intersections was analyzed for the five-year period from 2017 to 2021 (the most recent 5-year period as provided by ODOT). Summaries of the total and yearly average during this period are provided in Table 2. A comparison between the calculated crash rates for each intersection and the published 90th percentile crash rates from the *Assessment of Statewide Intersection Safety Performance* (ODOT) is also provided in Table 2.

Table 2
Crash Data Summary by Year, January 1, 2017 to December 31, 2021

Location	2017	2018	2019	2020	2021	5-Year Total Crashes	Average Annual Crash Frequency	Crash Rate per MEV[1]	90th % Crash Rate[2]
Study Intersections:									
1. SW Langer Farms Pkwy/SW Tualatin-Sherwood Rd	6	6	6	1	0	19	3.80	0.41	0.860
2. SW Oregon St/SW Tualatin-Sherwood Rd	14	2	6	4	4	30	6.00	0.66	0.860
3. SW 124th Ave/SW Tualatin-Sherwood Rd	8	1	13	10	8	40	8.00	0.82	0.860
4. SW Oregon St/SW Tonquin Rd	2	3	1	1	1	8	1.60	0.37	0.293
5. SW Oregon St/SW Murdock Rd	0	2	1	4	0	5	1.00	0.22	0.509[3]

Source: ODOT Crash Data.

1. MEV = Million Entering Vehicles

2. Per ODOT's *Assessment of Statewide Intersection Safety Performance*.

3. Critical crash rate for 3-leg roundabout assumed to be equal to 3-leg signalized intersection.

As shown in Table 2, the only study intersection with an observed crash rate exceeding the 90th-percentile critical crash rate is the SW Oregon Street/SW Tonquin Rd intersection (#4), which is currently a 3-leg stop controlled intersection. Based on a review of the crash history, the majority of the crashes (5/8) were vehicles turning to/from SW Tonquin Rd colliding with vehicles traveling along SW Oregon Street. The City has future plans to construct a roundabout at this intersection, which is expected to enhance the safety of turning vehicles.

ODOT and Washington County maintain Safety Priority Index System (SPIS) lists to identify existing hazardous intersections for potential safety improvements. Three (3) of the study intersections are identified on the Washington County 2018-2020 SPIS and are listed below. Each of these intersections is being improved by Washington County's SW Tualatin-Sherwood Road widening project, which will add capacity to the corridor and provide Washington County an opportunity to incorporate design elements to improve safety.

- SW 124th Ave/SW Tualatin-Sherwood Rd (study intersection #3) is ranked #2 on the list with an SPIS score of 78.4 (out of 100).
- SW Oregon St/SW Tualatin-Sherwood Rd (study intersection #2) is ranked #109 on the list with an SPIS score of 44.9.
- SW Langer Farms Pkwy/SW Tualatin-Sherwood Rd (study intersection #1) is ranked #184 on the list with an SPIS score of 34.7.

Intersection Levels of Service

Weekday AM and PM peak hour level of service (LOS) analysis was conducted at the following five (5) off-site study intersections based on scoping comments received from the City of Sherwood and Washington County:

1. SW Langer Farms Parkway/SW Tualatin-Sherwood Road
2. SW Oregon Street/SW Tualatin-Sherwood Road
3. SW 124th Avenue/SW Tualatin-Sherwood Road
4. SW Tonquin Road/SW Oregon Street
5. SW Murdock Street/SW Oregon Street

Per Section 8 of the 2014 *Sherwood Transportation System Plan*, streets owned by Washington County or city-owned streets that are labeled on the Arterial and Throughway Network Map of Metro's Regional Transportation Plan, a Regional 0.99 volume to capacity (V/C) operating standard applies. The Arterial and Throughway Network Map identifies SW Tualatin-Sherwood Road as a Major Arterial and SW Oregon Street as a Minor Arterial. As all study intersections are along SW Tualatin-Sherwood Road or SW Oregon Street, the 0.99 V/C operating standard applies.

Intersection LOS was calculated using the methodology and procedures outlined in the *Highway Capacity Manual* (7th Edition) using the *Synchro 12* software program. Overall volume-to-capacity (v/c) calculations at the signalized intersections were based on methodology documented in ODOT's *Analysis Procedures Manual*. The 2023 existing weekday AM and PM peak hour LOS analysis results for the study intersections are summarized in Table 3. The LOS methodology and 2023 Existing LOS calculations are included in Appendix C.

Table 3
Existing 2023 Weekday AM and PM Peak Hour LOS Summary

Study Intersection	LOS	Delay (sec)	v/c[1]
AM Peak Hour			
Signalized Intersections:			
1. SW Langer Farms Pkwy/SW Tualatin-Sherwood Rd	B	19.1	0.79
2. SW Oregon Street/SW Tualatin-Sherwood Rd	B	18.2	0.82
3. SW 124th Ave/SW Tualatin-Sherwood Rd	C	33.1	0.93
Two-Way Stop-Controlled Intersections[2]:			
4. SW Tonquin Rd/SW Oregon Street	C	24.0	0.52
Roundabout Intersections:			
5. SW Murdock Rd/SW Oregon Street	A	9.1	0.62
PM Peak Hour			
Signalized Intersections:			
1. SW Langer Farms Pkwy/SW Tualatin-Sherwood Rd	C	27.1	0.97
2. SW Oregon Street/SW Tualatin-Sherwood Rd	B	18.9	0.95
3. SW 124th Ave/SW Tualatin-Sherwood Rd	C	30.2	0.83
Two-Way Stop-Controlled Intersections[2]:			
4. SW Tonquin Rd/SW Oregon Street	F	78.8	0.99
Roundabout Intersections:			
5. SW Murdock Rd/SW Oregon Street	A	9.0	0.64

1. Overall intersection v/c for signalized intersections calculated based per ODOT APM.
2. LOS reported at intersection #4 is the reported delay and V/C ratio for the northbound left-turn.

As shown in Table 4, each of the study intersections currently operates with a V/C ratio at or below 0.99 (meeting County standards).

Intersection Queuing Analysis

Weekday AM and PM peak hour queueing analyses were conducted for existing 2023 conditions at the three (3) signalized study intersections. The queuing analysis was conducted using the SimTraffic software program based on the procedures and methodology outlined in the current ODOT *Analysis Procedures Manual*. Note that as of the date of this study, SW Tualatin-Sherwood Road was undergoing a major roadway widening project which is expected to increase capacity of the corridor in the near future.

The detailed SimTraffic queuing calculations are included in Appendix D.

FUTURE CONDITIONS

Planned Transportation Improvements

Based on a review of the Sherwood Transportation System Plan (TSP), Sherwood Capital Improvement Plan (CIP), and the Washington County Transportation Improvement Projects (TIP), there are several planned improvements within the project study area:

- SW Tualatin-Sherwood Road (Langer Farms Parkway to Teton Avenue) – This project includes widening of SW Tualatin-Sherwood Road to include five (5) travel lanes (two travel lanes in each direction and a center turn lane), bicycle and pedestrian facilities on both sides of the road, storm drainage upgrades and water treatment, and street lights. This project is currently under construction and is expected to be complete by October 2025.
- SW Oregon Street Intersection Improvements at Tonquin (Sherwood TSP Project D3) – This project would include installation of a roundabout at the Tonquin Road/SW Oregon Street intersection with dual westbound through lanes and a single eastbound through/right lane.
- SW Oregon Street Improvements (Sherwood TSP Project D8) – This project includes upgrades to SW Oregon Street from Murdock Road to the railroad crossing to include a three (3) lane collector with sidewalks on the south side and shared-use path on the north side (as part of the Ice Age Tonquin Trail).

It should be noted that completion of the SW Tualatin-Sherwood Road widening project and associated intersection improvements, which are currently under construction, have been included in the future 2025 traffic analysis.

Project Trip Generation

The trip generation estimates for the proposed project were based on methodology documented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual,* 11th Edition for Land Use Code (LUC) 150 (Warehousing). Table 4 summarizes the resulting new weekday daily, AM peak hour, and PM peak hour trip generation estimates for the proposed project. The detailed trip generation calculations are included in Appendix E.

Table 4
Trip Generation Summary

Weekday	Net New Trips Generated (PASSENGER VEHICLES)			New Trips Generated (TRUCKS)			Total Net New Trips Generated (ALL VEHICLES)		
Time Period	In	Out	Total	In	Out	Total	In	Out	Total
Daily	226	226	452	126	127	253	352	353	705
AM Peak Hour	53	13	66	4	4	8	57	17	74
PM Peak Hour	15	49	64	7	6	13	22	55	77

Buildout of the proposed Rock Creek Industrial project is consistent with Alternative 2 of the *Sherwood Oregon Street Access Management Plan* (AMP). As documented in the *Sherwood Oregon Street AMP*, the approximate trip generation for Alternative 2 was estimated to be 500 trips during the morning and evening peak hours based on speculative industrial uses. The total estimated peak hour trip generation with buildout of the proposed Rock Creek Industrial project and the Sherwood Commerce Center project (261 combined trips during the AM peak hour and 225 combined trips during the PM peak hour) is less than what was estimated in the *Sherwood Oregon Street AMP* for Alternative 2.

Project Trip Distribution

The anticipated distribution of the peak hour project trips generated by the proposed project to the adjacent roadway network was based on anticipated travel patterns in the area and review of the adjacent Sherwood Commerce Center TIA. The project-generated peak hour project trips were assigned to the adjacent roadway network as follows:

- 20% to/from the west via SW Tualatin-Sherwood Road
- 5% to/from the north via SW Langer Farms Parkway
- 5% to/from the north via SW Cipole Road
- 10% to/from the north via SW 124th Avenue
- 25% to/from the east via SW Tualatin-Sherwood Road
- 15% to/from the southeast via SW Tonquin Road
- 5% to/from the south via SW Murdock Road
- 15% to/from the west via SW Oregon Street

The anticipated trip distribution patterns and estimated peak hour project trip assignment is shown graphically in Figures 4-5.

Traffic Volumes

To estimate the future 2025 No Action (Without Project) weekday AM and PM peak hour traffic volumes, a 1.5 percent annual growth rate was applied to the 2023 existing traffic volumes (confirmed by City and County staff as part of the traffic scoping discussions). The growth factor is used to account for new development in the study area and growth in existing traffic. In addition to the background traffic growth rate, traffic generated by the Sherwood Commerce Center project was included in the future background traffic volumes. The resulting future 2025 No Action weekday AM and PM peak hour traffic volumes at the study intersections are shown in Figures 6-7.

The future 2025 With Project traffic volumes at the study intersections were determined by adding the project-generated trips (shown in Figures 4-5) to the future 2025 No Action traffic volumes. The 2025 With Project volumes are shown in Figures 8-9.

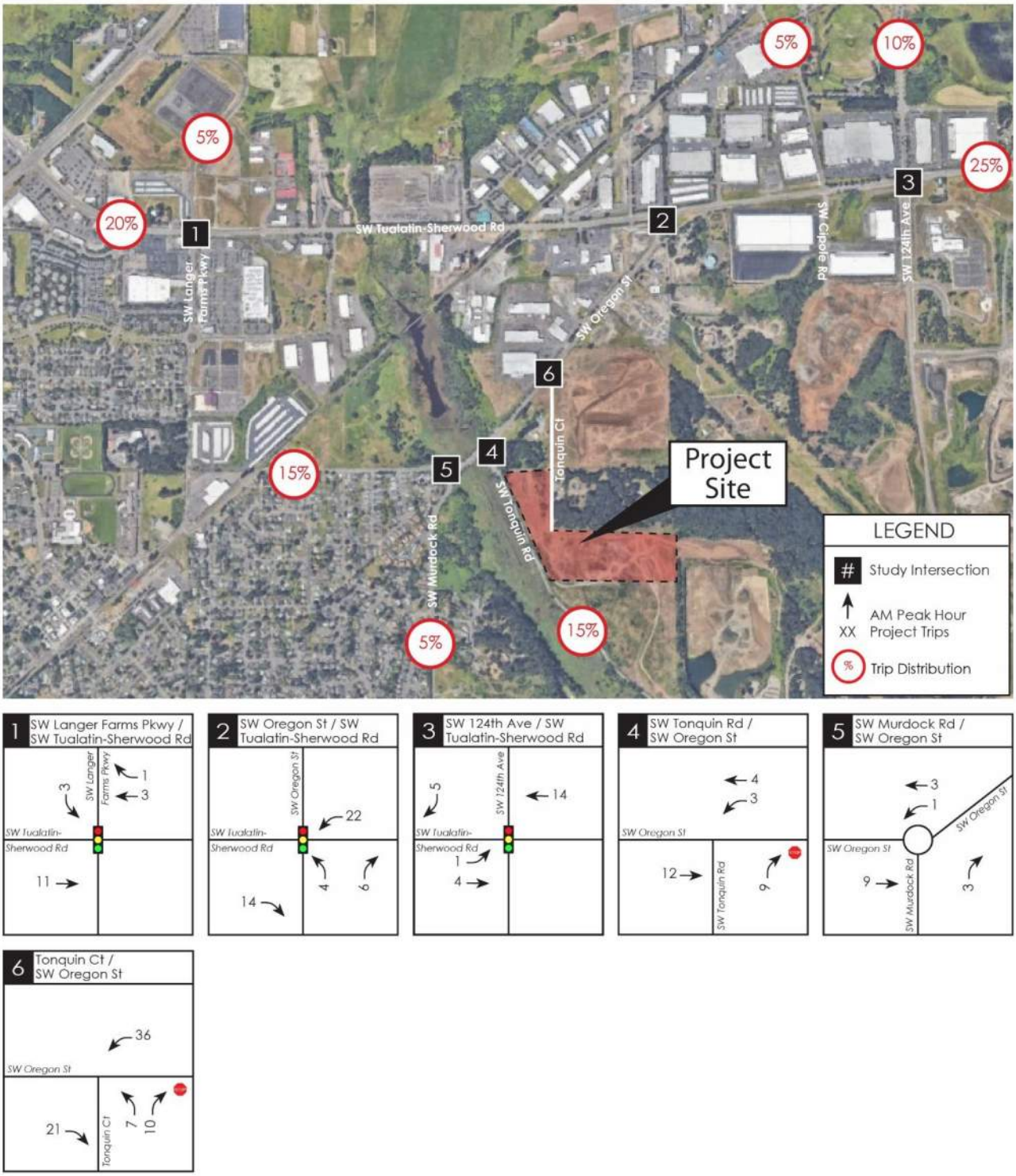

Figure 4: Weekday AM Peak Hour Project Trip Distribution and Assignment

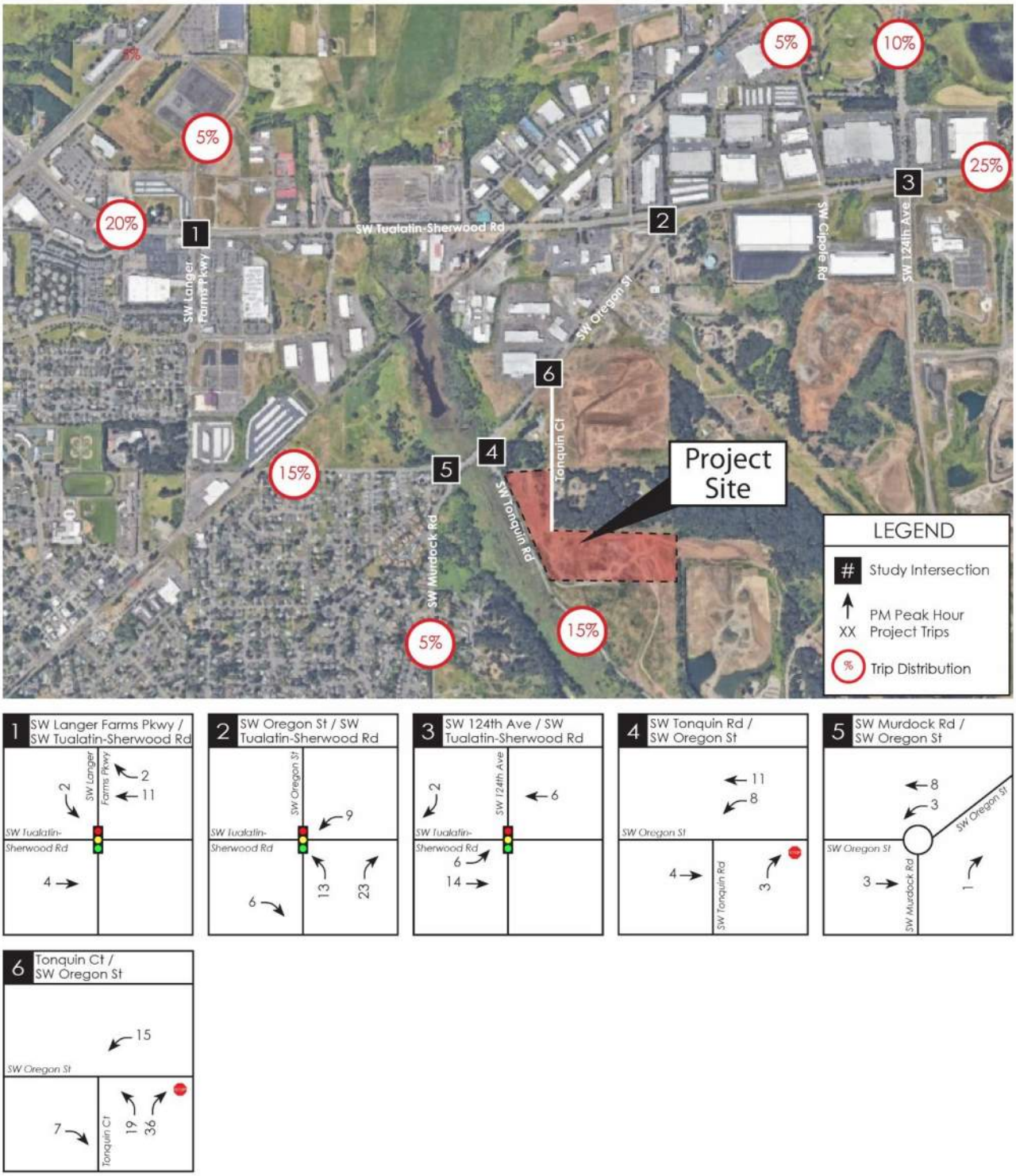

Figure 5: Weekday PM Peak Hour Project Trip Distribution and Assignment

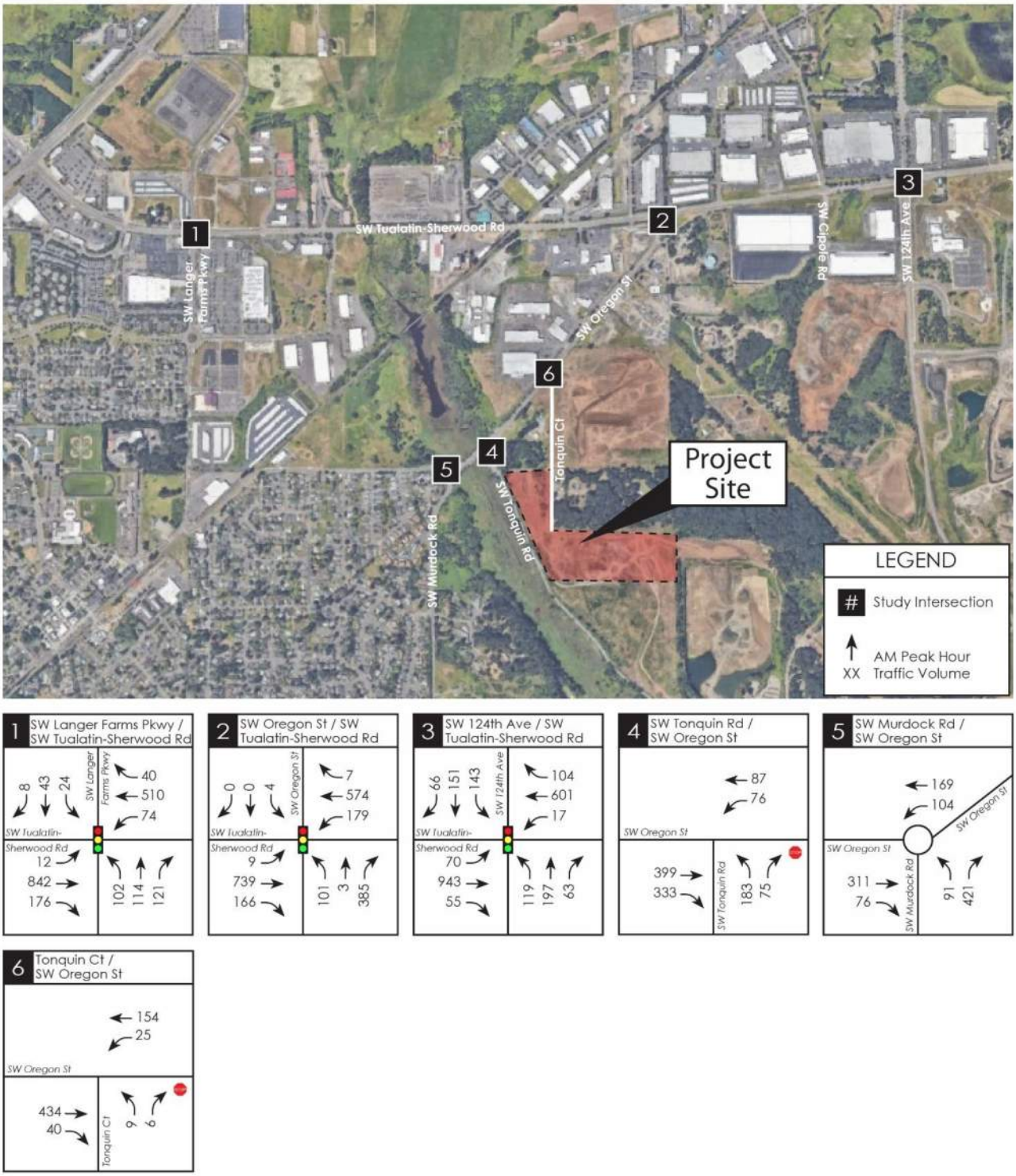

Figure 6: 2025 No Action Weekday AM Peak Hour Traffic Volumes

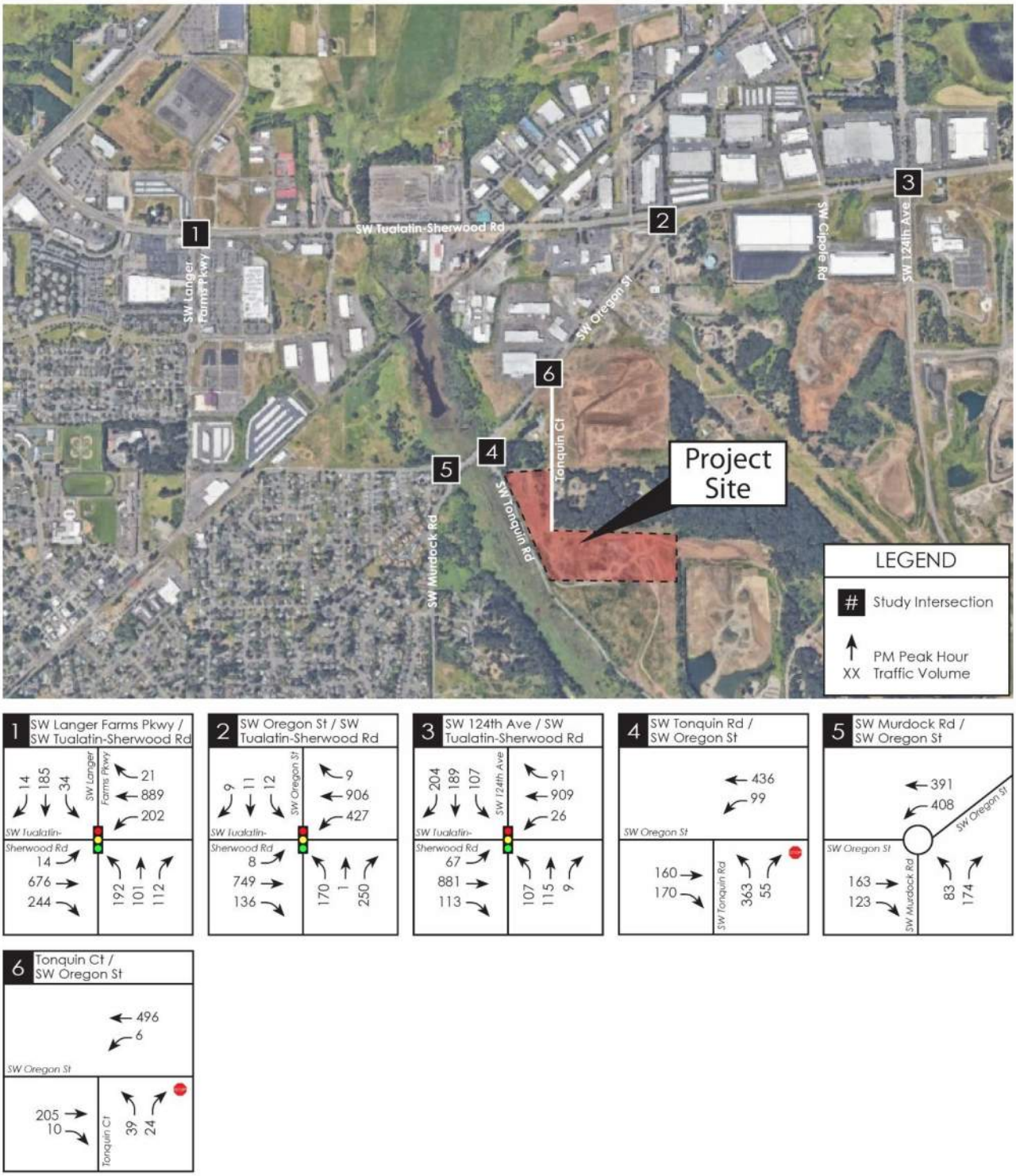

Figure 7: 2025 No Action Weekday PM Peak Hour Traffic Volumes

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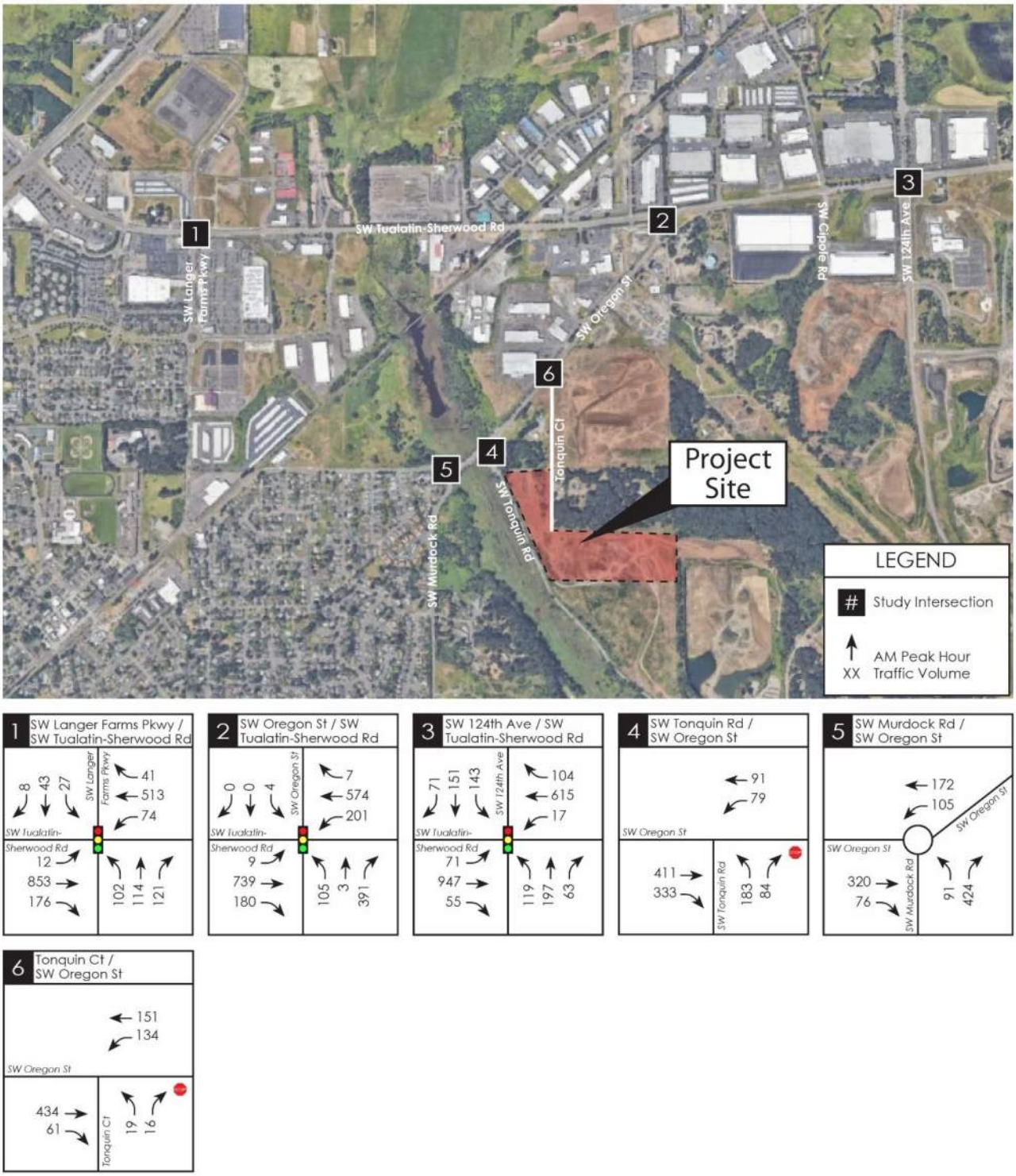


Figure 8: 2025 With Project Weekday AM Peak Hour Traffic Volumes

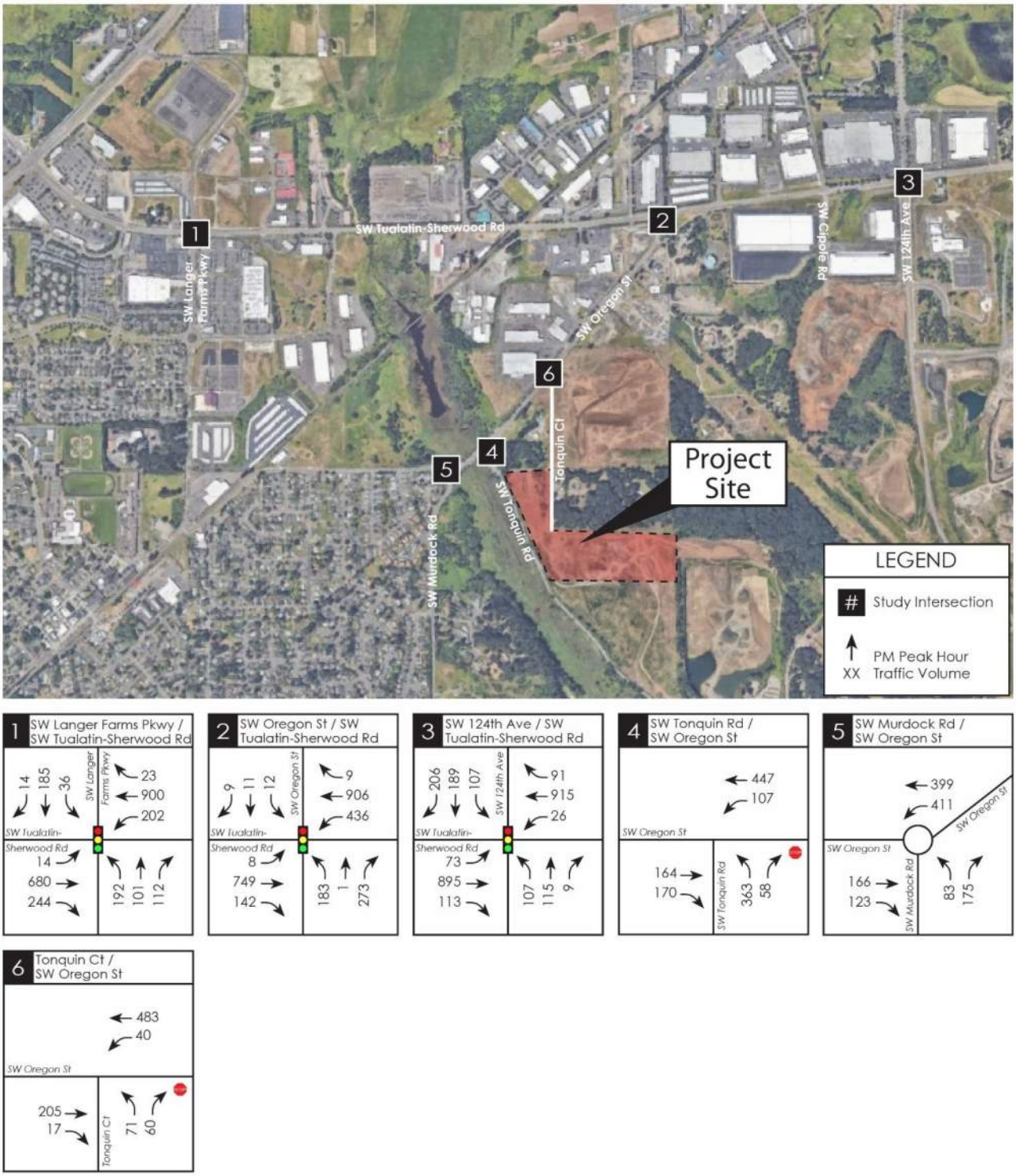


Figure 9: 2025 With Project Weekday PM Peak Hour Traffic Volumes

Intersection Levels of Service

Weekday AM and PM peak hour level of service (LOS) analyses were conducted for future 2025 conditions at the five (5) study intersections. The LOS results at the study intersections without and with the proposed project are summarized in Table 5. Overall volume-to-capacity (v/c) calculations at the signalized intersections were based on methodology documented in ODOT's *Analysis Procedures Manual*. The detailed LOS worksheets are included in Appendix C.

Table 5
Future 2025 Weekday AM and PM Peak Hour LOS Summary

	2025 No Action			2025 With Project		
Study Intersection	LOS	Delay (sec)	v/c[1]	LOS	Delay (sec)	v/c[1]
AM Peak Hour						
Signalized Intersections:						
1. SW Langer Farms Pkwy/SW Tualatin-Sherwood Rd	B	15.4	0.62	B	15.6	0.62
2. SW Oregon Street/SW Tualatin-Sherwood Rd	B	12.9	0.66	B	13.2	0.68
3. SW 124th Ave/SW Tualatin-Sherwood Rd	C	26.0	0.60	C	26.0	0.60
Two-Way Stop-Controlled Intersections[2]:						
4. SW Tonquin Rd/SW Oregon Street	D	29.7	0.60	D	32.0	0.62
Roundabout Intersections:						
5. SW Murdock Rd/SW Oregon Street	B	10.3	0.68	B	10.6	0.69
PM Peak Hour						
Signalized Intersections:						
1. SW Langer Farms Pkwy/SW Tualatin-Sherwood Rd	C	20.6	0.75	C	20.6	0.75
2. SW Oregon Street/SW Tualatin-Sherwood Rd	B	13.8	0.77	B	15.7	0.78
3. SW 124th Ave/SW Tualatin-Sherwood Rd	C	20.5	0.58	C	20.8	0.59
Two-Way Stop-Controlled Intersections[2]:						
4. SW Tonquin Rd/SW Oregon Street	F	154.0	1.21	F	179.9	1.27
Roundabout Intersections:						
5. SW Murdock Rd/SW Oregon Street	A	9.8	0.69	B	10.0	0.70

1. Overall intersection v/c for signalized intersections calculated based per ODOT APM.
2. LOS reported at intersection #4 is the reported delay and V/C ratio for the northbound left-turn.

As shown in Table 5, each of the study intersections are anticipated to operate with a V/C ratio at or below 0.99 (meeting County standards) in 2025 during the weekday AM and PM peak hours without or with the proposed project, with exception to the SW Tonquin Road/SW Oregon Street intersection (#4). The northbound left-turn movement at this intersection is anticipated to operate at LOS F with a v/c ratio above 0.99 during the weekday PM peak hour without or with the proposed project.

The City of Sherwood has future plans to construct a roundabout at the SW Tonquin Road/SW Oregon Street intersection. Mitigation for the proposed project could include a proportionate share contribution to the cost of this improvement. During the weekday PM peak hour, the proposed Rock Creek Industrial project has a 2.0% proportionate share of the estimated future 2025 weekday PM peak hour traffic volumes at this intersection.

Intersection Queuing Analysis

Weekday AM and PM peak hour queueing analyses were conducted for future 2025 conditions at the five (5) study intersections. The queuing analysis was conducted using the SimTraffic software program based on the procedures and methodology outlined in the current ODOT *Analysis Procedures Manual*. The results of the queuing analysis show that the estimated 95th-percentile queues during both the weekday AM and PM peak hours in 2025 are anticipated to be accommodated within the available storage at each of the study intersections with the proposed project except for the westbound left-turn at the SW Oregon Street/SW Tualatin-Sherwood Road intersection. The future with project queues during the weekday PM peak hour are estimated to exceed the available storage by approximately 25 feet (1 vehicle). It should be noted that these queues are 95th-percentile queues, which are only exceed 5% of the time. Average queues are anticipated to be accommodated within the available storage.

The detailed SimTraffic queuing calculations are included in Appendix D.

Site Access Evaluation

Vehicular access to the site is proposed via connection to the future planned north-south roadway (Tonquin Court) on the west side of the site to be constructed by the adjacent Sherwood Commerce Center project and provide access to SW Oregon Street. This access scenario is consistent with Alternative 2 of the *Sherwood Oregon Street AMP*. As part of Alternative 2, the Sherwood Commerce Center driveway with direct access to SW Oregon Street will be restricted to right-in/right-out. Additionally, a temporary traffic signal would be installed at the Tonquin Court/SW Oregon Street intersection (when warranted) and remain until Alternative 3, which includes construction of the new east-west collector (Ice Age Drive). At the time of Alternative 3, the temporary traffic signal (if installed), would be removed and the Tonquin Court/SW Oregon Street intersection would be restricted to right-in/right-out.

For the purposes of this analysis, weekday AM and PM peak hour LOS and queuing was conducted at the Tonquin Court/SW Oregon Street intersection.

LOS and Queuing

To assess operations at the future Tonquin Court/SW Oregon Street intersection, LOS and queuing was conducted during the weekday AM and PM peak hours for future year 2025 conditions. The reported queues for the individual movements are 95th-percentile queues, which are only exceeded five (5) percent of the time. The 2025 weekday AM and PM peak hour traffic volumes at the Tonquin Court/SW Oregon Street intersection were shown previously in Figures 8-9.

The weekday AM and PM peak hour operations analysis for future year 2025 at the Tonquin Court/SW Oregon Street intersection is summarized below in Table 6. The LOS worksheets are included in Appendix C.

Table 6
Future 2025 Weekday AM and PM Peak Hour Analysis at Tonquin Court/SW Oregon Street

	2025 No Action				2025 With Project			
Intersection / Movement	LOS	Delay (sec)	V/C	95th % Queue (ft)	LOS	Delay (sec)	V/C	95th % Queue (ft)
AM Peak Hour								
6. Tonquin Court/SW Oregon Street								
Northbound Approach	B	13.1	0.04	< 25'	C	17.3	0.12	< 25'
Westbound Left-Turn	A	8.5	0.03	< 25'	A	9.1	0.14	25'
PM Peak Hour								
6. Tonquin Court/SW Oregon Street								
Northbound Approach	B	14.4	0.15	25'	C	17.2	0.33	25'
Westbound Left-Turn	A	7.7	0.01	0'	A	7.8	0.03	0'

As shown in Table 6, the individual movements entering and exiting the Tonquin Court/SW Oregon Street intersection are expected to operate at LOS C or better with a V/C ratio less than 0.99 during both the weekday AM and PM peak hours in 2025 with the proposed project. Additionally, the estimated 95th-percentile queues at the Tonquin Court/SW Oregon Street intersection are anticipated to be less than 25 feet (1 vehicle) with buildout of the proposed project during the weekday AM and PM peak hours.

Signal Warrant Evaluation

As part of Alternative 2 of the *Sherwood Oregon Street AMP*, a temporary traffic signal shall be installed at the Tonquin Court/SW Oregon Street intersection when warranted. Peak hour traffic signal warrant analysis was conducted at the Tonquin Court/SW Oregon Street intersection for future year 2025 conditions with the proposed Rock Creek Industrial project. The peak hour signal warrants were based on guidelines as outlined in the US Department of Transportation/Federal Highway Administration, Manual on Uniform Traffic Control Devices (MUTCD), 2009 Edition for Warrant 3 (Peak Hour). The future 2025 with project peak hour traffic volumes used in this analysis were shown previously in Figures 8-9. Based on results of the analysis, a temporary traffic signal would not be warranted at the Tonquin Court/SW Oregon Street intersection with buildout of the proposed Rock Creek Industrial project. Detailed signal warrant analysis calculations are included in Appendix F. Further evaluation of signal warrants may be conducted as additional parcels develop with access to Tonquin Court.

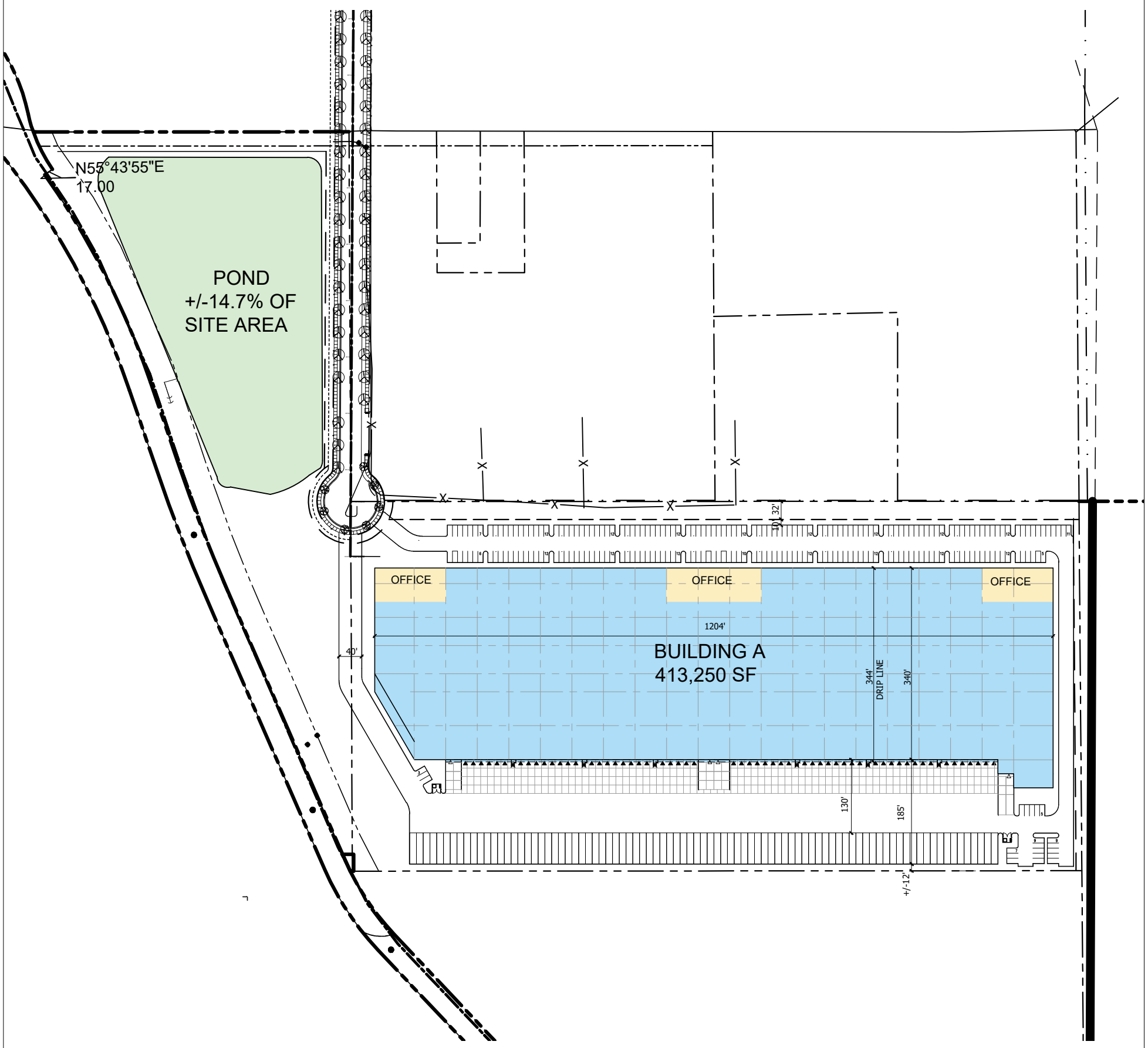
MITIGATION

The following measures are identified to mitigate the transportation impacts of the proposed Rock Creek Industrial project.

Transportation Development Tax. The City of Sherwood and Washington County requires payment of a Transportation Development Tax (TDT) for new developments to ensure that developments help pay for transportation improvements to accommodate growth caused by development. Per the Washington County Transportation Development Tax Rate (TDT) schedule, the current fee for a warehouse is $5,311 per 1,000 SF.

Appendix A

Preliminary Site Plan



GENERAL INFORMATION

SITE AREA
+/- 1,177,427SF (27.03 ACRES)

BUILDING AREA
413,250 SF

F.A.R.
.35

ZONE
EMPLOYMENT INDUSTRIAL (EI)

PARKING:
WAREHOUSE USE (90% OF BUILDING AREA = 371,925 SF)
INDUSTRIAL USE (10% OF BUILDING AREA = 41,325 SF)

WAREHOUSE USE
112 MIN. REQUIRED (392,588 SF/1,000 SF/1,000) X 0.3
186 MAX. ALLOWED (392,588 SF/1,000) X 0.5

INDUSTRIAL USE
66 REQUIRED (20,662 SF/1,000) X 1.6

178 TOTAL MIN. REQUIRED
252 TOTAL MAX REQUIRED

240 STALLS PROVIDED

87 TRAILER STALLS PROVIDED

DOCK DOORS
▼ 58 DOCK DOORS
▽ 4 DRIVE-IN DOORS

NORTH

PANATTONI

ROCK CREEK INDUSTRIAL
SHERWOOD, OREGON

SCHEMATIC SITE PLAN - 'G'
WITH 35' DEDICATION ALONG NORTH PL.

DATE: 08.28.2023
SCALE: 1" = 200'
JOB NUMBER: 23-136

AS.1

TWINSTEPS ARCHITECTURE

Appendix B

Existing Traffic Count Sheets

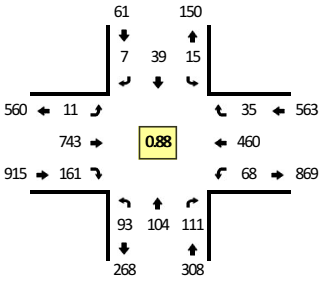
Type of peak hour being reported: User-Defined

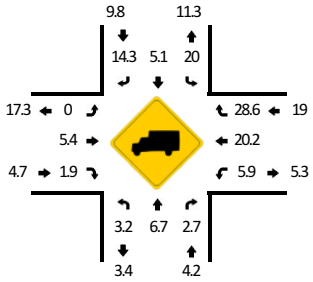
Method for determining peak hour: Total Entering Volume

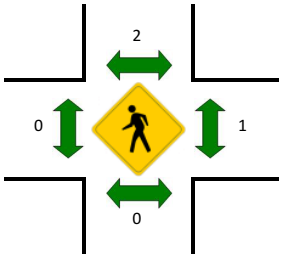
LOCATION: Langer Farms Pkwy -- Tualatin-Sherwood Rd
CITY/STATE: Not found, No

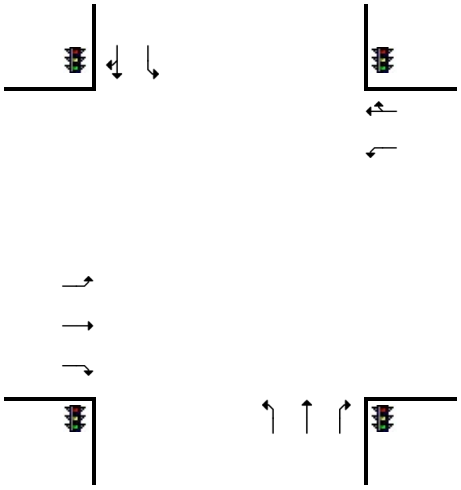
QC JOB #: 14898021
DATE: Wed, Feb 13 2019

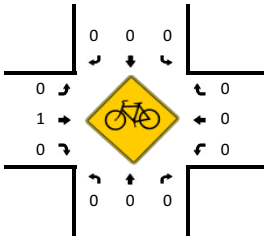
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

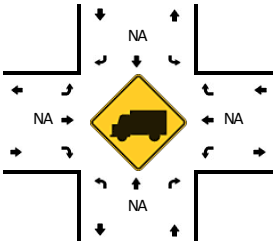


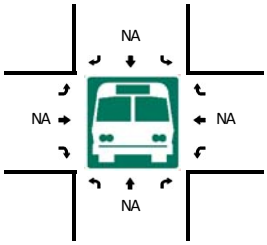












5-Min Count Period Beginning At	Langer Farms Pkwy (Northbound)				Langer Farms Pkwy (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	9	2	7	0	3	1	0	0	1	95	12	0	4	27	6	0	167	
7:05 AM	8	9	5	0	3	2	0	0	0	82	12	0	1	32	4	0	158	
7:10 AM	3	7	9	0	1	0	0	0	1	62	15	0	1	40	3	0	142	
7:15 AM	7	7	11	0	4	3	0	0	0	49	10	0	4	31	2	0	128	
7:20 AM	5	8	14	0	0	2	1	0	0	73	11	0	5	30	4	0	153	
7:25 AM	8	11	8	0	0	1	2	0	0	61	9	0	5	40	2	0	147	
7:30 AM	7	8	7	0	1	6	0	0	0	55	20	0	6	41	3	0	154	
7:35 AM	6	7	11	0	0	4	0	0	0	60	10	0	9	34	3	0	144	
7:40 AM	3	7	9	0	1	4	2	0	2	61	16	0	0	24	5	0	134	
7:45 AM	11	11	15	0	3	5	0	0	1	63	11	0	6	42	2	0	170	
7:50 AM	10	9	9	0	0	5	0	0	1	56	21	0	3	42	2	0	158	
7:55 AM	9	8	9	0	0	4	2	0	1	67	14	0	6	42	3	0	165	1820
8:00 AM	10	12	10	0	3	3	0	0	0	77	13	0	8	42	3	0	181	1834
8:05 AM	9	11	10	0	2	0	0	0	2	76	12	0	9	42	3	0	176	1852
8:10 AM	10	8	3	0	3	4	0	0	1	50	14	0	3	39	3	0	138	1848
8:15 AM	5	4	6	0	2	1	0	0	3	44	10	0	8	42	2	0	127	1847
8:20 AM	5	8	7	0	3	2	0	0	0	71	15	0	7	35	2	0	155	1849
8:25 AM	3	7	9	0	4	4	0	0	2	56	10	0	5	45	4	0	149	1851
8:30 AM	11	5	8	0	6	2	0	0	0	55	12	0	3	24	0	0	126	1823
8:35 AM	8	5	6	0	3	4	0	0	0	62	10	0	11	44	2	0	155	1834
8:40 AM	10	8	9	0	2	4	0	0	2	52	6	0	9	34	4	0	140	1840
8:45 AM	3	4	5	0	2	2	0	0	0	52	6	0	8	40	2	0	124	1794
8:50 AM	5	5	7	0	2	7	0	0	0	61	11	0	5	31	1	0	135	1771
8:55 AM	4	6	7	0	2	2	0	0	0	50	7	0	9	43	1	0	131	1737

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	112	124	116	0	20	28	8	0	12	880	156	0	92	504	36	0	2088
Heavy Trucks	8	8	0		0	4	0		0	60	4		4	108	16		212
Pedestrians		0				8				0				4			12
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/26/2019 10:21 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

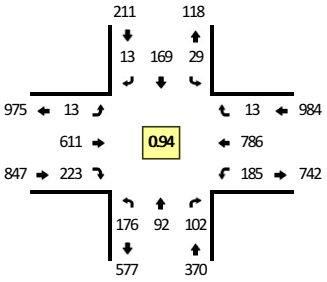
Type of peak hour being reported: User-Defined

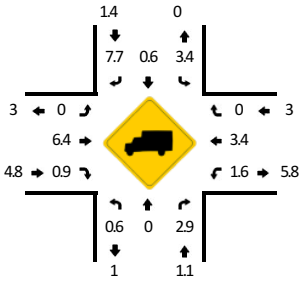
Method for determining peak hour: Total Entering Volume

LOCATION: Langer Farms Pkwy -- Tualatin-Sherwood Rd
CITY/STATE: Not found, No

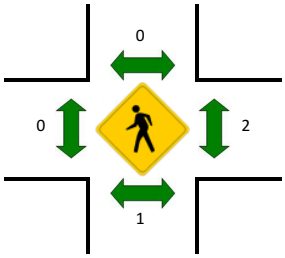
QC JOB #: 14898022
DATE: Wed, Feb 13 2019

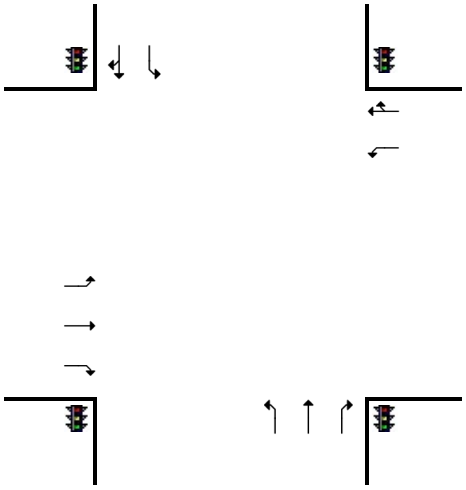
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 4:45 PM -- 5:00 PM

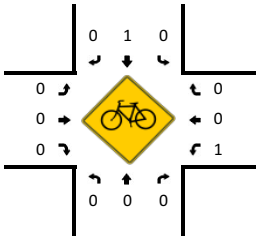


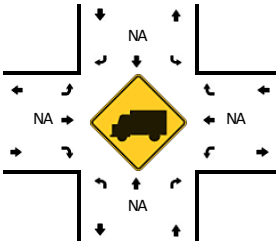


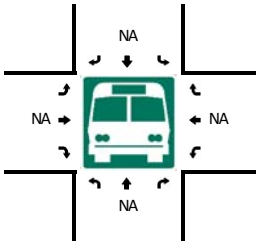
Quality Counts
DATA THAT DRIVES COMMUNITIES











5-Min Count Period Beginning At	Langer Farms Pkwy (Northbound)				Langer Farms Pkwy (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	8	5	6	0	6	17	0	0	0	59	23	0	13	74	5	0	216	
4:05 PM	15	9	8	0	3	8	1	0	1	43	12	0	10	58	3	0	171	
4:10 PM	11	3	10	0	3	4	1	0	2	51	16	0	8	73	1	0	183	
4:15 PM	14	9	6	0	5	13	2	0	1	40	11	0	6	58	3	0	168	
4:20 PM	10	7	5	0	3	16	0	0	0	51	20	0	10	57	1	0	180	
4:25 PM	8	11	14	0	2	11	3	0	1	47	16	0	18	67	5	0	203	
4:30 PM	12	6	5	0	1	9	1	0	0	47	12	0	18	66	2	0	179	
4:35 PM	12	9	5	0	1	18	1	0	0	49	16	0	16	60	3	0	190	
4:40 PM	8	7	6	0	3	13	2	0	0	47	16	0	13	54	5	0	174	
4:45 PM	10	14	8	0	3	12	0	0	0	57	19	0	16	70	3	0	212	
4:50 PM	13	8	11	0	4	14	0	0	0	62	26	0	15	71	1	0	225	
4:55 PM	13	2	9	0	4	21	0	0	1	62	11	0	14	69	0	0	206	2307
5:00 PM	18	8	16	0	4	12	1	0	0	48	11	0	15	68	1	0	202	2293
5:05 PM	19	8	7	0	3	18	1	0	3	54	18	0	18	57	2	0	208	2330
5:10 PM	18	7	5	0	1	11	1	0	0	62	20	0	13	77	2	0	217	2364
5:15 PM	17	6	10	0	2	11	1	0	2	53	19	0	17	68	0	0	206	2402
5:20 PM	14	11	9	0	2	17	3	0	0	40	18	0	12	61	0	0	187	2409
5:25 PM	13	7	8	0	0	9	3	0	3	45	19	0	24	67	0	0	198	2404
5:30 PM	16	7	9	0	4	14	1	0	3	39	21	0	19	57	1	0	191	2416
5:35 PM	11	8	5	0	1	14	1	0	0	46	19	0	13	48	1	0	167	2393
5:40 PM	14	6	5	0	1	16	1	0	1	43	22	0	9	73	2	0	193	2412
5:45 PM	13	10	10	0	2	11	3	0	2	39	15	0	23	66	1	0	195	2395
5:50 PM	10	8	9	0	3	14	1	0	0	44	18	0	19	54	3	0	183	2353
5:55 PM	13	8	11	0	1	13	1	0	1	49	17	0	9	67	1	0	191	2338

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	144	96	112	0	44	188	0	0	4	724	224	0	180	840	16	0	2572
Heavy Trucks	0	0	4		0	0	0		0	52	0		0	48	0		104
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

Comments:

Report generated on 2/26/2019 10:21 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

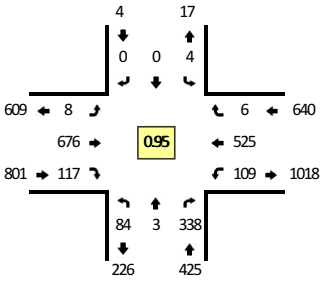
Type of peak hour being reported: User-Defined

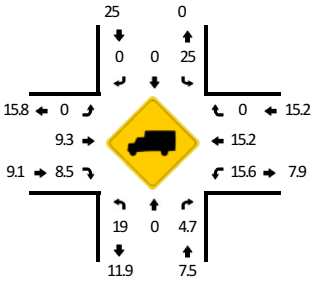
Method for determining peak hour: Total Entering Volume

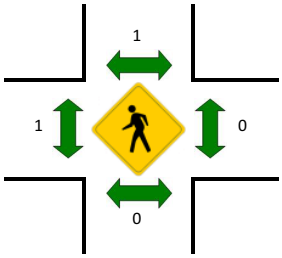
LOCATION: Oregon St -- Tualatin-Sherwood Rd
CITY/STATE: Washington, OR

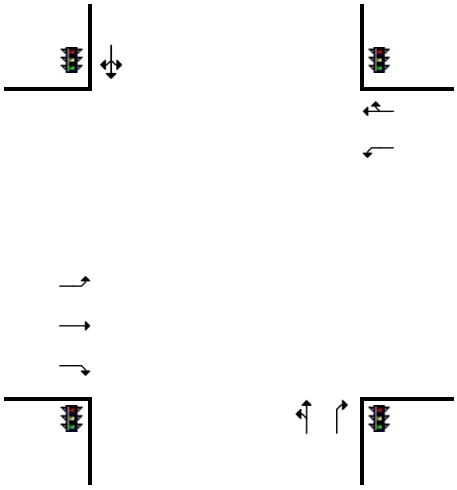
QC JOB #: 14898001
DATE: Wed, Feb 13 2019

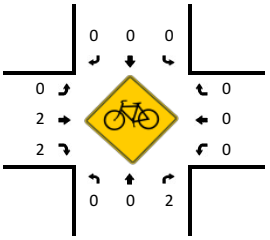
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:20 AM -- 7:35 AM

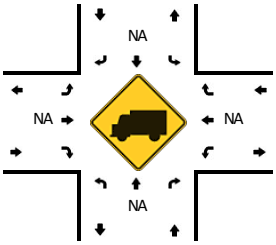


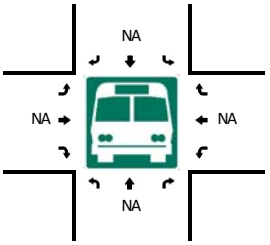












5-Min Count Period Beginning At	Oregon St (Northbound)				Oregon St (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	0	35	0	0	0	0	0	0	73	9	0	9	37	0	0	167	
7:05 AM	9	0	37	0	0	0	1	0	0	45	5	0	8	37	0	0	142	
7:10 AM	2	0	24	0	1	0	0	0	1	69	9	0	1	42	0	0	149	
7:15 AM	7	1	45	0	0	0	0	0	0	47	10	0	10	29	0	0	149	
7:20 AM	5	0	34	0	0	0	0	0	2	60	7	0	12	35	0	0	155	
7:25 AM	9	1	17	0	0	0	0	0	0	61	13	0	10	60	0	0	171	
7:30 AM	5	0	25	0	1	0	0	0	0	63	18	0	8	45	0	0	165	
7:35 AM	9	0	29	0	0	0	0	0	0	43	11	0	9	32	0	0	133	
7:40 AM	6	0	29	0	0	0	0	0	0	64	4	0	5	41	2	0	151	
7:45 AM	7	0	27	0	0	0	0	0	2	44	13	0	13	50	0	0	156	
7:50 AM	8	0	33	0	0	0	0	0	2	61	5	0	11	44	1	0	165	
7:55 AM	8	1	33	0	0	0	0	0	1	62	7	0	10	39	0	0	161	1864
8:00 AM	11	1	28	0	0	0	0	0	0	58	12	0	6	42	3	0	161	1858
8:05 AM	5	0	34	0	2	0	0	0	1	54	8	0	10	49	0	0	163	1879
8:10 AM	8	0	22	0	0	0	0	0	0	62	6	0	3	40	0	0	141	1871
8:15 AM	3	0	27	0	1	0	0	0	0	44	13	0	12	48	0	0	148	1870
8:20 AM	7	0	16	0	0	0	0	0	0	62	12	0	3	39	1	0	140	1855
8:25 AM	8	0	19	0	1	0	0	0	0	60	10	0	16	34	4	0	152	1836
8:30 AM	5	0	24	0	0	1	0	0	0	54	8	0	15	44	1	0	152	1823
8:35 AM	7	1	21	0	0	0	0	0	0	62	7	0	8	41	0	0	147	1837
8:40 AM	12	0	18	0	0	0	0	0	0	56	5	0	7	54	2	0	154	1840
8:45 AM	6	0	39	0	0	0	0	0	1	53	8	0	8	43	0	0	158	1842
8:50 AM	6	0	24	0	0	0	0	0	0	45	4	0	11	42	1	0	133	1810
8:55 AM	8	1	8	0	0	0	0	0	1	58	1	0	7	43	1	0	128	1777

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	76	4	304	0	4	0	0	0	8	736	152	0	120	560	0	0	1964
Heavy Trucks	12	0	8		4	0	0		0	72	20		16	88	0		220
Pedestrians		0				4				4				0			8
Bicycles	0	0	1		0	0	0		0	1	0		0	0	0		2
Railroad																	
Stopped Buses																	

Comments:

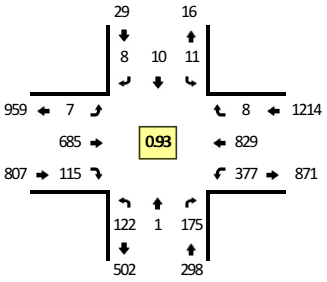
Report generated on 2/26/2019 10:12 AM

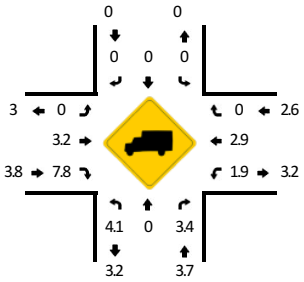
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: User-Defined | Method for determining peak hour: Total Entering Volume

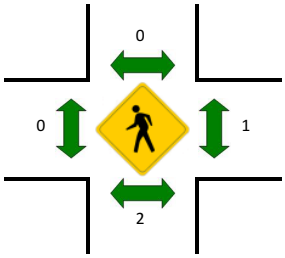
LOCATION: Oregon St -- Tualatin-Sherwood Rd | **QC JOB #:** 14898002
CITY/STATE: Washington, OR | **DATE:** Wed, Feb 13 2019

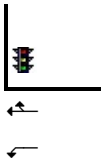
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

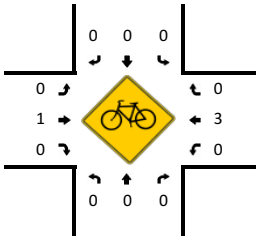


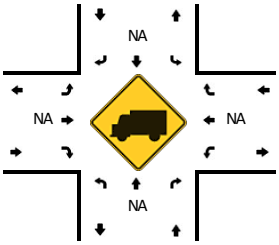


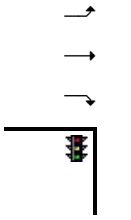
Quality Counts
DATA THAT DRIVES COMMUNITIES

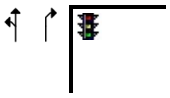


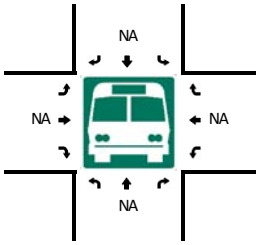












5-Min Count Period Beginning At	Oregon St (Northbound)				Oregon St (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	0	11	0	0	0	1	0	0	62	11	0	25	70	0	0	185	
4:05 PM	12	0	15	0	0	1	0	0	0	58	11	0	20	55	0	0	172	
4:10 PM	12	0	22	0	3	1	0	0	0	49	8	0	29	65	0	0	189	
4:15 PM	6	0	7	0	2	0	0	0	1	64	7	0	24	63	0	0	174	
4:20 PM	9	0	14	0	1	0	0	0	0	42	13	0	29	68	0	0	176	
4:25 PM	6	1	9	0	0	1	2	0	0	43	11	0	26	62	2	0	163	
4:30 PM	6	0	7	0	1	0	0	0	0	57	9	0	33	78	0	0	191	
4:35 PM	11	0	12	0	0	0	0	0	0	62	13	0	22	55	0	0	175	
4:40 PM	6	1	13	0	1	0	1	0	1	46	9	0	36	77	0	0	191	
4:45 PM	12	0	20	0	1	0	0	0	0	46	11	0	25	64	1	0	180	
4:50 PM	13	0	8	0	1	0	0	0	0	54	12	0	31	70	0	0	189	
4:55 PM	13	0	14	0	1	1	0	0	0	58	7	0	29	61	0	0	184	2169
5:00 PM	5	0	12	0	4	2	0	0	0	64	12	0	28	67	0	0	194	2178
5:05 PM	10	0	23	0	0	1	1	0	0	74	17	0	27	62	2	0	217	2223
5:10 PM	10	0	22	0	3	4	2	0	1	68	9	0	28	74	1	0	222	2256
5:15 PM	10	0	19	0	0	0	1	0	1	58	7	0	32	59	0	0	187	2269
5:20 PM	8	0	11	0	0	0	1	0	0	52	9	0	37	79	1	0	198	2291
5:25 PM	9	0	8	0	0	0	0	0	1	50	9	0	31	76	0	0	184	2312
5:30 PM	10	1	15	0	1	2	1	0	1	50	12	0	35	66	3	0	197	2318
5:35 PM	16	0	11	0	0	0	1	0	1	54	7	0	34	69	0	0	193	2336
5:40 PM	6	0	12	0	0	0	1	0	2	57	3	0	40	82	0	0	203	2348
5:45 PM	5	0	13	0	0	0	0	0	0	46	6	0	32	66	1	0	169	2337
5:50 PM	11	0	13	0	1	0	0	0	0	45	4	0	27	64	1	0	166	2314
5:55 PM	7	0	14	0	1	0	0	0	1	52	6	0	17	74	1	0	173	2303

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	100	0	228	0	28	28	12	0	4	824	152	0	332	812	12	0	2532
Heavy Trucks	4	0	8		0	0	0		0	40	20		4	8	0		84
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/26/2019 10:13 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

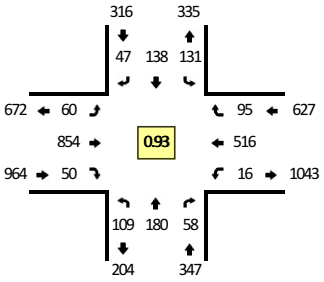
Type of peak hour being reported: User-Defined

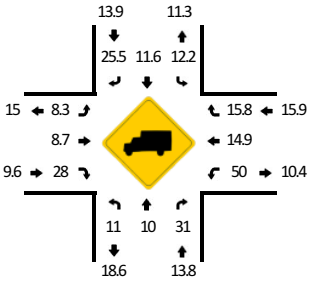
Method for determining peak hour: Total Entering Volume

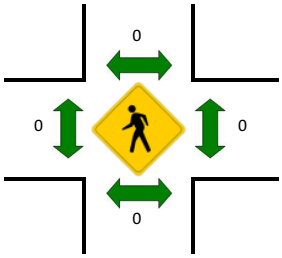
LOCATION: 124th Ave -- Tualatin-Sherwood Rd
CITY/STATE: Washington, OR

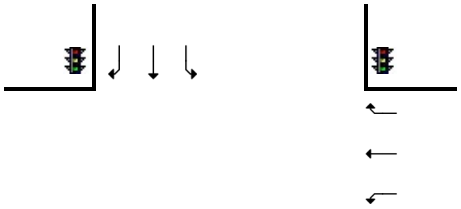
QC JOB #: 14898007
DATE: Wed, Feb 13 2019

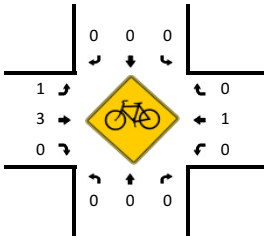
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

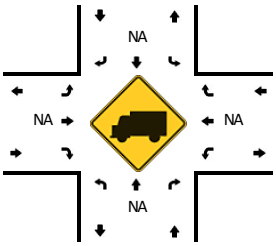


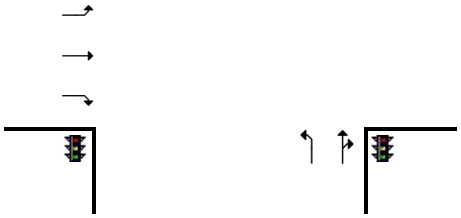


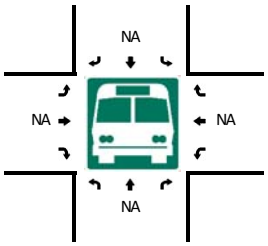












5-Min Count Period Beginning At	124th Ave (Northbound)				124th Ave (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	8	15	8	0	10	8	3	0	6	81	6	0	0	42	5	0	192	
7:05 AM	10	21	3	0	8	3	0	0	9	60	4	0	1	39	8	0	166	
7:10 AM	5	10	4	0	6	8	1	0	16	81	1	0	0	51	9	0	192	
7:15 AM	10	5	4	0	9	9	2	0	7	80	4	0	1	42	8	0	181	
7:20 AM	11	9	5	0	8	15	2	0	7	80	4	0	0	41	6	0	188	
7:25 AM	9	15	7	0	11	16	4	0	7	71	3	0	2	50	6	0	201	
7:30 AM	5	17	5	0	11	9	2	0	3	65	5	0	0	39	6	0	167	
7:35 AM	10	13	3	0	20	20	3	0	5	67	5	0	1	31	5	0	183	
7:40 AM	11	24	6	0	11	12	3	0	2	66	7	0	0	47	13	0	202	
7:45 AM	15	14	7	0	13	14	4	0	8	74	1	0	2	53	10	0	215	
7:50 AM	10	15	7	0	8	10	7	0	7	68	5	0	1	43	6	0	187	
7:55 AM	8	17	5	0	13	15	9	0	5	69	2	0	3	42	14	0	202	2276
8:00 AM	11	16	3	0	6	8	5	0	3	79	8	0	1	45	7	0	192	2276
8:05 AM	5	13	3	0	9	7	4	0	7	68	4	0	1	33	11	0	165	2275
8:10 AM	7	15	2	0	9	8	2	0	4	73	2	0	1	48	6	0	177	2260
8:15 AM	7	12	5	0	12	4	2	0	2	74	4	0	4	44	5	0	175	2254
8:20 AM	7	9	1	0	8	6	2	0	9	75	5	0	0	41	8	0	171	2237
8:25 AM	9	16	0	0	11	11	4	0	4	65	2	0	0	40	8	0	170	2206
8:30 AM	4	14	3	0	3	3	4	0	7	68	7	0	1	44	9	0	167	2206
8:35 AM	5	8	4	0	8	7	5	1	5	61	7	0	0	61	4	0	176	2199
8:40 AM	14	9	2	0	4	6	5	0	12	55	3	0	2	38	5	0	155	2152
8:45 AM	8	11	0	0	6	6	5	0	14	70	4	0	0	46	7	0	177	2114
8:50 AM	5	13	2	0	11	8	5	0	9	67	4	0	0	45	6	0	175	2102
8:55 AM	4	15	1	0	10	3	4	0	4	63	3	0	1	35	8	0	151	2051

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	144	212	80	0	128	144	56	0	68	832	52	0	12	572	116	0	2416
Heavy Trucks	8	16	12		12	8	12		0	56	12		4	48	4		192
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/26/2019 10:20 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

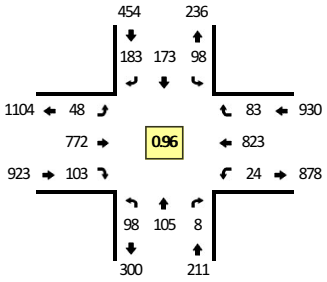
Type of peak hour being reported: User-Defined

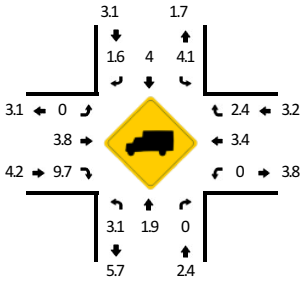
Method for determining peak hour: Total Entering Volume

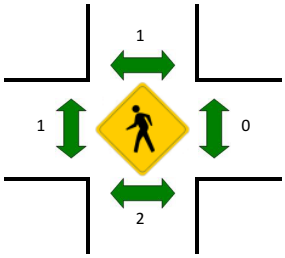
LOCATION: 124th Ave -- Tualatin-Sherwood Rd
CITY/STATE: Washington, OR

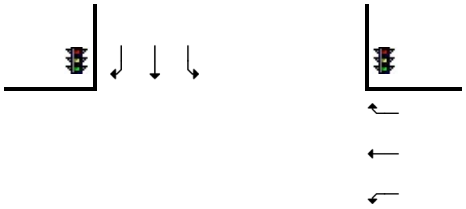
QC JOB #: 14898008
DATE: Wed, Feb 13 2019

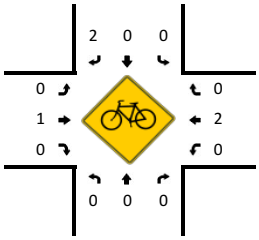
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

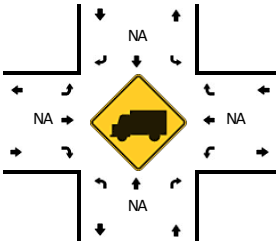


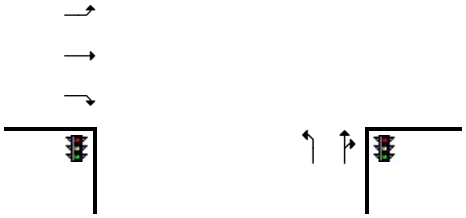


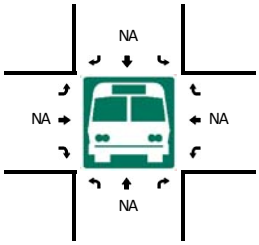












5-Min Count Period Beginning At	124th Ave (Northbound)				124th Ave (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	7	7	1	0	5	12	11	0	4	66	9	0	3	62	3	0	190	
4:05 PM	9	4	1	0	10	13	15	0	5	68	15	0	2	58	5	0	205	
4:10 PM	9	11	0	0	8	12	11	0	8	63	13	0	4	63	10	0	212	
4:15 PM	8	6	1	0	5	13	8	0	4	73	12	0	2	61	10	0	203	
4:20 PM	9	16	0	0	13	11	15	1	3	50	8	0	3	57	6	0	192	
4:25 PM	4	9	2	0	5	7	8	0	3	58	13	0	8	83	7	0	207	
4:30 PM	4	5	1	0	9	12	16	0	1	58	10	0	2	81	4	0	203	
4:35 PM	8	6	1	0	9	22	18	0	6	58	3	0	1	61	11	0	204	
4:40 PM	11	8	3	0	12	18	20	0	10	46	9	0	4	57	12	0	210	
4:45 PM	7	2	1	0	9	20	17	0	7	63	12	0	3	63	6	0	210	
4:50 PM	12	17	0	0	16	15	11	0	1	48	9	0	1	70	6	0	206	
4:55 PM	8	9	0	0	9	14	16	0	5	80	7	0	1	69	7	0	225	2467
5:00 PM	6	4	1	0	10	16	11	0	6	53	10	0	1	65	8	0	191	2468
5:05 PM	5	5	2	0	10	14	12	0	4	81	9	0	1	64	8	0	215	2478
5:10 PM	8	11	0	0	8	17	16	0	5	80	14	0	1	69	13	0	242	2508
5:15 PM	4	11	1	0	2	13	17	0	8	63	9	0	4	53	9	0	194	2499
5:20 PM	10	9	0	0	7	11	22	0	3	73	6	0	2	75	2	0	220	2527
5:25 PM	8	10	1	0	5	11	13	0	2	56	9	0	4	69	4	0	192	2512
5:30 PM	20	10	0	0	10	14	16	0	2	56	4	0	3	70	4	0	209	2518
5:35 PM	5	6	1	0	8	9	10	0	0	62	8	0	2	84	11	0	206	2520
5:40 PM	5	11	1	0	4	19	22	0	5	57	6	0	1	72	5	0	208	2518
5:45 PM	9	11	3	0	6	14	12	0	2	53	7	0	2	68	6	0	193	2501
5:50 PM	8	4	0	0	3	6	3	0	3	57	10	0	0	85	7	0	186	2481
5:55 PM	4	6	0	0	2	10	9	0	0	62	3	0	0	92	4	0	192	2448

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	88	124	4	0	68	164	220	0	64	864	116	0	28	788	96	0	2624
Heavy Trucks	0	4	0		0	4	4		0	40	16		0	48	0		116
Pedestrians		8				0				0				0			8
Bicycles	0	0	0		0	0	1		0	1	0		0	0	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 2/26/2019 10:20 AM

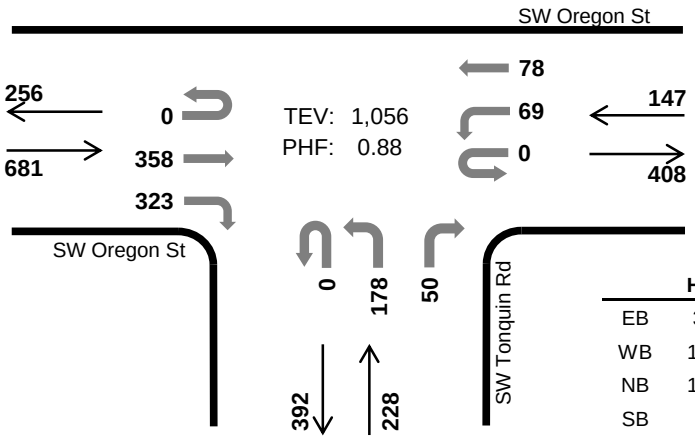
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

SW Tonquin Rd
SW Oregon St

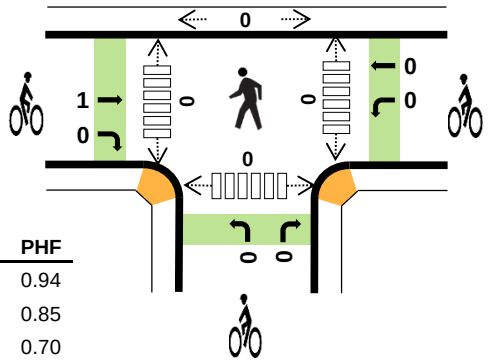
N

Peak Hour

Date: 09/12/2023
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	3.4%	0.94
WB	18.4%	0.85
NB	11.0%	0.70
SB	-	-
TOTAL	7.1%	0.88



Two-Hour Count Summaries

Interval Start	SW Oregon St Eastbound				SW Oregon St Westbound				SW Tonquin Rd Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	58	69	0	15	19	0	0	27	0	10	0	0	0	0	198	0
7:15 AM	**0**	**0**	**81**	**74**	**0**	**19**	**17**	**0**	**0**	**39**	**0**	**13**	**0**	**0**	**0**	**0**	**243**	0
7:30 AM	**0**	**0**	**91**	**82**	**0**	**20**	**23**	**0**	**0**	**39**	**0**	**10**	**0**	**0**	**0**	**0**	**265**	0
7:45 AM	**0**	**0**	**99**	**82**	**0**	**13**	**23**	**0**	**0**	**62**	**0**	**20**	**0**	**0**	**0**	**0**	**299**	1,005
8:00 AM	**0**	**0**	**87**	**85**	**0**	**17**	**15**	**0**	**0**	**38**	**0**	**7**	**0**	**0**	**0**	**0**	**249**	**1,056**
8:15 AM	0	0	64	45	0	15	22	0	0	35	0	15	0	0	0	0	196	1,009
8:30 AM	0	0	76	62	0	17	27	0	0	28	0	11	0	0	0	0	221	965
8:45 AM	0	0	58	56	0	19	32	0	0	47	0	23	0	0	0	0	235	901
Count Total	0	0	614	555	0	135	178	0	0	315	0	109	0	0	0	0	1,906	0
Peak Hour All	**0**	**0**	**358**	**323**	**0**	**69**	**78**	**0**	**0**	**178**	**0**	**50**	**0**	**0**	**0**	**0**	**1,056**	**0**
Peak Hour HV	**0**	**0**	**9**	**14**	**0**	**20**	**7**	**0**	**0**	**14**	**0**	**11**	**0**	**0**	**0**	**0**	**75**	**0**
Peak Hour HV%	**-**	**-**	**3%**	**4%**	**-**	**29%**	**9%**	**-**	**-**	**8%**	**-**	**22%**	**-**	**-**	**-**	**-**	**7%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	9	3	0	*13*	2	0	0	0	*2*	0	0	0	0	*0*
7:15 AM	**4**	**6**	**9**	**0**	***19***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**7**	**8**	**5**	**0**	***20***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**10**	**7**	**4**	**0**	***21***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**2**	**6**	**7**	**0**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	2	11	4	0	*17*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	6	5	4	0	*15*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	6	9	7	0	*22*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	38	61	43	0	*142*	3	0	0	0	*3*	0	0	0	0	*0*
Peak Hr	**23**	**27**	**25**	**0**	***75***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SW Oregon St				SW Oregon St				SW Tonquin Rd				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	1	0	6	3	0	0	2	0	1	0	0	0	0	13	0
7:15 AM	**0**	**0**	**2**	**2**	**0**	**5**	**1**	**0**	**0**	**7**	**0**	**2**	**0**	**0**	**0**	**0**	**19**	0
7:30 AM	**0**	**0**	**3**	**4**	**0**	**4**	**4**	**0**	**0**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**20**	0
7:45 AM	**0**	**0**	**3**	**7**	**0**	**5**	**2**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**21**	73
8:00 AM	**0**	**0**	**1**	**1**	**0**	**6**	**0**	**0**	**0**	**2**	**0**	**5**	**0**	**0**	**0**	**0**	**15**	**75**
8:15 AM	0	0	2	0	0	4	7	0	0	1	0	3	0	0	0	0	17	73
8:30 AM	0	0	4	2	0	4	1	0	0	1	0	3	0	0	0	0	15	68
8:45 AM	0	0	2	4	0	7	2	0	0	0	0	7	0	0	0	0	22	69
Count Total	0	0	17	21	0	41	20	0	0	18	0	25	0	0	0	0	142	0
Peak Hour	**0**	**0**	**9**	**14**	**0**	**20**	**7**	**0**	**0**	**14**	**0**	**11**	**0**	**0**	**0**	**0**	**75**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	SW Oregon St			SW Oregon St			SW Tonquin Rd			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	0
7:15 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	3
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	3	0	0	0	0	0	0	0	0	0	0	3	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

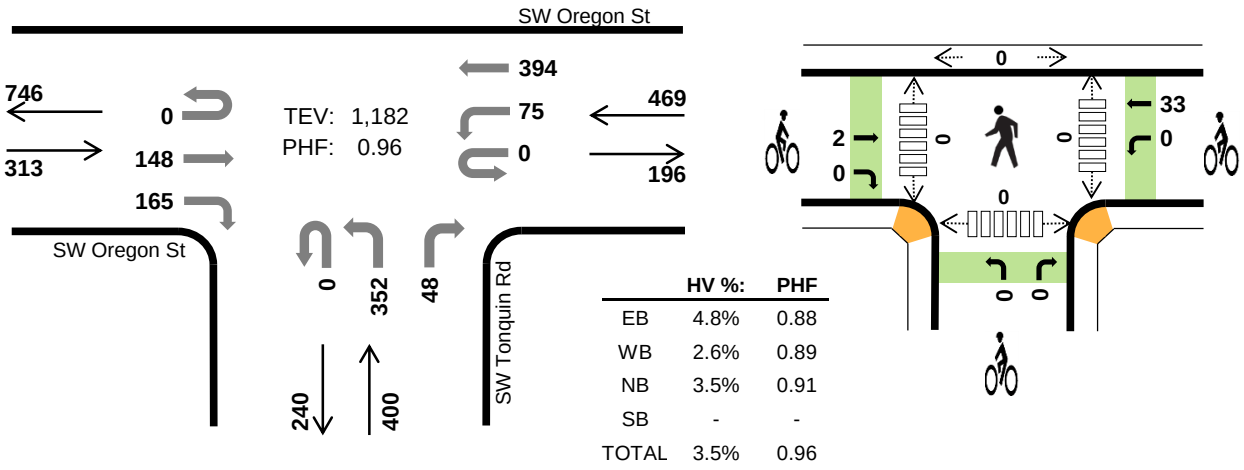
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

SW Tonquin Rd
SW Oregon St

N

Peak Hour

Date: 09/12/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	4.8%	0.88
WB	2.6%	0.89
NB	3.5%	0.91
SB	-	-
TOTAL	3.5%	0.96

Two-Hour Count Summaries

Interval Start		SW Oregon St Eastbound				SW Oregon St Westbound				SW Tonquin Rd Northbound				0 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	37	44	0	23	97	0	0	72	0	21	0	0	0	0	294	0
4:15 PM		0	0	51	28	0	10	106	0	0	76	0	17	0	0	0	0	288	0
4:30 PM		**0**	**0**	**42**	**47**	**0**	**15**	**93**	**0**	**0**	**97**	**0**	**13**	**0**	**0**	**0**	**0**	**307**	0
4:45 PM		**0**	**0**	**37**	**33**	**0**	**21**	**93**	**0**	**0**	**89**	**0**	**12**	**0**	**0**	**0**	**0**	**285**	1,174
5:00 PM		**0**	**0**	**39**	**40**	**0**	**24**	**108**	**0**	**0**	**77**	**0**	**8**	**0**	**0**	**0**	**0**	**296**	1,176
5:15 PM		**0**	**0**	**30**	**45**	**0**	**15**	**100**	**0**	**0**	**89**	**0**	**15**	**0**	**0**	**0**	**0**	**294**	**1,182**
5:30 PM		0	0	37	47	0	16	90	0	0	86	0	12	0	0	0	0	288	1,163
5:45 PM		0	0	35	33	0	22	70	0	0	57	0	5	0	0	0	0	222	1,100
Count Total		0	0	308	317	0	146	757	0	0	643	0	103	0	0	0	0	2,274	0
Peak Hour	**All**	**0**	**0**	**148**	**165**	**0**	**75**	**394**	**0**	**0**	**352**	**0**	**48**	**0**	**0**	**0**	**0**	**1,182**	**0**
	HV	**0**	**0**	**10**	**5**	**0**	**8**	**4**	**0**	**0**	**6**	**0**	**8**	**0**	**0**	**0**	**0**	**41**	**0**
	HV%	**-**	**-**	**7%**	**3%**	**-**	**11%**	**1%**	**-**	**-**	**2%**	**-**	**17%**	**-**	**-**	**-**	**-**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	8	7	11	0	*26*	1	0	0	0	*1*	0	0	0	0	*0*
4:15 PM	3	3	2	0	*8*	0	1	0	0	*1*	0	0	0	0	*0*
4:30 PM	**8**	**3**	**4**	**0**	***15***	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**3**	**4**	**7**	**0**	***14***	**0**	**28**	**0**	**0**	***28***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**2**	**3**	**0**	**0**	***5***	**0**	**4**	**0**	**0**	***4***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**2**	**2**	**3**	**0**	***7***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	4	2	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	2	3	1	0	*6*	1	1	0	0	*2*	0	0	0	0	*0*
Count Total	28	29	30	0	*87*	4	35	0	0	*39*	0	0	0	0	*0*
Peak Hr	**15**	**12**	**14**	**0**	***41***	**2**	**33**	**0**	**0**	***35***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SW Oregon St				SW Oregon St				SW Tonquin Rd				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	5	3	0	4	3	0	0	6	0	5	0	0	0	0	26	0
4:15 PM	0	0	3	0	0	0	3	0	0	0	0	2	0	0	0	0	8	0
4:30 PM	**0**	**0**	**5**	**3**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**15**	0
4:45 PM	**0**	**0**	**1**	**2**	**0**	**3**	**1**	**0**	**0**	**3**	**0**	**4**	**0**	**0**	**0**	**0**	**14**	63
5:00 PM	**0**	**0**	**2**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	42
5:15 PM	**0**	**0**	**2**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**7**	**41**
5:30 PM	0	0	0	0	0	3	1	0	0	1	0	1	0	0	0	0	6	32
5:45 PM	0	0	2	0	0	2	1	0	0	1	0	0	0	0	0	0	6	24
Count Total	0	0	20	8	0	17	12	0	0	14	0	16	0	0	0	0	87	0
Peak Hour	**0**	**0**	**10**	**5**	**0**	**8**	**4**	**0**	**0**	**6**	**0**	**8**	**0**	**0**	**0**	**0**	**41**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	SW Oregon St			SW Oregon St			SW Tonquin Rd			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0
4:30 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	0
4:45 PM	**0**	**0**	**0**	**0**	**28**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	32
5:00 PM	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	35
5:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**35**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	33
5:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	2	7
Count Total	0	4	0	1	34	0	0	0	0	0	0	0	39	0
Peak Hour	**0**	**2**	**0**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**35**	**0**

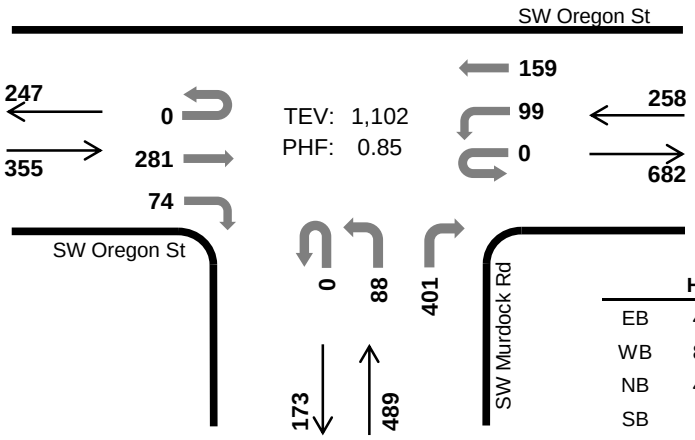
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

SW Murdock Rd
SW Oregon St

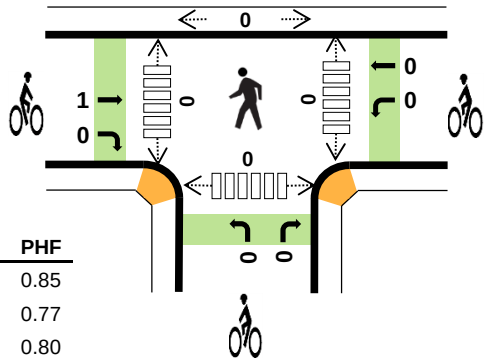
N

Peak Hour

Date: 09/12/2023
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	4.2%	0.85
WB	8.1%	0.77
NB	4.1%	0.80
SB	-	-
TOTAL	5.1%	0.85



Two-Hour Count Summaries

Interval Start	SW Oregon St Eastbound				SW Oregon St Westbound				SW Murdock Rd Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	51	6	0	20	25	0	0	10	0	78	0	0	0	0	190	0
7:15 AM	**0**	**0**	**62**	**20**	**0**	**28**	**29**	**0**	**0**	**20**	**0**	**94**	**0**	**0**	**0**	**0**	**253**	0
7:30 AM	**0**	**0**	**71**	**11**	**0**	**22**	**40**	**0**	**0**	**15**	**0**	**102**	**0**	**0**	**0**	**0**	**261**	0
7:45 AM	**0**	**0**	**67**	**20**	**0**	**27**	**57**	**0**	**0**	**40**	**0**	**113**	**0**	**0**	**0**	**0**	**324**	1,028
8:00 AM	**0**	**0**	**81**	**23**	**0**	**22**	**33**	**0**	**0**	**13**	**0**	**92**	**0**	**0**	**0**	**0**	**264**	**1,102**
8:15 AM	0	0	42	22	0	23	34	0	0	12	0	65	0	0	0	0	198	1,047
8:30 AM	0	0	58	8	0	25	31	0	0	18	0	80	0	0	0	0	220	1,006
8:45 AM	0	0	41	8	0	32	46	0	0	15	0	73	0	0	0	0	215	897
Count Total	0	0	473	118	0	199	295	0	0	143	0	697	0	0	0	0	1,925	0
Peak Hour All	**0**	**0**	**281**	**74**	**0**	**99**	**159**	**0**	**0**	**88**	**0**	**401**	**0**	**0**	**0**	**0**	**1,102**	**0**
Peak Hour HV	**0**	**0**	**11**	**4**	**0**	**10**	**11**	**0**	**0**	**7**	**0**	**13**	**0**	**0**	**0**	**0**	**56**	**0**
Peak Hour HV%	**-**	**-**	**4%**	**5%**	**-**	**10%**	**7%**	**-**	**-**	**8%**	**-**	**3%**	**-**	**-**	**-**	**-**	**5%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	5	0	0	*6*	0	0	2	0	*2*	0	0	0	0	*0*
7:15 AM	**4**	**8**	**4**	**0**	***16***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**6**	**7**	**4**	**0**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**3**	**4**	**9**	**0**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**2**	**2**	**3**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	2	7	2	0	*11*	0	0	0	0	*0*	0	1	0	0	*1*
8:30 AM	1	3	6	0	*10*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	2	2	4	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	21	38	32	0	*91*	1	0	2	0	*3*	0	1	0	0	*1*
Peak Hr	**15**	**21**	**20**	**0**	***56***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SW Oregon St				SW Oregon St				SW Murdock Rd				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	2	3	0	0	0	0	0	0	0	0	0	6	0
7:15 AM	**0**	**0**	**3**	**1**	**0**	**3**	**5**	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**16**	0
7:30 AM	**0**	**0**	**4**	**2**	**0**	**4**	**3**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**17**	0
7:45 AM	**0**	**0**	**3**	**0**	**0**	**1**	**3**	**0**	**0**	**3**	**0**	**6**	**0**	**0**	**0**	**0**	**16**	55
8:00 AM	**0**	**0**	**1**	**1**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**7**	**56**
8:15 AM	0	0	0	2	0	5	2	0	0	1	0	1	0	0	0	0	11	51
8:30 AM	0	0	1	0	0	1	2	0	0	1	0	5	0	0	0	0	10	44
8:45 AM	0	0	2	0	0	2	0	0	0	0	0	4	0	0	0	0	8	36
Count Total	0	0	15	6	0	20	18	0	0	9	0	23	0	0	0	0	91	0
Peak Hour	**0**	**0**	**11**	**4**	**0**	**10**	**11**	**0**	**0**	**7**	**0**	**13**	**0**	**0**	**0**	**0**	**56**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	SW Oregon St			SW Oregon St			SW Murdock Rd			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	2	0	0	0	2	0
7:15 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	3
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	1	0	0	0	0	0	0	2	0	0	0	3	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

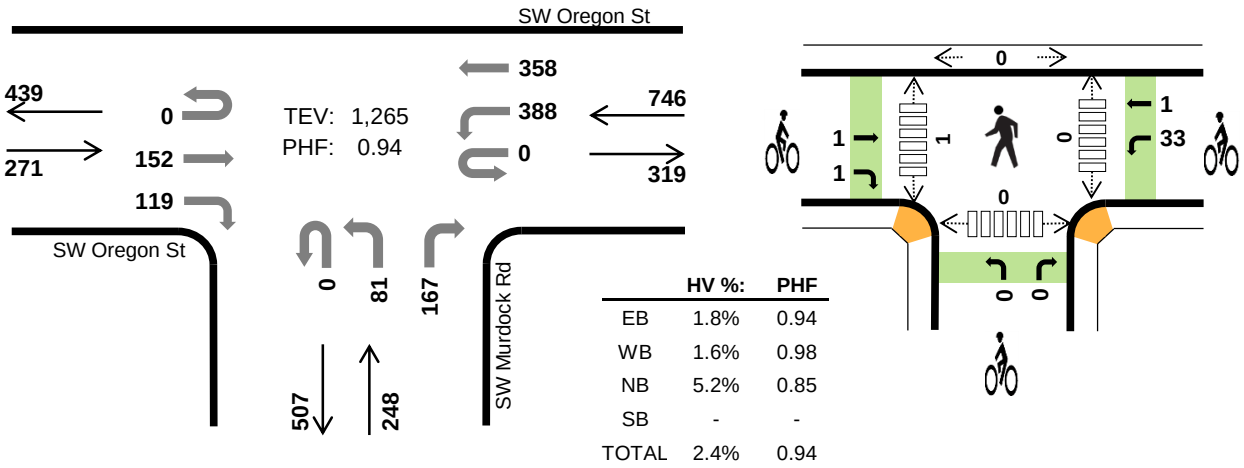
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

SW Murdock Rd
SW Oregon St

N

Peak Hour

Date: 09/12/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	1.8%	0.94
WB	1.6%	0.98
NB	5.2%	0.85
SB	-	-
TOTAL	2.4%	0.94

Two-Hour Count Summaries

Interval Start		SW Oregon St Eastbound				SW Oregon St Westbound				SW Murdock Rd Northbound				0 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	50	37	0	97	72	0	0	15	0	30	0	0	0	0	301	0
4:15 PM		**0**	**0**	**35**	**32**	**0**	**97**	**87**	**0**	**0**	**19**	**0**	**44**	**0**	**0**	**0**	**0**	**314**	0
4:30 PM		**0**	**0**	**37**	**35**	**0**	**93**	**98**	**0**	**0**	**22**	**0**	**51**	**0**	**0**	**0**	**0**	**336**	0
4:45 PM		**0**	**0**	**34**	**29**	**0**	**104**	**77**	**0**	**0**	**19**	**0**	**39**	**0**	**0**	**0**	**0**	**302**	1,253
5:00 PM		**0**	**0**	**46**	**23**	**0**	**94**	**96**	**0**	**0**	**21**	**0**	**33**	**0**	**0**	**0**	**0**	**313**	**1,265**
5:15 PM		0	0	38	28	0	97	88	0	0	17	0	38	0	0	0	0	306	1,257
5:30 PM		0	0	40	41	0	89	87	0	0	32	0	45	0	0	0	0	334	1,255
5:45 PM		0	0	25	22	0	72	53	0	0	19	0	41	0	0	0	0	232	1,185
Count Total		0	0	305	247	0	743	658	0	0	164	0	321	0	0	0	0	2,438	0
Peak Hour	**All**	**0**	**0**	**152**	**119**	**0**	**388**	**358**	**0**	**0**	**81**	**0**	**167**	**0**	**0**	**0**	**0**	**1,265**	**0**
	HV	**0**	**0**	**5**	**0**	**0**	**6**	**6**	**0**	**0**	**1**	**0**	**12**	**0**	**0**	**0**	**0**	**30**	**0**
	HV%	**-**	**-**	**3%**	**0%**	**-**	**2%**	**2%**	**-**	**-**	**1%**	**-**	**7%**	**-**	**-**	**-**	**-**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	6	8	4	0	*18*	0	0	1	0	*1*	0	0	0	0	*0*
4:15 PM	**0**	**3**	**4**	**0**	***7***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**2**	**4**	**6**	**0**	***12***	**1**	**15**	**0**	**0**	***16***	**0**	**1**	**0**	**0**	*1*
4:45 PM	**2**	**4**	**1**	**0**	***7***	**0**	**14**	**0**	**0**	***14***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**1**	**1**	**2**	**0**	***4***	**1**	**4**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***
5:15 PM	1	2	1	0	*4*	1	0	1	0	*2*	0	1	0	0	*1*
5:30 PM	0	2	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	2	1	0	*3*	0	0	1	0	*1*	0	0	0	0	*0*
Count Total	12	26	19	0	*57*	3	34	3	0	*40*	0	2	0	0	*2*
Peak Hr	**5**	**12**	**13**	**0**	***30***	**2**	**34**	**0**	**0**	***36***	**0**	**1**	**0**	**0**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SW Oregon St				SW Oregon St				SW Murdock Rd				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	4	2	0	4	4	0	0	0	0	4	0	0	0	0	18	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**7**	0
4:30 PM	**0**	**0**	**2**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**12**	0
4:45 PM	**0**	**0**	**2**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**7**	44
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**4**	**30**
5:15 PM	0	0	1	0	0	1	1	0	0	0	0	1	0	0	0	0	4	27
5:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	17
5:45 PM	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	3	13
Count Total	0	0	10	2	0	12	14	0	0	1	0	18	0	0	0	0	57	0
Peak Hour	**0**	**0**	**5**	**0**	**0**	**6**	**6**	**0**	**0**	**1**	**0**	**12**	**0**	**0**	**0**	**0**	**30**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	SW Oregon St			SW Oregon St			SW Murdock Rd			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	0
4:15 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:30 PM	**0**	**1**	**0**	**14**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	0
4:45 PM	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	32
5:00 PM	**0**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**36**
5:15 PM	0	0	1	0	0	0	0	0	1	0	0	0	2	37
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	21
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	8
Count Total	0	1	2	33	1	0	0	0	3	0	0	0	40	0
Peak Hour	**0**	**1**	**1**	**33**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**36**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Appendix C

Level of Service (LOS) Methodology and Calculations

Level of Service Methodology

Level of Service (LOS) generally refers to the degree of congestion at an intersection. It is a measure of vehicle operating speed, travel time, travel delays, and driving comfort. A letter scale from A to F generally describes intersection LOS.

Signalized Intersection LOS represents the average control delay (sec/veh) and can be reported for the overall intersection, for each approach, and for each lane group (additional v/c ratio criteria apply to lane group LOS only). The table below outlines the HCM (7th Edition) LOS criteria for signalized intersections.

LOS Criteria for Signalized Intersections [1]

Control Delay (sec/veh)	Level of Service [2]	General Description [3]
≤ 10	A	Exceptionally Favorable Progression (or very short cycle lengths) – Most vehicles arrive during the green indication and travel through the intersection without stopping.
> 10 to ≤ 20	B	Highly Favorable Progression (or short cycle lengths) – While more vehicles than LOS A stop, most vehicles still pass through the intersection without stopping.
> 20 to ≤ 35	C	Favorable Progression (or moderate cycle lengths) – Individual cycle failures begin to appear, but many vehicles still pass through the intersection without stopping.
> 35 to ≤ 55	D	Ineffective Progression (or long cycle lengths) – Many vehicles stop and individual cycle failures are noticeable.
> 55 to ≤ 80	E	Unfavorable Progression (and long cycle lengths) – Individual cycle failures are frequent.
> 80	F	Very Poor Progression (and long cycle lengths) – Most cycles fail to clear the queue at this level.

1 Source: Highway Capacity Manual 7th Edition, Transportation Research Board, 2021.
2 If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0, LOS F is assigned to the individual lane group. For approach-based and intersection-wide assessments at signals, LOS is defined solely by control delay.
3 Individual cycle failures: one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle.

Synchro 12 and/or HCM 2000 LOS methodology may be used when HCM 7th Edition methodology is not supported at an intersection (i.e., intersection geometry and/or custom phasing) or jurisdictional standards require use of an alternative methodology.

Unsignalized Intersection LOS (two-way stop control, all-way stop control, and roundabouts) is based on the average control delay. For two-way stop-controlled intersections, the LOS criteria apply to each controlled minor-street approach, controlled minor-street lane group, and controlled major-street movement (additional v/c ratio criteria apply to lane group LOS only). LOS is not calculated for major-street approaches or for the intersection as a whole at two-way stop-controlled intersections. For all-way stop-controlled intersections and roundabouts, LOS can be reported for the overall intersection, for each approach, and for each lane group (additional v/c ratio criteria apply to lane group LOS only). The table below outlines the HCM (7th Edition) LOS criteria for unsignalized intersections based on these methodologies.

LOS Criteria for Unsignalized Intersections[1]

Control Delay (sec/veh)	Level of Service [2]
≤ 10	A
> 10 to ≤ 15	B
> 15 to ≤ 25	C
> 25 to ≤ 35	D
> 35 to ≤ 50	E
> 50	F

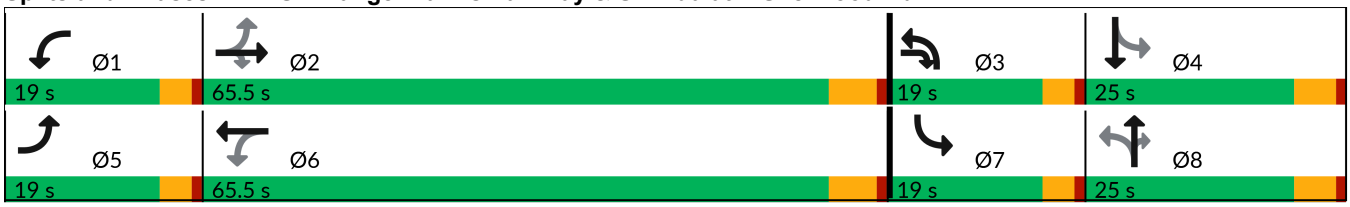
1 Source: Highway Capacity Manual 7th Edition, Transportation Research Board, 2021.
2 If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0, LOS F is assigned to the individual lane group. For approach-based and intersection-wide assessments at unsignalized intersections, LOS is defined solely by control delay.

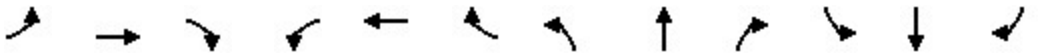
2023 Existing

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	789	171	72	488	37	99	110	118	16	41	7
Future Volume (vph)	12	789	171	72	488	37	99	110	118	16	41	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			3%			0%	
Storage Length (ft)	250		0	150		0	0		300	125		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			30			30	
Link Distance (ft)		520			439			482			463	
Travel Time (s)		14.2			8.6			11.0			10.5	
Confl. Peds. (#/hr)	2					2			1	1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	19%	19%	19%	4%	4%	4%	10%	10%	10%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	5	2	3	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	6.0	6.0	5.0	6.0	
Minimum Split (s)	9.0	33.5	22.0	9.0	35.5		22.0	32.0	32.0	9.0	32.0	
Total Split (s)	19.0	65.5	19.0	19.0	65.5		19.0	25.0	25.0	19.0	25.0	
Total Split (%)	14.8%	51.0%	14.8%	14.8%	51.0%		14.8%	19.5%	19.5%	14.8%	19.5%	
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.5	4.0	4.0	5.5		4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 128.5	
Actuated Cycle Length: 101	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 1: SW Langer Farms Parkway & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	789	171	72	488	37	99	110	118	16	41	7
Future Volume (veh/h)	12	789	171	72	488	37	99	110	118	16	41	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1618	1618	1618	1788	1788	1788	1752	1752	1752
Adj Flow Rate, veh/h	14	897	194	82	555	42	112	125	134	18	47	8
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	5	5	5	19	19	19	4	4	4	10	10	10
Cap, veh/h	424	1065	1019	243	917	69	269	232	196	185	108	18
Arrive On Green	0.02	0.58	0.58	0.05	0.62	0.62	0.08	0.13	0.13	0.02	0.07	0.07
Sat Flow, veh/h	1739	1826	1545	1541	1486	112	1703	1788	1509	1668	1457	248
Grp Volume(v), veh/h	14	897	194	82	0	597	112	125	134	18	0	55
Grp Sat Flow(s),veh/h/ln	1739	1826	1545	1541	0	1598	1703	1788	1509	1668	0	1705
Q Serve(g_s), s	0.3	34.4	4.2	1.7	0.0	19.5	5.0	5.6	7.3	0.8	0.0	2.6
Cycle Q Clear(g_c), s	0.3	34.4	4.2	1.7	0.0	19.5	5.0	5.6	7.3	0.8	0.0	2.6
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	424	1065	1019	243	0	986	269	232	196	185	0	126
V/C Ratio(X)	0.03	0.84	0.19	0.34	0.00	0.61	0.42	0.54	0.68	0.10	0.00	0.44
Avail Cap(c_a), veh/h	701	1281	1201	436	0	1121	438	418	353	444	0	399
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.5	14.6	5.7	14.6	0.0	10.0	31.4	34.8	35.5	35.5	0.0	37.9
Incr Delay (d2), s/veh	0.0	5.2	0.2	0.3	0.0	1.1	0.4	0.7	1.6	0.1	0.0	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	14.3	1.2	0.7	0.0	6.0	2.0	2.4	2.7	0.3	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.6	19.8	5.8	14.9	0.0	11.2	31.8	35.6	37.1	35.5	0.0	38.8
LnGrp LOS	A	B	A	B		B	C	D	D	D		D
Approach Vol, veh/h		1105			679			371			73	
Approach Delay, s/veh		17.2			11.6			35.0			38.0	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	55.4	10.5	11.3	5.4	58.3	5.7	16.1
Change Period (Y+Rc), s	4.0	5.5	4.0	5.0	4.0	5.5	4.0	5.0
Max Green Setting (Gmax), s	15.0	60.0	15.0	20.0	15.0	60.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	3.7	36.4	7.0	4.6	2.3	21.5	2.8	9.3
Green Ext Time (p_c), s	0.0	13.5	0.0	0.1	0.0	8.0	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	19.1
HCM 7th LOS	B

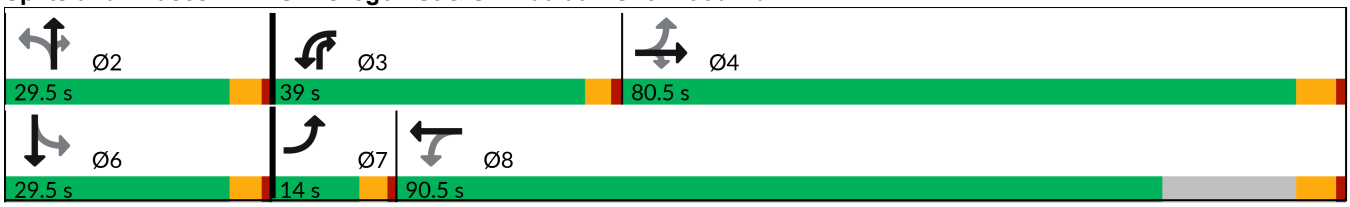
Notes

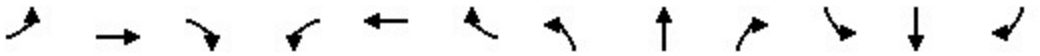
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	717	124	116	557	6	89	3	359	4	0	0
Future Volume (vph)	8	717	124	116	557	6	89	3	359	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-3%			-3%			3%	
Storage Length (ft)	225		125	320		0	150		0	0		0
Storage Lanes	1		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		893			745			229			243	
Travel Time (s)		17.4			14.5			4.5			6.6	
Confl. Peds. (#/hr)	1					1	1					1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	9%	9%	9%	15%	15%	15%	8%	8%	8%	25%	25%	25%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	7	4		3	8			2	3		6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	7	4	4	3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		6.0	6.0	5.0	6.0	6.0	
Minimum Split (s)	10.5	26.5	26.5	9.5	26.5		28.5	28.5	9.5	29.5	29.5	
Total Split (s)	14.0	80.5	80.5	39.0	90.5		29.5	29.5	39.0	29.5	29.5	
Total Split (%)	9.4%	54.0%	54.0%	26.2%	60.7%		19.8%	19.8%	26.2%	19.8%	19.8%	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.5	3.5	3.0	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.5	5.5	4.0	5.5			4.5	4.0		4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes			
Recall Mode	None	Min	Min	None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 149	
Actuated Cycle Length: 79	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: SW Oregon St & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	717	124	116	557	6	89	3	359	4	0	0
Future Volume (veh/h)	8	717	124	116	557	6	89	3	359	4	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1714	1714	1714	1793	1793	1793	1898	1898	1898	1476	1476	1476
Adj Flow Rate, veh/h	8	755	131	122	586	6	94	3	378	4	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	15	15	15	8	8	8	25	25	25
Cap, veh/h	373	885	749	274	1002	10	450	13	491	252	0	0
Arrive On Green	0.01	0.52	0.52	0.06	0.57	0.57	0.25	0.25	0.25	0.25	0.00	0.00
Sat Flow, veh/h	1632	1714	1451	1707	1771	18	1462	53	1605	653	0	0
Grp Volume(v), veh/h	8	755	131	122	0	592	97	0	378	4	0	0
Grp Sat Flow(s),veh/h/ln	1632	1714	1451	1707	0	1790	1515	0	1605	653	0	0
Q Serve(g_s), s	0.2	30.0	3.8	2.4	0.0	16.9	0.0	0.0	16.8	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.2	30.0	3.8	2.4	0.0	16.9	3.4	0.0	16.8	3.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.97		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	373	885	749	274	0	1012	463	0	491	252	0	0
V/C Ratio(X)	0.02	0.85	0.17	0.45	0.00	0.59	0.21	0.00	0.77	0.02	0.00	0.00
Avail Cap(c_a), veh/h	564	1634	1383	933	0	1934	567	0	605	309	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.9	16.4	10.1	14.9	0.0	11.1	23.6	0.0	24.8	25.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.9	0.1	0.4	0.0	0.7	0.1	0.0	3.7	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	10.8	1.1	0.9	0.0	5.8	1.4	0.0	6.5	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.0	19.4	10.2	15.3	0.0	11.7	23.7	0.0	28.5	25.1	0.0	0.0
LnGrp LOS	A	B	B	B		B	C		C	C		

Approach Vol, veh/h	894			714		475				4	
Approach Delay, s/veh	18.0			12.4		27.5				25.1	
Approach LOS	B			B		C				C	

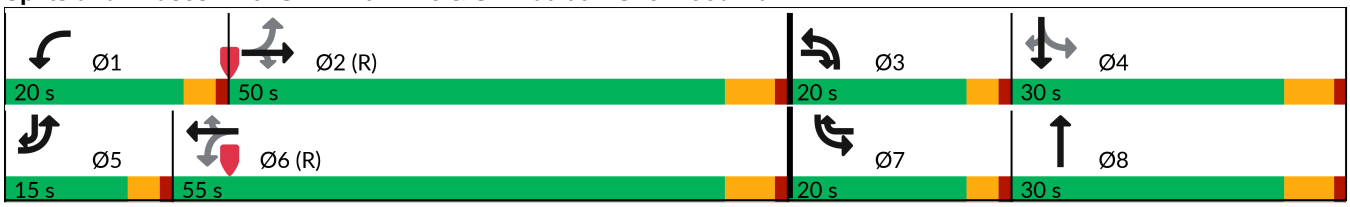
Timer - Assigned Phs	2	3	4		6	7	8					
Phs Duration (G+Y+Rc), s	23.9	8.7	46.1		23.9	4.8	50.0					
Change Period (Y+Rc), s	4.5	4.0	5.5		4.5	4.0	5.5					
Max Green Setting (Gmax), s	25.0	35.0	75.0		25.0	10.0	85.0					
Max Q Clear Time (g_c+I1), s	18.8	4.4	32.0		5.7	2.2	18.9					
Green Ext Time (p_c), s	0.4	0.1	8.7		0.0	0.0	5.7					

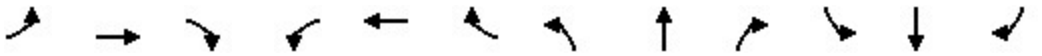
Intersection Summary												
HCM 7th Control Delay, s/veh		18.2										
HCM 7th LOS		B										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	906	53	17	548	101	116	191	62	139	146	50
Future Volume (vph)	64	906	53	17	548	101	116	191	62	139	146	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-3%			0%	
Storage Length (ft)	350		350	400		400	375		0	250		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		613			715			748			458	
Travel Time (s)		13.9			16.3			17.0			10.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	10%	10%	16%	16%	16%	14%	14%	14%	14%	14%	14%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA		pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases	2		2	6		6				4		4
Detector Phase	5	2	3	1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	5.0	10.0	5.0	5.0	8.0		5.0	8.0	10.0
Minimum Split (s)	14.5	36.5	9.5	9.5	39.5	9.5	9.5	32.5		9.5	32.5	14.5
Total Split (s)	15.0	50.0	20.0	20.0	55.0	20.0	20.0	30.0		20.0	30.0	15.0
Total Split (%)	12.5%	41.7%	16.7%	16.7%	45.8%	16.7%	16.7%	25.0%		16.7%	25.0%	12.5%
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 105 (88%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: SW 124th Ave & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	906	53	17	548	101	116	191	62	139	146	50
Future Volume (veh/h)	64	906	53	17	548	101	116	191	62	139	146	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1663	1663	1663	1808	1808	1808	1693	1693	1693
Adj Flow Rate, veh/h	69	974	57	18	589	109	125	205	67	149	157	54
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	16	16	16	14	14	14	14	14	14
Cap, veh/h	413	1087	1051	161	939	934	150	266	85	242	195	273
Arrive On Green	0.07	0.62	0.62	0.02	0.56	0.56	0.09	0.10	0.10	0.10	0.12	0.12
Sat Flow, veh/h	1668	1752	1485	1584	1663	1409	1722	2564	814	1612	1693	1434
Grp Volume(v), veh/h	69	974	57	18	589	109	125	135	137	149	157	54
Grp Sat Flow(s),veh/h/ln	1668	1752	1485	1584	1663	1409	1722	1717	1661	1612	1693	1434
Q Serve(g_s), s	1.8	57.0	1.4	0.6	28.7	3.4	8.6	9.2	9.6	9.7	10.9	3.8
Cycle Q Clear(g_c), s	1.8	57.0	1.4	0.6	28.7	3.4	8.6	9.2	9.6	9.7	10.9	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	413	1087	1051	161	939	934	150	178	173	242	195	273
V/C Ratio(X)	0.17	0.90	0.05	0.11	0.63	0.12	0.83	0.76	0.79	0.62	0.81	0.20
Avail Cap(c_a), veh/h	441	1087	1051	342	939	934	230	351	339	299	346	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.8	19.5	5.3	21.5	17.6	7.4	53.9	52.3	52.5	42.5	51.8	40.9
Incr Delay (d2), s/veh	0.1	11.5	0.1	0.1	3.2	0.3	8.7	2.5	3.1	2.5	3.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	24.9	0.4	0.2	11.4	1.1	4.1	4.1	4.2	4.1	4.8	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.8	30.9	5.4	21.6	20.8	7.6	62.6	54.8	55.6	45.1	54.8	41.0
LnGrp LOS	B	C	A	C	C	A	E	D	E	D	D	D
Approach Vol, veh/h		1100			716			397			360	
Approach Delay, s/veh		28.4			18.8			57.5			48.7	
Approach LOS		C			B			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	80.0	14.5	19.3	13.0	73.2	15.8	18.0
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	44.5	16.0	24.5	11.0	49.5	16.0	24.5
Max Q Clear Time (g_c+I1), s	2.6	59.0	10.6	12.9	3.8	30.7	11.7	11.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	6.8	0.1	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	33.1
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	358	323	69	78	178	50
Future Volume (vph)	358	323	69	78	178	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			-3%	0%	
Storage Length (ft)		150	200		0	285
Storage Lanes		1	1		0	1
Taper Length (ft)			25		25	
Link Speed (mph)	35			35	25	
Link Distance (ft)	290			356	652	
Travel Time (s)	3.8			4.2	7.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	18%	18%	11%	11%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	5.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	358	323	69	78	178	50
Future Vol, veh/h	358	323	69	78	178	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	150	200	-	-	285
Veh in Median Storage, #0	-	-	0	0	-	
Grade, %	0	-	-	-3	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	18	18	11	11
Mvmt Flow	407	367	78	89	202	57

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	407	0	652	407
Stage 1	-	-	-	-	407	-
Stage 2	-	-	-	-	245	-
Critical Hdwy	-	-	4.28	-	6.51	6.31
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.362	-	3.599	3.399
Pot Cap-1 Maneuver	-	-	1071	-	419	625
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	775	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1071	-	388	625
Mov Cap-2 Maneuver	-	-	-	-	388	-
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	718	-

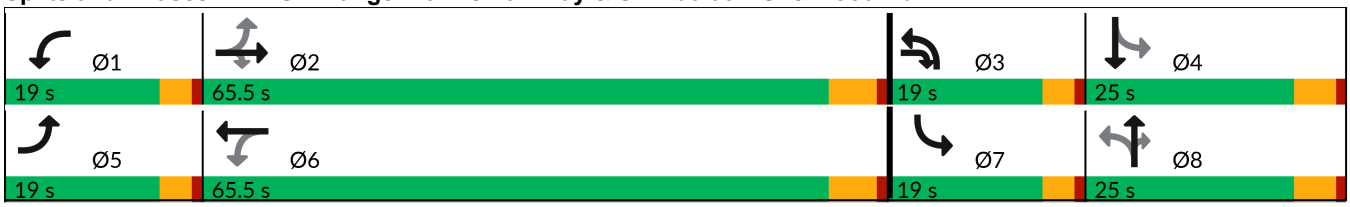
Approach	EB	WB	NB
HCM Control Delay, s/v	0	4.05	21.19
HCM LOS			C

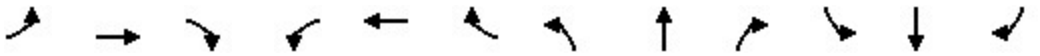
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	388	625	-	-	1071	-
HCM Lane V/C Ratio	0.521	0.091	-	-	0.073	-
HCM Control Delay (s/veh)	24	11.3	-	-	8.6	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	2.9	0.3	-	-	0.2	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	648	237	196	834	14	187	98	108	31	179	14
Future Volume (vph)	14	648	237	196	834	14	187	98	108	31	179	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			3%			0%	
Storage Length (ft)	250		0	150		0	0		300	125		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			30			30	
Link Distance (ft)		520			439			482			463	
Travel Time (s)		14.2			8.6			11.0			10.5	
Confl. Peds. (#/hr)			1	1					2	2		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	5	2	3	1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	6.0	6.0	5.0	6.0	
Minimum Split (s)	9.0	33.5	9.0	9.0	35.5		9.0	32.0	32.0	9.0	32.0	
Total Split (s)	19.0	65.5	19.0	19.0	65.5		19.0	25.0	25.0	19.0	25.0	
Total Split (%)	14.8%	51.0%	14.8%	14.8%	51.0%		14.8%	19.5%	19.5%	14.8%	19.5%	
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.5	4.0	4.0	5.5		4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 128.5	
Actuated Cycle Length: 110.8	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 1: SW Langer Farms Parkway & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	648	237	196	834	14	187	98	108	31	179	14
Future Volume (veh/h)	14	648	237	196	834	14	187	98	108	31	179	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1856	1856	1856	1832	1832	1832	1885	1885	1885
Adj Flow Rate, veh/h	15	689	252	209	887	15	199	104	115	33	190	15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	5	5	3	3	3	1	1	1	1	1	1
Cap, veh/h	171	885	926	312	991	17	305	401	338	285	232	18
Arrive On Green	0.02	0.48	0.48	0.08	0.54	0.54	0.11	0.22	0.22	0.03	0.13	0.13
Sat Flow, veh/h	1739	1826	1546	1767	1819	31	1745	1832	1546	1795	1723	136
Grp Volume(v), veh/h	15	689	252	209	0	902	199	104	115	33	0	205
Grp Sat Flow(s),veh/h/ln	1739	1826	1546	1767	0	1850	1745	1832	1546	1795	0	1859
Q Serve(g_s), s	0.4	30.6	7.6	5.5	0.0	42.4	9.2	4.6	6.1	1.5	0.0	10.5
Cycle Q Clear(g_c), s	0.4	30.6	7.6	5.5	0.0	42.4	9.2	4.6	6.1	1.5	0.0	10.5
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	171	885	926	312	0	1008	305	401	338	285	0	251
V/C Ratio(X)	0.09	0.78	0.27	0.67	0.00	0.90	0.65	0.26	0.34	0.12	0.00	0.82
Avail Cap(c_a), veh/h	408	1120	1125	446	0	1135	373	401	338	506	0	380
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.2	20.9	9.4	18.1	0.0	19.8	30.4	31.6	32.2	34.7	0.0	41.1
Incr Delay (d2), s/veh	0.1	3.6	0.3	0.9	0.0	9.4	1.6	0.1	0.2	0.1	0.0	4.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	13.4	2.5	2.0	0.0	19.0	3.9	2.0	2.3	0.7	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.3	24.4	9.7	19.0	0.0	29.2	32.0	31.8	32.5	34.8	0.0	45.7
LnGrp LOS	B	C	A	B		C	C	C	C	C		D
Approach Vol, veh/h		956			1111			418			238	
Approach Delay, s/veh		20.5			27.3			32.1			44.2	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	52.9	15.2	18.2	5.7	58.8	7.0	26.4
Change Period (Y+Rc), s	4.0	5.5	4.0	5.0	4.0	5.5	4.0	5.0
Max Green Setting (Gmax), s	15.0	60.0	15.0	20.0	15.0	60.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	7.5	32.6	11.2	12.5	2.4	44.4	3.5	8.1
Green Ext Time (p_c), s	0.1	11.3	0.0	0.3	0.0	8.9	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	27.1
HCM 7th LOS	C

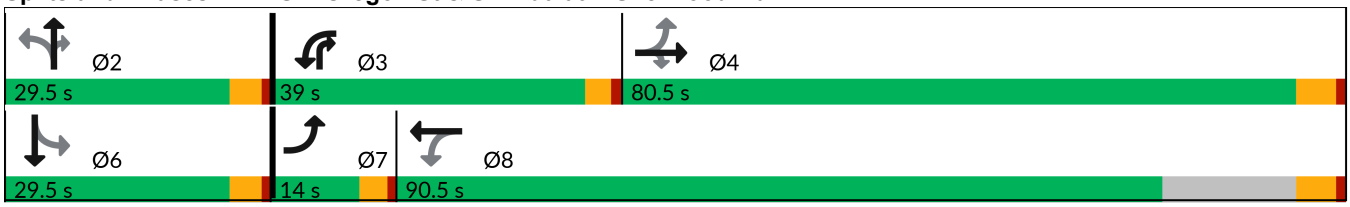
Notes

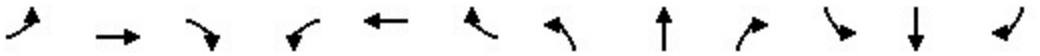
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	727	122	400	880	8	129	1	186	12	11	8
Future Volume (vph)	7	727	122	400	880	8	129	1	186	12	11	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			-3%			3%	
Storage Length (ft)	225		125	320		0	150		0	0		0
Storage Lanes	1		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		893			745			415			243	
Travel Time (s)		17.4			14.5			8.1			6.6	
Confl. Peds. (#/hr)			2	2					1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	7	4		3	8			2	3		6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	7	4	4	3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		6.0	6.0	5.0	6.0	6.0	
Minimum Split (s)	10.5	26.5	26.5	9.5	26.5		28.5	28.5	9.5	29.5	29.5	
Total Split (s)	14.0	80.5	80.5	39.0	90.5		29.5	29.5	39.0	29.5	29.5	
Total Split (%)	9.4%	54.0%	54.0%	26.2%	60.7%		19.8%	19.8%	26.2%	19.8%	19.8%	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.5	3.5	3.0	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.5	5.5	4.0	5.5			4.5	4.0		4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes			
Recall Mode	None	Min	Min	None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 149	
Actuated Cycle Length: 112	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: SW Oregon St & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	727	122	400	880	8	129	1	186	12	11	8
Future Volume (veh/h)	7	727	122	400	880	8	129	1	186	12	11	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1973	1973	1973	1958	1958	1958	1847	1847	1847
Adj Flow Rate, veh/h	8	782	131	430	946	9	139	1	200	13	12	9
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	4	0	0	0
Cap, veh/h	285	915	774	468	1266	12	259	1	566	74	62	28
Arrive On Green	0.01	0.50	0.50	0.16	0.65	0.65	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1753	1841	1557	1879	1951	19	983	7	1655	93	348	159
Grp Volume(v), veh/h	8	782	131	430	0	955	140	0	200	34	0	0
Grp Sat Flow(s),veh/h/ln	1753	1841	1557	1879	0	1970	990	0	1655	599	0	0
Q Serve(g_s), s	0.2	32.2	4.0	11.7	0.0	28.7	0.0	0.0	7.9	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.2	32.2	4.0	11.7	0.0	28.7	13.0	0.0	7.9	13.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.99		1.00	0.38		0.26
Lane Grp Cap(c), veh/h	285	915	774	468	0	1278	261	0	566	165	0	0
V/C Ratio(X)	0.03	0.85	0.17	0.92	0.00	0.75	0.54	0.00	0.35	0.21	0.00	0.00
Avail Cap(c_a), veh/h	469	1591	1346	922	0	1929	419	0	745	322	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.0	19.1	12.0	21.6	0.0	10.4	34.5	0.0	21.4	30.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.9	0.1	3.2	0.0	1.1	0.6	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	13.0	1.3	8.8	0.0	10.3	2.8	0.0	2.9	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.0	22.0	12.1	24.7	0.0	11.5	35.2	0.0	21.5	30.6	0.0	0.0
LnGrp LOS	B	C	B	C		B	D		C	C		
Approach Vol, veh/h		921			1385			340			34	
Approach Delay, s/veh		20.5			15.6			27.2			30.6	
Approach LOS		C			B			C			C	

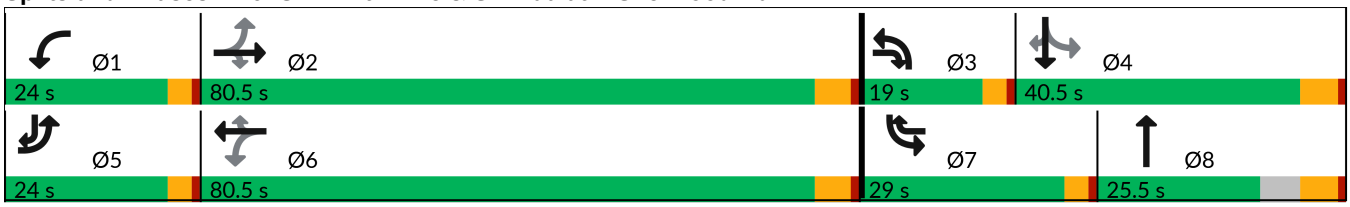
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	20.1	18.1	48.7	20.1	4.9	61.9
Change Period (Y+Rc), s	4.5	4.0	5.5	4.5	4.0	5.5
Max Green Setting (Gmax), s	25.0	35.0	75.0	25.0	10.0	85.0
Max Q Clear Time (g_c+I1), s	15.0	13.7	34.2	15.2	2.2	30.7
Green Ext Time (p_c), s	0.4	0.4	9.0	0.0	0.0	12.5

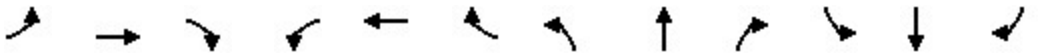
Intersection Summary	
HCM 7th Control Delay, s/veh	18.9
HCM 7th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	819	109	25	874	88	104	111	8	104	184	194
Future Volume (vph)	51	819	109	25	874	88	104	111	8	104	184	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-3%			0%	
Storage Length (ft)	350		350	400		400	375		0	250		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		613			741			748			458	
Travel Time (s)		13.9			16.8			17.0			10.4	
Confl. Peds. (#/hr)	1		2	2		1	1					1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA		pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases	2		2	6		6				4		4
Detector Phase	5	2	3	1	6	7	3	8		7	4	5
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	5.0	10.0	5.0	5.0	8.0		5.0	8.0	10.0
Minimum Split (s)	14.5	36.5	9.5	9.5	39.5	9.5	9.5	32.5		9.5	32.5	14.5
Total Split (s)	24.0	80.5	19.0	24.0	80.5	29.0	19.0	25.5		29.0	40.5	24.0
Total Split (%)	14.6%	49.1%	11.6%	14.6%	49.1%	17.7%	11.6%	15.5%		17.7%	24.7%	14.6%
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	None		None	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 164	
Actuated Cycle Length: 134.3	
Natural Cycle: 130	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: SW 124th Ave & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	819	109	25	874	88	104	111	8	104	184	194
Future Volume (veh/h)	51	819	109	25	874	88	104	111	8	104	184	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1988	1988	1988	1856	1856	1856
Adj Flow Rate, veh/h	53	853	114	26	910	92	108	116	8	108	192	202
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	3	3	3	2	2	2	3	3	3
Cap, veh/h	251	1101	1043	249	1025	975	135	530	36	331	268	337
Arrive On Green	0.07	0.60	0.60	0.02	0.55	0.55	0.07	0.15	0.15	0.07	0.14	0.14
Sat Flow, veh/h	1753	1841	1558	1767	1856	1571	1893	3586	245	1767	1856	1567
Grp Volume(v), veh/h	53	853	114	26	910	92	108	61	63	108	192	202
Grp Sat Flow(s),veh/h/ln	1753	1841	1558	1767	1856	1571	1893	1889	1943	1767	1856	1567
Q Serve(g_s), s	1.3	40.8	3.1	0.7	50.6	2.8	6.6	3.3	3.4	6.0	11.6	13.7
Cycle Q Clear(g_c), s	1.3	40.8	3.1	0.7	50.6	2.8	6.6	3.3	3.4	6.0	11.6	13.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	251	1101	1043	249	1025	975	135	279	287	331	268	337
V/C Ratio(X)	0.21	0.77	0.11	0.10	0.89	0.09	0.80	0.22	0.22	0.33	0.72	0.60
Avail Cap(c_a), veh/h	427	1175	1106	507	1185	1110	242	322	331	587	553	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	17.7	6.9	16.3	23.1	9.0	53.7	44.1	44.1	38.8	47.9	41.6
Incr Delay (d2), s/veh	0.2	3.6	0.1	0.1	8.4	0.1	4.1	0.1	0.1	0.6	1.3	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	17.4	1.0	0.3	23.3	0.9	3.3	1.6	1.6	2.7	5.5	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.1	21.3	7.0	16.3	31.6	9.1	57.8	44.2	44.2	39.4	49.3	42.2
LnGrp LOS	C	C	A	B	C	A	E	D	D	D	D	D
Approach Vol, veh/h		1020			1028			232			502	
Approach Delay, s/veh		19.7			29.2			50.5			44.3	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	75.7	12.4	22.5	12.2	70.4	12.0	22.9
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	20.0	75.0	15.0	35.0	20.0	75.0	25.0	20.0
Max Q Clear Time (g_c+I1), s	2.7	42.8	8.6	15.7	3.3	52.6	8.0	5.4
Green Ext Time (p_c), s	0.0	13.9	0.0	1.0	0.0	12.3	0.2	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	30.2
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	148	165	75	394	352	48
Future Volume (vph)	148	165	75	394	352	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			-3%	0%	
Storage Length (ft)		150	200		0	285
Storage Lanes		1	1		0	1
Taper Length (ft)			25		25	
Link Speed (mph)	35			35	25	
Link Distance (ft)	290			356	652	
Travel Time (s)	3.8			4.2	7.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	3%	3%	4%	4%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	24.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	148	165	75	394	352	48
Future Vol, veh/h	148	165	75	394	352	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	150	200	-	-	285
Veh in Median Storage, #0	-	-	0	0	-	
Grade, %	0	-	-	-3	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	5	5	3	3	4	4
Mvmt Flow	154	172	78	410	367	50

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	154	0	721	154
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	567	-
Critical Hdwy	-	-	4.13	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.227	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1420	-	391	886
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	564	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1420	-	370	886
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	533	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	1.23	70.46
HCM LOS			F

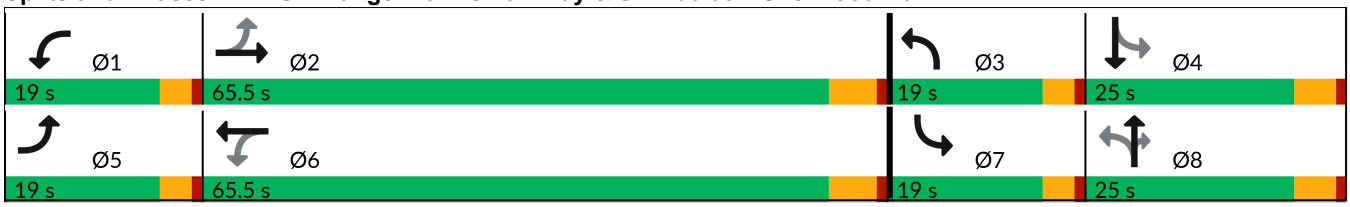
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	370	886	-	-	1420	-
HCM Lane V/C Ratio	0.992	0.056	-	-	0.055	-
HCM Control Delay (s/veh)	78.8	9.3	-	-	7.7	-
HCM Lane LOS	F	A	-	-	A	-
HCM 95th %tile Q(veh)	11.5	0.2	-	-	0.2	-

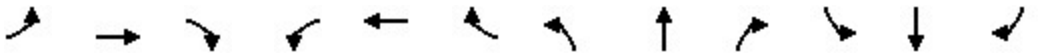
2025 No Action

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	842	176	74	510	40	102	114	121	24	43	8
Future Volume (vph)	12	842	176	74	510	40	102	114	121	24	43	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			3%			0%	
Storage Length (ft)	125		0	400		0	0		300	125		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			30			30	
Link Distance (ft)		520			439			482			463	
Travel Time (s)		14.2			8.6			11.0			10.5	
Confl. Peds. (#/hr)	2					2			1	1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	19%	19%	19%	4%	4%	4%	10%	10%	10%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0	6.0	5.0	6.0	
Minimum Split (s)	9.0	33.5		9.0	35.5		22.0	32.0	32.0	9.0	32.0	
Total Split (s)	19.0	65.5		19.0	65.5		19.0	25.0	25.0	19.0	25.0	
Total Split (%)	14.8%	51.0%		14.8%	51.0%		14.8%	19.5%	19.5%	14.8%	19.5%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.5		4.0	5.5		4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 128.5	
Actuated Cycle Length: 84.5	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 1: SW Langer Farms Parkway & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	842	176	74	510	40	102	114	121	24	43	8
Future Volume (veh/h)	12	842	176	74	510	40	102	114	121	24	43	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1618	1618	1618	1788	1788	1788	1752	1752	1752
Adj Flow Rate, veh/h	14	957	200	84	580	45	116	130	138	27	49	9
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	5	5	5	19	19	19	4	4	4	10	10	10
Cap, veh/h	482	1496	312	305	1628	126	303	244	206	219	124	23
Arrive On Green	0.02	0.52	0.52	0.06	0.56	0.56	0.08	0.14	0.14	0.03	0.09	0.09
Sat Flow, veh/h	1739	2856	596	1541	2891	224	1703	1788	1512	1668	1439	264
Grp Volume(v), veh/h	14	581	576	84	308	317	116	130	138	27	0	58
Grp Sat Flow(s),veh/h/ln	1739	1735	1717	1541	1537	1578	1703	1788	1512	1668	0	1703
Q Serve(g_s), s	0.3	17.4	17.5	1.7	7.9	8.0	4.3	4.9	6.3	1.1	0.0	2.3
Cycle Q Clear(g_c), s	0.3	17.4	17.5	1.7	7.9	8.0	4.3	4.9	6.3	1.1	0.0	2.3
Prop In Lane	1.00		0.35	1.00		0.14	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	482	909	900	305	866	889	303	244	206	219	0	147
V/C Ratio(X)	0.03	0.64	0.64	0.28	0.36	0.36	0.38	0.53	0.67	0.12	0.00	0.39
Avail Cap(c_a), veh/h	812	1432	1418	536	1270	1303	520	492	416	515	0	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.9	12.4	12.4	9.3	8.7	8.7	25.9	29.2	29.8	28.9	0.0	31.4
Incr Delay (d2), s/veh	0.0	1.3	1.3	0.2	0.4	0.4	0.3	0.7	1.4	0.1	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.4	6.3	0.5	2.3	2.4	1.7	2.1	0.1	0.4	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.9	13.7	13.7	9.5	9.1	9.1	26.1	29.9	31.2	29.0	0.0	32.0
LnGrp LOS	A	B	B	A	A	A	C	C	C	C		C
Approach Vol, veh/h		1171			709			384			85	
Approach Delay, s/veh		13.6			9.1			29.2			31.1	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	43.6	9.7	11.3	5.2	46.4	6.1	14.9
Change Period (Y+Rc), s	4.0	5.5	4.0	5.0	4.0	5.5	4.0	5.0
Max Green Setting (Gmax), s	15.0	60.0	15.0	20.0	15.0	60.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	3.7	19.5	6.3	4.3	2.3	10.0	3.1	8.3
Green Ext Time (p_c), s	0.0	18.6	0.0	0.1	0.0	7.7	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	15.4
HCM 7th LOS	B

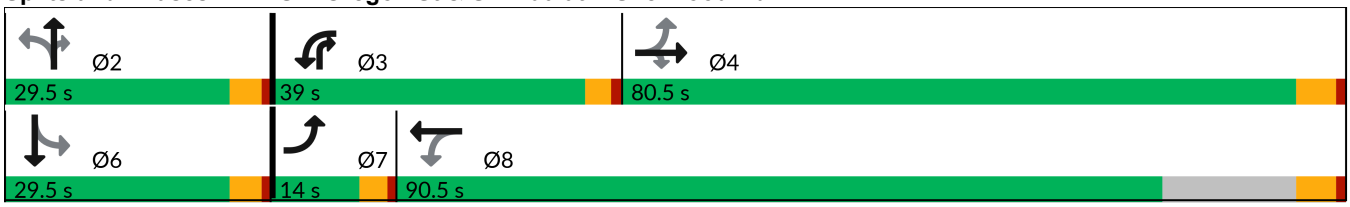
Notes

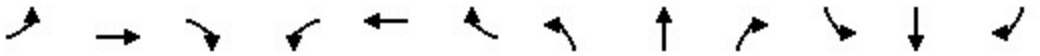
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	739	166	179	574	7	101	3	385	4	0	0
Future Volume (vph)	9	739	166	179	574	7	101	3	385	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-3%			-3%			3%	
Storage Length (ft)	250		225	300		0	150		0	0		0
Storage Lanes	1		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		893			745			229			243	
Travel Time (s)		17.4			14.5			4.5			6.6	
Confl. Peds. (#/hr)	1					1	1					1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	9%	9%	9%	15%	15%	15%	8%	8%	8%	25%	25%	25%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	7	4		3	8			2	3		6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	7	4	4	3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		6.0	6.0	5.0	6.0	6.0	
Minimum Split (s)	10.5	26.5	26.5	9.5	26.5		28.5	28.5	9.5	29.5	29.5	
Total Split (s)	14.0	80.5	80.5	39.0	90.5		29.5	29.5	39.0	29.5	29.5	
Total Split (%)	9.4%	54.0%	54.0%	26.2%	60.7%		19.8%	19.8%	26.2%	19.8%	19.8%	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.5	3.5	3.0	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.5	5.5	4.0	5.5			4.5	4.0		4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes			
Recall Mode	None	Min	Min	None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 149	
Actuated Cycle Length: 55.7	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: SW Oregon St & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	739	166	179	574	7	101	3	385	4	0	0
Future Volume (veh/h)	9	739	166	179	574	7	101	3	385	4	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1714	1714	1714	1793	1793	1793	1898	1898	1898	1476	1476	1476
Adj Flow Rate, veh/h	9	778	175	188	604	7	106	3	405	4	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	15	15	15	8	8	8	25	25	25
Cap, veh/h	415	1269	565	400	1625	19	518	13	577	298	0	0
Arrive On Green	0.01	0.39	0.39	0.09	0.47	0.47	0.27	0.27	0.27	0.27	0.00	0.00
Sat Flow, veh/h	1632	3256	1450	1707	3449	40	1468	49	1607	635	0	0
Grp Volume(v), veh/h	9	778	175	188	298	313	109	0	405	4	0	0
Grp Sat Flow(s),veh/h/ln	1632	1628	1450	1707	1703	1786	1516	0	1607	635	0	0
Q Serve(g_s), s	0.2	10.7	4.7	3.3	6.3	6.3	0.0	0.0	12.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.2	10.7	4.7	3.3	6.3	6.3	2.6	0.0	12.0	2.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.97		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	415	1269	565	400	802	841	531	0	577	298	0	0
V/C Ratio(X)	0.02	0.61	0.31	0.47	0.37	0.37	0.21	0.00	0.70	0.01	0.00	0.00
Avail Cap(c_a), veh/h	688	4384	1953	1314	2599	2725	795	0	871	439	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.1	13.6	11.8	9.4	9.4	9.4	16.0	0.0	15.3	17.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.4	0.3	0.3	0.3	0.1	0.0	0.6	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.3	1.3	0.9	1.9	2.0	1.0	0.0	3.8	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.1	14.2	12.2	9.7	9.8	9.8	16.0	0.0	15.9	17.1	0.0	0.0
LnGrp LOS	B	B	B	A	A	A	B		B	B		
Approach Vol, veh/h		962			799			514			4	
Approach Delay, s/veh		13.8			9.8			15.9			17.1	
Approach LOS		B			A			B			B	

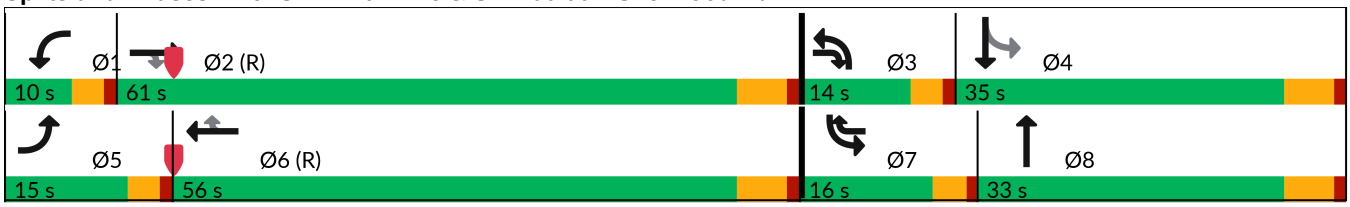
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	19.3	9.2	27.2	19.3	4.6	31.7
Change Period (Y+Rc), s	4.5	4.0	5.5	4.5	4.0	5.5
Max Green Setting (Gmax), s	25.0	35.0	75.0	25.0	10.0	85.0
Max Q Clear Time (g_c+I1), s	14.0	5.3	12.7	4.8	2.2	8.3
Green Ext Time (p_c), s	0.6	0.2	9.0	0.0	0.0	5.1

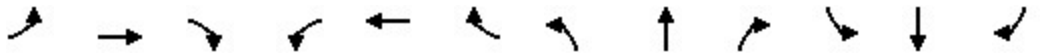
Intersection Summary	
HCM 7th Control Delay, s/veh	12.9
HCM 7th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	943	55	17	601	104	119	197	63	143	151	66
Future Volume (vph)	70	943	55	17	601	104	119	197	63	143	151	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-3%			0%	
Storage Length (ft)	250		350	400		400	375		0	250		0
Storage Lanes	2		1	2		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		613			715			748			458	
Travel Time (s)		13.9			16.3			17.0			10.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	10%	10%	16%	16%	16%	14%	14%	14%	14%	14%	14%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		pm+pt	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6				4		
Detector Phase	5	2	3	1	6	7	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	5.0	10.0	5.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	14.5	36.5	9.5	9.5	39.5	9.5	9.5	32.5		9.5	32.5	
Total Split (s)	15.0	61.0	14.0	10.0	56.0	16.0	14.0	33.0		16.0	35.0	
Total Split (%)	12.5%	50.8%	11.7%	8.3%	46.7%	13.3%	11.7%	27.5%		13.3%	29.2%	
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5		3.0	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 105 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: SW 124th Ave & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	943	55	17	601	104	119	197	63	143	151	66
Future Volume (veh/h)	70	943	55	17	601	104	119	197	63	143	151	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1663	1663	1663	1808	1808	1808	1693	1693	1693
Adj Flow Rate, veh/h	75	1014	59	18	646	112	128	212	68	154	162	71
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	16	16	16	14	14	14	14	14	14
Cap, veh/h	248	2056	997	58	1769	928	180	276	86	243	334	140
Arrive On Green	0.08	0.62	0.62	0.02	0.56	0.56	0.05	0.11	0.11	0.10	0.15	0.15
Sat Flow, veh/h	3237	3328	1485	3072	3159	1409	3340	2577	804	1612	2207	927
Grp Volume(v), veh/h	75	1014	59	18	646	112	128	139	141	154	116	117
Grp Sat Flow(s),veh/h/ln	1618	1664	1485	1536	1580	1409	1670	1717	1663	1612	1608	1526
Q Serve(g_s), s	2.6	20.1	1.6	0.7	13.6	3.5	4.5	9.5	9.9	9.9	7.9	8.4
Cycle Q Clear(g_c), s	2.6	20.1	1.6	0.7	13.6	3.5	4.5	9.5	9.9	9.9	7.9	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		0.61
Lane Grp Cap(c), veh/h	248	2056	997	58	1769	928	180	184	178	243	243	231
V/C Ratio(X)	0.30	0.49	0.06	0.31	0.37	0.12	0.71	0.76	0.79	0.63	0.48	0.51
Avail Cap(c_a), veh/h	297	2056	997	154	1769	928	278	394	381	246	395	375
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	12.6	6.7	58.1	14.6	7.6	55.8	52.1	52.3	40.9	46.6	46.8
Incr Delay (d2), s/veh	0.3	0.8	0.1	1.1	0.6	0.3	1.9	2.4	3.0	5.2	0.5	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.4	0.5	0.3	4.9	1.1	2.0	4.2	4.3	4.3	3.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.6	13.5	6.9	59.2	15.2	7.9	57.8	54.5	55.2	46.0	47.1	47.4
LnGrp LOS	D	B	A	E	B	A	E	D	E	D	D	D
Approach Vol, veh/h		1148			776			408			387	
Approach Delay, s/veh		15.7			15.2			55.8			46.8	
Approach LOS		B			B			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	79.6	10.5	23.7	13.2	72.7	15.8	18.3
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	6.0	55.5	10.0	29.5	11.0	50.5	12.0	27.5
Max Q Clear Time (g_c+I1), s	2.7	22.1	6.5	10.4	4.6	15.6	11.9	11.9
Green Ext Time (p_c), s	0.0	15.0	0.0	0.8	0.0	9.4	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	26.0
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	399	333	76	87	183	75
Future Volume (vph)	399	333	76	87	183	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			-3%	0%	
Storage Length (ft)		150	200		0	285
Storage Lanes		1	1		0	1
Taper Length (ft)			25		25	
Link Speed (mph)	35			35	25	
Link Distance (ft)	290			356	652	
Travel Time (s)	3.8			4.2	7.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	18%	18%	11%	11%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	6.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	399	333	76	87	183	75
Future Vol, veh/h	399	333	76	87	183	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	150	200	-	-	285
Veh in Median Storage, #0	-	-	0	0	-	
Grade, %	0	-	-	-3	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	18	18	11	11
Mvmt Flow	453	378	86	99	208	85

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	453	0	725	453
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	272	-
Critical Hdwy	-	-	4.28	-	6.51	6.31
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.362	-	3.599	3.399
Pot Cap-1 Maneuver	-	-	1028	-	379	588
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	754	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1028	-	347	588
Mov Cap-2 Maneuver	-	-	-	-	347	-
Stage 1	-	-	-	-	622	-
Stage 2	-	-	-	-	690	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	4.11	24.61
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	347	588	-	-	1028	-
HCM Lane V/C Ratio	0.599	0.145	-	-	0.084	-
HCM Control Delay (s/veh)	29.7	12.2	-	-	8.8	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	3.7	0.5	-	-	0.3	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	434	40	25	154	9	6
Future Volume (vph)	434	40	25	154	9	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	35			35	25	
Link Distance (ft)	227			198	261	
Travel Time (s)	4.4			3.9	3.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	434	40	25	154	9	6
Future Vol, veh/h	434	40	25	154	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	472	43	27	167	10	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	515	0	715	258
Stage 1	-	-	-	-	493	-
Stage 2	-	-	-	-	222	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1049	-	381	742
Stage 1	-	-	-	-	580	-
Stage 2	-	-	-	-	814	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1049	-	370	742
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	580	-
Stage 2	-	-	-	-	791	-

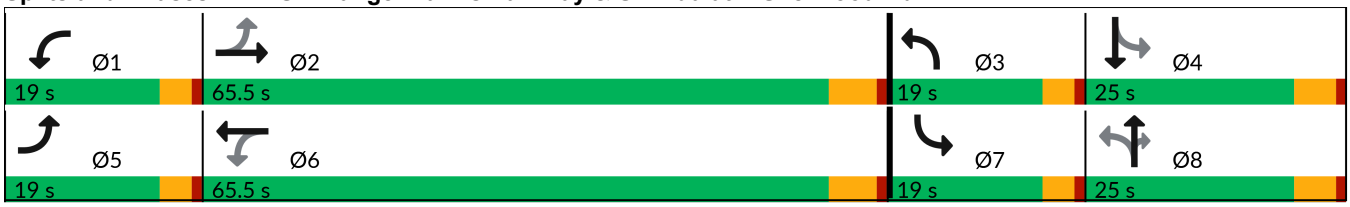
Approach	EB	WB	NB
HCM Control Delay, s/v	0	1.19	13.06
HCM LOS			B

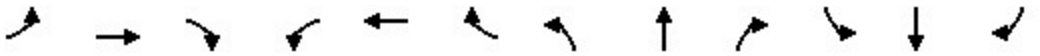
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	463	-	-	251	-
HCM Lane V/C Ratio	0.035	-	-	0.026	-
HCM Control Delay (s/veh)	13.1	-	-	8.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	676	244	202	889	21	192	101	112	34	185	14
Future Volume (vph)	14	676	244	202	889	21	192	101	112	34	185	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			3%			0%	
Storage Length (ft)	125		0	400		0	0		300	125		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			30			30	
Link Distance (ft)		520			439			482			463	
Travel Time (s)		14.2			8.6			11.0			10.5	
Confl. Peds. (#/hr)			1	1					2	2		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0	6.0	5.0	6.0	
Minimum Split (s)	9.0	33.5		9.0	35.5		9.0	32.0	32.0	9.0	32.0	
Total Split (s)	19.0	65.5		19.0	65.5		19.0	25.0	25.0	19.0	25.0	
Total Split (%)	14.8%	51.0%		14.8%	51.0%		14.8%	19.5%	19.5%	14.8%	19.5%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.5		4.0	5.5		4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 128.5	
Actuated Cycle Length: 98.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 1: SW Langer Farms Parkway & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	676	244	202	889	21	192	101	112	34	185	14
Future Volume (veh/h)	14	676	244	202	889	21	192	101	112	34	185	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1856	1856	1856	1832	1832	1832	1885	1885	1885
Adj Flow Rate, veh/h	15	719	260	215	946	22	204	107	119	36	197	15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	5	5	3	3	3	1	1	1	1	1	1
Cap, veh/h	296	1071	387	355	1761	41	330	416	352	313	248	19
Arrive On Green	0.02	0.43	0.43	0.09	0.50	0.50	0.12	0.23	0.23	0.03	0.14	0.14
Sat Flow, veh/h	1739	2495	902	1767	3522	82	1745	1832	1549	1795	1729	132
Grp Volume(v), veh/h	15	500	479	215	474	494	204	107	119	36	0	212
Grp Sat Flow(s),veh/h/ln	1739	1735	1662	1767	1763	1841	1745	1832	1549	1795	0	1861
Q Serve(g_s), s	0.4	19.3	19.3	5.3	15.4	15.4	7.9	4.0	5.4	1.4	0.0	9.2
Cycle Q Clear(g_c), s	0.4	19.3	19.3	5.3	15.4	15.4	7.9	4.0	5.4	1.4	0.0	9.2
Prop In Lane	1.00		0.54	1.00		0.04	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	296	745	714	355	881	920	330	416	352	313	0	266
V/C Ratio(X)	0.05	0.67	0.67	0.61	0.54	0.54	0.62	0.26	0.34	0.11	0.00	0.80
Avail Cap(c_a), veh/h	577	1245	1193	516	1265	1321	437	438	371	574	0	445
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.4	19.1	19.1	14.4	14.3	14.3	25.1	26.5	27.0	28.9	0.0	34.6
Incr Delay (d2), s/veh	0.0	1.8	1.9	0.6	0.9	0.8	0.7	0.1	0.2	0.1	0.0	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	7.8	7.5	1.9	5.7	6.0	3.2	1.7	2.0	0.6	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.5	20.9	21.0	15.0	15.2	15.1	25.8	26.6	27.2	28.9	0.0	36.7
LnGrp LOS	B	C	C	B	B	B	C	C	C	C		D
Approach Vol, veh/h		994			1183			430			248	
Approach Delay, s/veh		20.8			15.1			26.4			35.6	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	41.4	13.9	17.0	5.5	47.3	6.8	24.0
Change Period (Y+Rc), s	4.0	5.5	4.0	5.0	4.0	5.5	4.0	5.0
Max Green Setting (Gmax), s	15.0	60.0	15.0	20.0	15.0	60.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	7.3	21.3	9.9	11.2	2.4	17.4	3.4	7.4
Green Ext Time (p_c), s	0.1	14.6	0.0	0.4	0.0	13.3	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	20.6
HCM 7th LOS	C

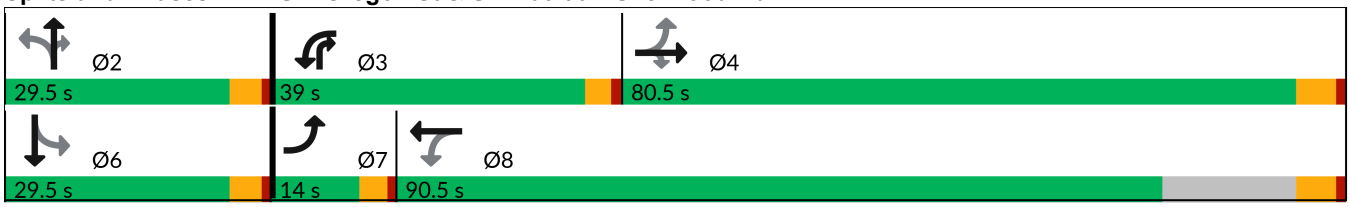
Notes

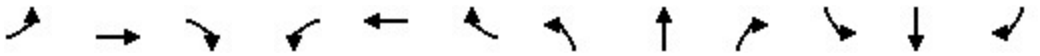
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	749	136	427	906	9	170	1	250	12	11	9
Future Volume (vph)	8	749	136	427	906	9	170	1	250	12	11	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			-3%			3%	
Storage Length (ft)	250		225	300		0	150		0	0		0
Storage Lanes	1		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		893			745			415			243	
Travel Time (s)		17.4			14.5			8.1			6.6	
Confl. Peds. (#/hr)			2	2					1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	7	4		3	8			2	3		6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	7	4	4	3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		6.0	6.0	5.0	6.0	6.0	
Minimum Split (s)	10.5	26.5	26.5	9.5	26.5		28.5	28.5	9.5	29.5	29.5	
Total Split (s)	14.0	80.5	80.5	39.0	90.5		29.5	29.5	39.0	29.5	29.5	
Total Split (%)	9.4%	54.0%	54.0%	26.2%	60.7%		19.8%	19.8%	26.2%	19.8%	19.8%	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.5	3.5	3.0	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.5	5.5	4.0	5.5			4.5	4.0		4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes			
Recall Mode	None	Min	Min	None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 149	
Actuated Cycle Length: 72.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: SW Oregon St & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	749	136	427	906	9	170	1	250	12	11	9
Future Volume (veh/h)	8	749	136	427	906	9	170	1	250	12	11	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1973	1973	1973	1958	1958	1958	1847	1847	1847
Adj Flow Rate, veh/h	9	805	146	459	974	10	183	1	269	13	12	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	4	0	0	0
Cap, veh/h	340	1280	569	554	2015	21	351	1	684	101	87	44
Arrive On Green	0.01	0.37	0.37	0.18	0.53	0.53	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1753	3497	1556	1879	3801	39	1000	5	1657	98	365	185
Grp Volume(v), veh/h	9	805	146	459	480	504	184	0	269	35	0	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1556	1879	1874	1966	1006	0	1657	648	0	0
Q Serve(g_s), s	0.2	12.0	4.2	8.7	10.2	10.2	0.0	0.0	7.2	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.2	12.0	4.2	8.7	10.2	10.2	12.2	0.0	7.2	12.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.99		1.00	0.37		0.29
Lane Grp Cap(c), veh/h	340	1280	569	554	994	1042	352	0	684	232	0	0
V/C Ratio(X)	0.03	0.63	0.26	0.83	0.48	0.48	0.52	0.00	0.39	0.15	0.00	0.00
Avail Cap(c_a), veh/h	597	4146	1844	1263	2518	2641	582	0	946	455	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.3	16.5	14.0	11.3	9.4	9.4	23.1	0.0	13.0	19.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.3	1.2	0.4	0.4	0.4	0.0	0.1	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.3	1.3	2.8	3.5	3.6	2.4	0.0	2.3	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.3	17.1	14.3	12.5	9.8	9.8	23.5	0.0	13.2	19.5	0.0	0.0
LnGrp LOS	B	B	B	B	A	A	C		B	B		
Approach Vol, veh/h		960			1443			453			35	
Approach Delay, s/veh		16.7			10.7			17.4			19.5	
Approach LOS		B			B			B			B	

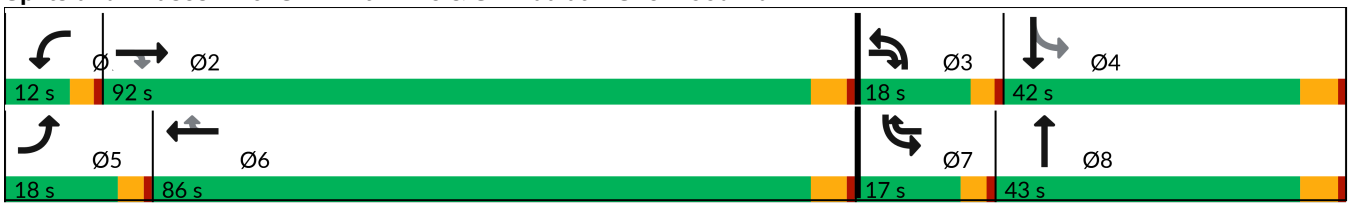
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	19.5	15.1	28.7	19.5	4.7	39.0
Change Period (Y+Rc), s	4.5	4.0	5.5	4.5	4.0	5.5
Max Green Setting (Gmax), s	25.0	35.0	75.0	25.0	10.0	85.0
Max Q Clear Time (g_c+I1), s	14.2	10.7	14.0	14.4	2.2	12.2
Green Ext Time (p_c), s	0.6	0.4	9.2	0.0	0.0	9.8

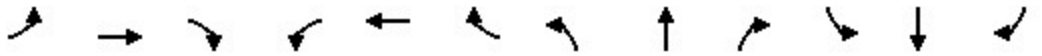
Intersection Summary	
HCM 7th Control Delay, s/veh	13.8
HCM 7th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	881	113	26	909	91	107	115	9	107	189	204
Future Volume (vph)	67	881	113	26	909	91	107	115	9	107	189	204
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-3%			0%	
Storage Length (ft)	250		350	400		400	375		0	250		0
Storage Lanes	2		1	2		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		613			741			748			458	
Travel Time (s)		13.9			16.8			17.0			10.4	
Confl. Peds. (#/hr)	1		2	2		1	1					1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		pm+pt	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6				4		
Detector Phase	5	2	3	1	6	7	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	5.0	10.0	5.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	14.5	36.5	9.5	9.5	39.5	9.5	9.5	32.5		9.5	32.5	
Total Split (s)	18.0	92.0	18.0	12.0	86.0	17.0	18.0	43.0		17.0	42.0	
Total Split (%)	11.0%	56.1%	11.0%	7.3%	52.4%	10.4%	11.0%	26.2%		10.4%	25.6%	
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5		3.0	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	None	None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 164	
Actuated Cycle Length: 83.2	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: SW 124th Ave & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	881	113	26	909	91	107	115	9	107	189	204
Future Volume (veh/h)	67	881	113	26	909	91	107	115	9	107	189	204
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1988	1988	1988	1856	1856	1856
Adj Flow Rate, veh/h	70	918	118	27	947	95	111	120	9	111	197	212
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	3	3	3	2	2	2	3	3	3
Cap, veh/h	330	1775	878	96	1546	801	206	577	43	379	312	278
Arrive On Green	0.10	0.51	0.51	0.03	0.44	0.44	0.06	0.16	0.16	0.07	0.18	0.18
Sat Flow, veh/h	3401	3497	1558	3428	3526	1570	3673	3564	265	1767	1763	1570
Grp Volume(v), veh/h	70	918	118	27	947	95	111	63	66	111	197	212
Grp Sat Flow(s),veh/h/ln	1700	1749	1558	1714	1763	1570	1837	1889	1940	1767	1763	1570
Q Serve(g_s), s	1.6	14.4	2.9	0.6	16.9	2.6	2.4	2.4	2.4	4.2	8.5	10.6
Cycle Q Clear(g_c), s	1.6	14.4	2.9	0.6	16.9	2.6	2.4	2.4	2.4	4.2	8.5	10.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	330	1775	878	96	1546	801	206	306	314	379	312	278
V/C Ratio(X)	0.21	0.52	0.13	0.28	0.61	0.12	0.54	0.21	0.21	0.29	0.63	0.76
Avail Cap(c_a), veh/h	580	3685	1729	334	3457	1652	626	863	886	533	784	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	13.5	8.5	39.1	17.7	10.5	37.7	29.8	29.9	25.8	31.3	32.2
Incr Delay (d2), s/veh	0.1	0.4	0.1	0.6	0.7	0.1	0.8	0.1	0.1	0.4	0.8	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	5.3	0.9	0.3	6.6	0.9	1.1	1.1	1.1	1.8	3.6	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.3	13.9	8.6	39.7	18.4	10.6	38.5	30.0	30.0	26.2	32.1	33.8
LnGrp LOS	C	B	A	D	B	B	D	C	C	C	C	C
Approach Vol, veh/h		1106			1069			240			520	
Approach Delay, s/veh		14.6			18.2			33.9			31.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	47.2	8.6	20.0	12.0	41.5	9.8	18.8
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	8.0	86.5	14.0	36.5	14.0	80.5	13.0	37.5
Max Q Clear Time (g_c+I1), s	2.6	16.4	4.4	12.6	3.6	18.9	6.2	4.4
Green Ext Time (p_c), s	0.0	17.0	0.1	1.7	0.0	17.1	0.1	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	20.5
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	160	170	99	436	363	55
Future Volume (vph)	160	170	99	436	363	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			-3%	0%	
Storage Length (ft)		150	200		0	285
Storage Lanes		1	1		0	1
Taper Length (ft)			25		25	
Link Speed (mph)	35			35	25	
Link Distance (ft)	290			356	652	
Travel Time (s)	3.8			4.2	7.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	3%	3%	4%	4%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	44.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	160	170	99	436	363	55
Future Vol, veh/h	160	170	99	436	363	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	150	200	-	-	285
Veh in Median Storage, #0	-	-	0	0	-	
Grade, %	0	-	-	-3	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	5	5	3	3	4	4
Mvmt Flow	167	177	103	454	378	57

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	167	0	827	167
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	660	-
Critical Hdwy	-	-	4.13	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.227	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1405	-	~ 339	872
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	510	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1405	-	~ 314	872
Mov Cap-2 Maneuver	-	-	-	-	~ 314	-
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	473	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	1.44	134.94
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	314	872	-	-	1405	-
HCM Lane V/C Ratio	1.205	0.066	-	-	0.073	-
HCM Control Delay (s/veh)	154	9.4	-	-	7.8	-
HCM Lane LOS	F	A	-	-	A	-
HCM 95th %tile Q(veh)	16.6	0.2	-	-	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	205	10	6	496	39	24
Future Volume (vph)	205	10	6	496	39	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	35			35	25	
Link Distance (ft)	238			136	241	
Travel Time (s)	4.6			2.6	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	205	10	6	496	39	24
Future Vol, veh/h	205	10	6	496	39	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	223	11	7	539	42	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	234	0	780	117
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	552	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1332	-	347	914
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	576	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1332	-	345	914
Mov Cap-2 Maneuver	-	-	-	-	345	-
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	572	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.09	14.38
HCM LOS			B

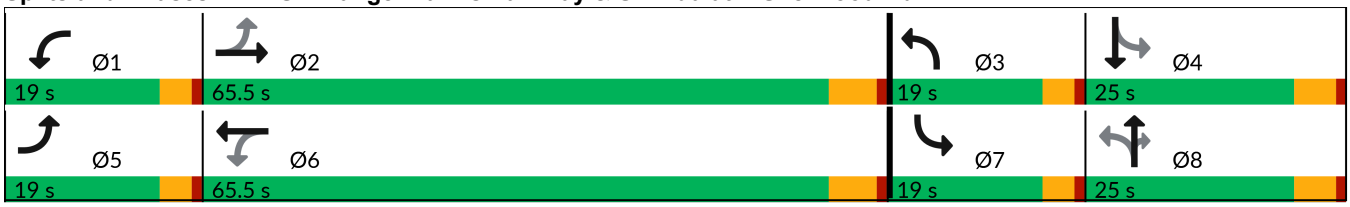
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	452	-	-	22	-
HCM Lane V/C Ratio	0.151	-	-	0.005	-
HCM Control Delay (s/veh)	14.4	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

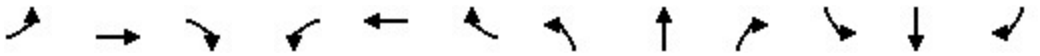
2025 With Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	853	176	74	513	41	102	114	121	27	43	8
Future Volume (vph)	12	853	176	74	513	41	102	114	121	27	43	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			3%			0%	
Storage Length (ft)	125		0	400		0	0		300	125		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			30			30	
Link Distance (ft)		520			439			482			463	
Travel Time (s)		14.2			8.6			11.0			10.5	
Confl. Peds. (#/hr)	2					2			1	1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	19%	19%	19%	4%	4%	4%	10%	10%	10%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0	6.0	5.0	6.0	
Minimum Split (s)	9.0	33.5		9.0	35.5		22.0	32.0	32.0	9.0	32.0	
Total Split (s)	19.0	65.5		19.0	65.5		19.0	25.0	25.0	19.0	25.0	
Total Split (%)	14.8%	51.0%		14.8%	51.0%		14.8%	19.5%	19.5%	14.8%	19.5%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.5		4.0	5.5		4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 128.5	
Actuated Cycle Length: 85.2	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 1: SW Langer Farms Parkway & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	853	176	74	513	41	102	114	121	27	43	8
Future Volume (veh/h)	12	853	176	74	513	41	102	114	121	27	43	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1618	1618	1618	1788	1788	1788	1752	1752	1752
Adj Flow Rate, veh/h	14	969	200	84	583	47	116	130	138	31	49	9
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	5	5	5	19	19	19	4	4	4	10	10	10
Cap, veh/h	481	1508	311	302	1630	131	301	237	201	219	123	23
Arrive On Green	0.02	0.53	0.53	0.06	0.57	0.57	0.08	0.13	0.13	0.03	0.09	0.09
Sat Flow, veh/h	1739	2863	590	1541	2882	232	1703	1788	1512	1668	1439	264
Grp Volume(v), veh/h	14	587	582	84	311	319	116	130	138	31	0	58
Grp Sat Flow(s),veh/h/ln	1739	1735	1718	1541	1537	1576	1703	1788	1512	1668	0	1703
Q Serve(g_s), s	0.3	17.7	17.8	1.7	8.1	8.1	4.4	5.0	6.4	1.2	0.0	2.4
Cycle Q Clear(g_c), s	0.3	17.7	17.8	1.7	8.1	8.1	4.4	5.0	6.4	1.2	0.0	2.4
Prop In Lane	1.00		0.34	1.00		0.15	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	481	914	905	302	870	892	301	237	201	219	0	146
V/C Ratio(X)	0.03	0.64	0.64	0.28	0.36	0.36	0.38	0.55	0.69	0.14	0.00	0.40
Avail Cap(c_a), veh/h	808	1421	1408	532	1260	1291	516	488	413	507	0	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.9	12.4	12.4	9.3	8.7	8.7	26.2	29.7	30.3	29.1	0.0	31.7
Incr Delay (d2), s/veh	0.0	1.3	1.3	0.2	0.4	0.4	0.3	0.7	1.6	0.1	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	6.5	6.5	0.5	2.3	2.4	1.7	2.1	2.3	0.5	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.9	13.7	13.7	9.5	9.1	9.1	26.5	30.4	31.9	29.2	0.0	32.3
LnGrp LOS	A	B	B	A	A	A	C	C	C	C		C
Approach Vol, veh/h		1183			714			384			89	
Approach Delay, s/veh		13.6			9.1			29.8			31.2	
Approach LOS		B			A			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	44.1	9.8	11.3	5.2	46.9	6.3	14.7
Change Period (Y+Rc), s	4.0	5.5	4.0	5.0	4.0	5.5	4.0	5.0
Max Green Setting (Gmax), s	15.0	60.0	15.0	20.0	15.0	60.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	3.7	19.8	6.4	4.4	2.3	10.1	3.2	8.4
Green Ext Time (p_c), s	0.0	18.8	0.0	0.1	0.0	7.8	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	15.6
HCM 7th LOS	B

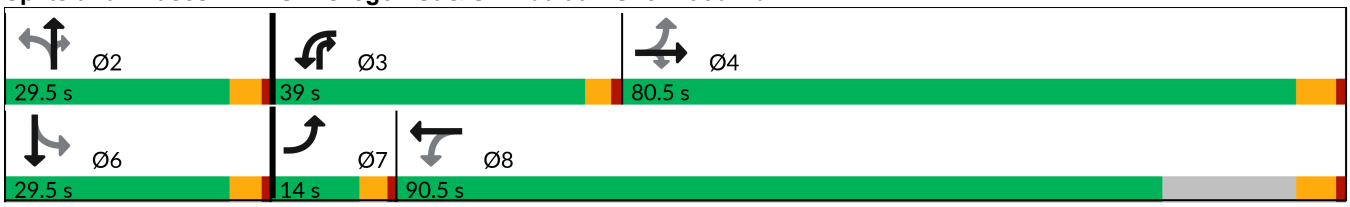
Notes

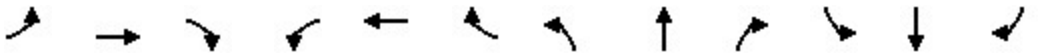
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	739	180	201	574	7	105	3	391	4	0	0
Future Volume (vph)	9	739	180	201	574	7	105	3	391	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-3%			-3%			3%	
Storage Length (ft)	250		225	300		0	150		0	0		0
Storage Lanes	1		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		893			745			229			243	
Travel Time (s)		17.4			14.5			4.5			6.6	
Confl. Peds. (#/hr)	1					1	1					1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	9%	9%	9%	15%	15%	15%	8%	8%	8%	25%	25%	25%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	7	4		3	8			2	3		6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	7	4	4	3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		6.0	6.0	5.0	6.0	6.0	
Minimum Split (s)	10.5	26.5	26.5	9.5	26.5		28.5	28.5	9.5	29.5	29.5	
Total Split (s)	14.0	80.5	80.5	39.0	90.5		29.5	29.5	39.0	29.5	29.5	
Total Split (%)	9.4%	54.0%	54.0%	26.2%	60.7%		19.8%	19.8%	26.2%	19.8%	19.8%	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.5	3.5	3.0	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.5	5.5	4.0	5.5			4.5	4.0		4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes			
Recall Mode	None	Min	Min	None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 149	
Actuated Cycle Length: 57.2	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: SW Oregon St & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	739	180	201	574	7	105	3	391	4	0	0
Future Volume (veh/h)	9	739	180	201	574	7	105	3	391	4	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1714	1714	1714	1793	1793	1793	1898	1898	1898	1476	1476	1476
Adj Flow Rate, veh/h	9	778	189	212	604	7	111	3	412	4	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	15	15	15	8	8	8	25	25	25
Cap, veh/h	417	1260	561	408	1646	19	517	12	592	292	0	0
Arrive On Green	0.01	0.39	0.39	0.10	0.48	0.48	0.27	0.27	0.27	0.27	0.00	0.00
Sat Flow, veh/h	1632	3256	1450	1707	3449	40	1473	47	1607	624	0	0
Grp Volume(v), veh/h	9	778	189	212	298	313	114	0	412	4	0	0
Grp Sat Flow(s),veh/h/ln	1632	1628	1450	1707	1703	1786	1519	0	1607	624	0	0
Q Serve(g_s), s	0.2	11.0	5.3	3.9	6.4	6.4	0.0	0.0	12.5	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.2	11.0	5.3	3.9	6.4	6.4	2.8	0.0	12.5	3.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.97		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	417	1260	561	408	813	852	529	0	592	292	0	0
V/C Ratio(X)	0.02	0.62	0.34	0.52	0.37	0.37	0.22	0.00	0.70	0.01	0.00	0.00
Avail Cap(c_a), veh/h	683	4265	1900	1278	2529	2651	775	0	865	423	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.4	14.1	12.4	9.8	9.5	9.5	16.4	0.0	15.4	17.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.4	0.4	0.3	0.3	0.1	0.0	0.6	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.5	1.5	1.1	2.0	2.0	1.0	0.0	3.9	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.4	14.7	12.8	10.2	9.8	9.8	16.5	0.0	15.9	17.6	0.0	0.0
LnGrp LOS	B	B	B	B	A	A	B		B	B		
Approach Vol, veh/h		976			823			526			4	
Approach Delay, s/veh		14.3			9.9			16.0			17.6	
Approach LOS		B			A			B			B	

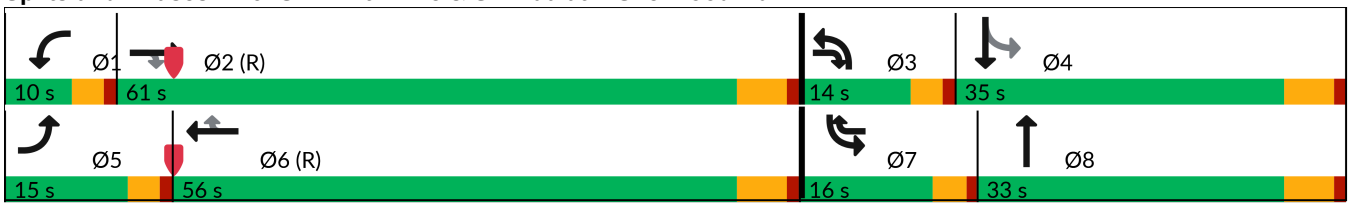
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	19.8	9.8	27.7	19.8	4.7	32.8
Change Period (Y+Rc), s	4.5	4.0	5.5	4.5	4.0	5.5
Max Green Setting (Gmax), s	25.0	35.0	75.0	25.0	10.0	85.0
Max Q Clear Time (g_c+I1), s	14.5	5.9	13.0	5.1	2.2	8.4
Green Ext Time (p_c), s	0.6	0.2	9.1	0.0	0.0	5.1

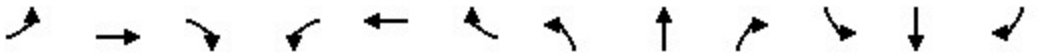
Intersection Summary	
HCM 7th Control Delay, s/veh	13.2
HCM 7th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	947	55	17	615	104	119	197	63	143	151	71
Future Volume (vph)	71	947	55	17	615	104	119	197	63	143	151	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-3%			0%	
Storage Length (ft)	250		350	400		400	375		0	250		0
Storage Lanes	2		1	2		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		613			715			748			458	
Travel Time (s)		13.9			16.3			17.0			10.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	10%	10%	16%	16%	16%	14%	14%	14%	14%	14%	14%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		pm+pt	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6				4		
Detector Phase	5	2	3	1	6	7	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	5.0	10.0	5.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	14.5	36.5	9.5	9.5	39.5	9.5	9.5	32.5		9.5	32.5	
Total Split (s)	15.0	61.0	14.0	10.0	56.0	16.0	14.0	33.0		16.0	35.0	
Total Split (%)	12.5%	50.8%	11.7%	8.3%	46.7%	13.3%	11.7%	27.5%		13.3%	29.2%	
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5		3.0	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Min	None	None	C-Min	None	None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 105 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: SW 124th Ave & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	947	55	17	615	104	119	197	63	143	151	71
Future Volume (veh/h)	71	947	55	17	615	104	119	197	63	143	151	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1663	1663	1663	1808	1808	1808	1693	1693	1693
Adj Flow Rate, veh/h	76	1018	59	18	661	112	128	212	68	154	162	76
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	10	10	10	16	16	16	14	14	14	14	14	14
Cap, veh/h	248	2056	997	58	1768	927	180	276	86	243	327	146
Arrive On Green	0.08	0.62	0.62	0.02	0.56	0.56	0.05	0.11	0.11	0.10	0.15	0.15
Sat Flow, veh/h	3237	3328	1485	3072	3159	1409	3340	2577	804	1612	2158	968
Grp Volume(v), veh/h	76	1018	59	18	661	112	128	139	141	154	119	119
Grp Sat Flow(s),veh/h/ln	1618	1664	1485	1536	1580	1409	1670	1717	1663	1612	1608	1518
Q Serve(g_s), s	2.7	20.2	1.6	0.7	14.0	3.5	4.5	9.5	9.9	9.9	8.1	8.7
Cycle Q Clear(g_c), s	2.7	20.2	1.6	0.7	14.0	3.5	4.5	9.5	9.9	9.9	8.1	8.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		0.64
Lane Grp Cap(c), veh/h	248	2056	997	58	1768	927	180	184	178	243	243	230
V/C Ratio(X)	0.31	0.50	0.06	0.31	0.37	0.12	0.71	0.76	0.79	0.63	0.49	0.52
Avail Cap(c_a), veh/h	297	2056	997	154	1768	927	278	394	381	246	395	373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	12.6	6.7	58.1	14.7	7.6	55.8	52.1	52.3	40.9	46.7	46.9
Incr Delay (d2), s/veh	0.3	0.9	0.1	1.1	0.6	0.3	1.9	2.4	3.0	5.2	0.6	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.5	0.5	0.3	5.1	1.1	2.0	4.2	4.3	4.3	3.3	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.6	13.5	6.9	59.2	15.3	7.9	57.8	54.5	55.2	46.0	47.2	47.6
LnGrp LOS	D	B	A	E	B	A	E	D	E	D	D	D
Approach Vol, veh/h		1153			791			408			392	
Approach Delay, s/veh		15.7			15.3			55.8			46.9	
Approach LOS		B			B			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	79.6	10.5	23.7	13.2	72.7	15.8	18.3
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	6.0	55.5	10.0	29.5	11.0	50.5	12.0	27.5
Max Q Clear Time (g_c+I1), s	2.7	22.2	6.5	10.7	4.7	16.0	11.9	11.9
Green Ext Time (p_c), s	0.0	15.0	0.0	0.8	0.0	9.6	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	26.0
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	411	333	79	91	183	84
Future Volume (vph)	411	333	79	91	183	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			-3%	0%	
Storage Length (ft)		150	200		0	285
Storage Lanes		1	1		0	1
Taper Length (ft)			25		25	
Link Speed (mph)	35			35	25	
Link Distance (ft)	290			356	652	
Travel Time (s)	3.8			4.2	7.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	18%	18%	11%	11%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	6.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	411	333	79	91	183	84
Future Vol, veh/h	411	333	79	91	183	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	150	200	-	-	285
Veh in Median Storage, #0	-	-	0	0	-	
Grade, %	0	-	-	-3	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	18	18	11	11
Mvmt Flow	467	378	90	103	208	95

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	467	0	750	467
Stage 1	-	-	-	-	467	-
Stage 2	-	-	-	-	283	-
Critical Hdwy	-	-	4.28	-	6.51	6.31
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.362	-	3.599	3.399
Pot Cap-1 Maneuver	-	-	1016	-	366	578
Stage 1	-	-	-	-	613	-
Stage 2	-	-	-	-	745	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1016	-	334	578
Mov Cap-2 Maneuver	-	-	-	-	334	-
Stage 1	-	-	-	-	613	-
Stage 2	-	-	-	-	679	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	4.13	25.87
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	334	578	-	-	1016	-
HCM Lane V/C Ratio	0.623	0.165	-	-	0.088	-
HCM Control Delay (s/veh)	32	12.5	-	-	8.9	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	4	0.6	-	-	0.3	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	434	61	134	151	19	16
Future Volume (vph)	434	61	134	151	19	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	35			35	25	
Link Distance (ft)	271			181	228	
Travel Time (s)	6.2			4.1	5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	434	61	134	151	19	16
Future Vol, veh/h	434	61	134	151	19	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	472	66	146	164	21	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	538	0	960	269
Stage 1	-	-	-	-	505	-
Stage 2	-	-	-	-	455	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1028	-	269	730
Stage 1	-	-	-	-	572	-
Stage 2	-	-	-	-	638	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1028	-	227	730
Mov Cap-2 Maneuver	-	-	-	-	227	-
Stage 1	-	-	-	-	572	-
Stage 2	-	-	-	-	538	-

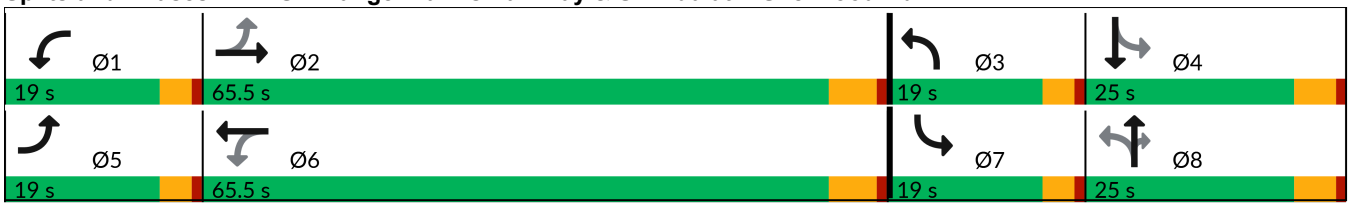
Approach	EB	WB	NB
HCM Control Delay, s/v	0	4.27	17.26
HCM LOS			C

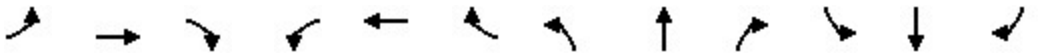
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	331	-	-	846	-
HCM Lane V/C Ratio	0.115	-	-	0.142	-
HCM Control Delay (s/veh)	17.3	-	-	9.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.5	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	680	244	202	900	23	192	101	112	36	185	14
Future Volume (vph)	14	680	244	202	900	23	192	101	112	36	185	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			3%			0%	
Storage Length (ft)	125		0	400		0	0		300	125		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			35			30			30	
Link Distance (ft)		520			439			482			463	
Travel Time (s)		14.2			8.6			11.0			10.5	
Confl. Peds. (#/hr)			1	1					2	2		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	6.0	6.0	5.0	6.0	
Minimum Split (s)	9.0	33.5		9.0	35.5		9.0	32.0	32.0	9.0	32.0	
Total Split (s)	19.0	65.5		19.0	65.5		19.0	25.0	25.0	19.0	25.0	
Total Split (%)	14.8%	51.0%		14.8%	51.0%		14.8%	19.5%	19.5%	14.8%	19.5%	
Yellow Time (s)	3.0	4.5		3.0	4.5		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.5		4.0	5.5		4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min		None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 128.5	
Actuated Cycle Length: 98.5	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 1: SW Langer Farms Parkway & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	680	244	202	900	23	192	101	112	36	185	14
Future Volume (veh/h)	14	680	244	202	900	23	192	101	112	36	185	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1856	1856	1856	1832	1832	1832	1885	1885	1885
Adj Flow Rate, veh/h	15	723	260	215	957	24	204	107	119	38	197	15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	5	5	3	3	3	1	1	1	1	1	1
Cap, veh/h	292	1076	387	354	1760	44	329	414	350	315	247	19
Arrive On Green	0.02	0.43	0.43	0.09	0.50	0.50	0.12	0.23	0.23	0.04	0.14	0.14
Sat Flow, veh/h	1739	2499	899	1767	3514	88	1745	1832	1549	1795	1729	132
Grp Volume(v), veh/h	15	502	481	215	480	501	204	107	119	38	0	212
Grp Sat Flow(s),veh/h/ln	1739	1735	1663	1767	1763	1840	1745	1832	1549	1795	0	1861
Q Serve(g_s), s	0.4	19.4	19.4	5.3	15.7	15.7	7.9	4.0	5.4	1.5	0.0	9.2
Cycle Q Clear(g_c), s	0.4	19.4	19.4	5.3	15.7	15.7	7.9	4.0	5.4	1.5	0.0	9.2
Prop In Lane	1.00		0.54	1.00		0.05	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	292	747	716	354	883	921	329	414	350	315	0	266
V/C Ratio(X)	0.05	0.67	0.67	0.61	0.54	0.54	0.62	0.26	0.34	0.12	0.00	0.80
Avail Cap(c_a), veh/h	573	1241	1190	515	1261	1316	436	437	369	573	0	444
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.5	19.1	19.1	14.4	14.4	14.4	25.2	26.7	27.2	28.9	0.0	34.7
Incr Delay (d2), s/veh	0.0	1.8	1.9	0.6	0.9	0.9	0.7	0.1	0.2	0.1	0.0	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	7.9	7.6	1.9	5.8	6.1	3.2	1.7	2.0	0.6	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.5	20.9	21.0	15.0	15.3	15.2	25.9	26.8	27.4	29.0	0.0	36.8
LnGrp LOS	B	C	C	B	B	B	C	C	C	C		D
Approach Vol, veh/h		998			1196			430			250	
Approach Delay, s/veh		20.9			15.2			26.6			35.6	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	41.6	13.9	17.0	5.5	47.5	6.9	23.9
Change Period (Y+Rc), s	4.0	5.5	4.0	5.0	4.0	5.5	4.0	5.0
Max Green Setting (Gmax), s	15.0	60.0	15.0	20.0	15.0	60.0	15.0	20.0
Max Q Clear Time (g_c+I1), s	7.3	21.4	9.9	11.2	2.4	17.7	3.5	7.4
Green Ext Time (p_c), s	0.1	14.6	0.0	0.4	0.0	13.5	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	20.6
HCM 7th LOS	C

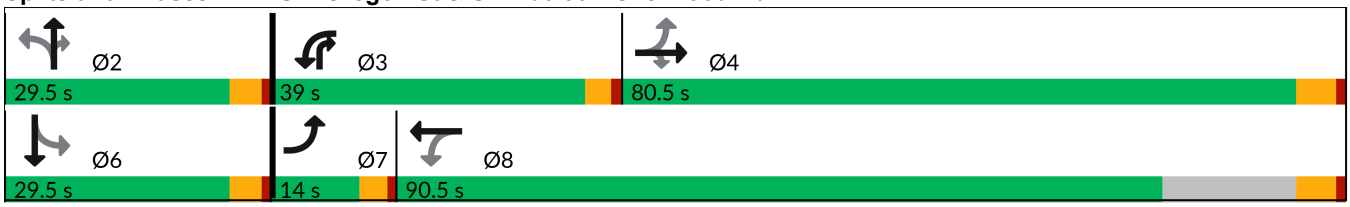
Notes

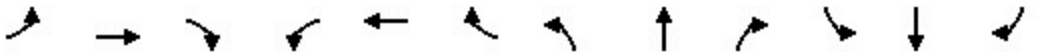
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	749	142	436	906	9	183	1	273	12	11	9
Future Volume (vph)	8	749	142	436	906	9	183	1	273	12	11	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-3%			-3%			3%	
Storage Length (ft)	250		225	300		0	150		0	0		0
Storage Lanes	1		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		893			745			415			243	
Travel Time (s)		17.4			14.5			8.1			6.6	
Confl. Peds. (#/hr)			2	2					1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	0%	0%	0%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	7	4		3	8			2	3		6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	7	4	4	3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		6.0	6.0	5.0	6.0	6.0	
Minimum Split (s)	10.5	26.5	26.5	9.5	26.5		28.5	28.5	9.5	29.5	29.5	
Total Split (s)	14.0	80.5	80.5	39.0	90.5		29.5	29.5	39.0	29.5	29.5	
Total Split (%)	9.4%	54.0%	54.0%	26.2%	60.7%		19.8%	19.8%	26.2%	19.8%	19.8%	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5		3.5	3.5	3.0	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.0	5.5	5.5	4.0	5.5			4.5	4.0		4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes			
Recall Mode	None	Min	Min	None	Min		None	None	None	None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 149	
Actuated Cycle Length: 75.3	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: SW Oregon St & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	749	142	436	906	9	183	1	273	12	11	9
Future Volume (veh/h)	8	749	142	436	906	9	183	1	273	12	11	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1973	1973	1973	1958	1958	1958	1847	1847	1847
Adj Flow Rate, veh/h	9	805	153	469	974	10	197	1	294	13	12	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	4	0	0	0
Cap, veh/h	321	1233	548	539	1981	20	344	1	744	90	78	39
Arrive On Green	0.01	0.35	0.35	0.18	0.52	0.52	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1753	3497	1556	1879	3801	39	900	5	1657	74	290	145
Grp Volume(v), veh/h	9	805	153	469	480	504	198	0	294	35	0	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1556	1879	1874	1966	905	0	1657	509	0	0
Q Serve(g_s), s	0.2	13.6	5.0	10.3	11.6	11.6	0.0	0.0	8.4	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.2	13.6	5.0	10.3	11.6	11.6	16.2	0.0	8.4	16.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.99		1.00	0.37		0.29
Lane Grp Cap(c), veh/h	321	1233	548	539	977	1025	345	0	744	207	0	0
V/C Ratio(X)	0.03	0.65	0.28	0.87	0.49	0.49	0.57	0.00	0.40	0.17	0.00	0.00
Avail Cap(c_a), veh/h	550	3727	1658	1135	2264	2374	471	0	888	328	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.3	19.2	16.4	13.0	10.8	10.8	24.8	0.0	13.0	20.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.3	1.7	0.5	0.4	0.6	0.0	0.1	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.1	1.7	3.7	4.2	4.4	3.0	0.0	2.8	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.3	19.9	16.7	14.7	11.3	11.3	25.3	0.0	13.1	20.6	0.0	0.0
LnGrp LOS	B	B	B	B	B	B	C		B	C		

Approach Vol, veh/h	967			1453		492			35	
Approach Delay, s/veh	19.3			12.4		18.0			20.6	
Approach LOS	B			B		B			C	

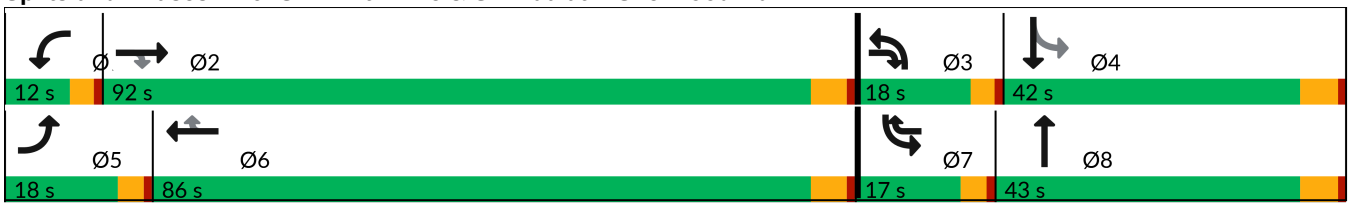
Timer - Assigned Phs	2	3	4		6	7	8					
Phs Duration (G+Y+Rc), s	23.4	16.7	30.3		23.4	4.8	42.2					
Change Period (Y+Rc), s	4.5	4.0	5.5		4.5	4.0	5.5					
Max Green Setting (Gmax), s	25.0	35.0	75.0		25.0	10.0	85.0					
Max Q Clear Time (g_c+I1), s	18.2	12.3	15.6		18.5	2.2	13.6					
Green Ext Time (p_c), s	0.6	0.4	9.2		0.0	0.0	9.8					

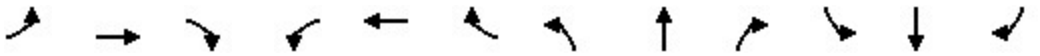
Intersection Summary	
HCM 7th Control Delay, s/veh	15.7
HCM 7th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	895	113	26	915	91	107	115	9	107	189	206
Future Volume (vph)	73	895	113	26	915	91	107	115	9	107	189	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-3%			0%	
Storage Length (ft)	250		350	400		400	375		0	250		0
Storage Lanes	2		1	2		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		613			741			748			458	
Travel Time (s)		13.9			16.8			17.0			10.4	
Confl. Peds. (#/hr)	1		2	2		1	1					1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		pm+pt	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6				4		
Detector Phase	5	2	3	1	6	7	3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	5.0	5.0	10.0	5.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	14.5	36.5	9.5	9.5	39.5	9.5	9.5	32.5		9.5	32.5	
Total Split (s)	18.0	92.0	18.0	12.0	86.0	17.0	18.0	43.0		17.0	42.0	
Total Split (%)	11.0%	56.1%	11.0%	7.3%	52.4%	10.4%	11.0%	26.2%		10.4%	25.6%	
Yellow Time (s)	3.0	4.5	3.0	3.0	4.5	3.0	3.0	4.5		3.0	4.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	None	None	Min	None	None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 164	
Actuated Cycle Length: 83.8	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: SW 124th Ave & SW Tualatin-Sherwood Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	895	113	26	915	91	107	115	9	107	189	206
Future Volume (veh/h)	73	895	113	26	915	91	107	115	9	107	189	206
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1988	1988	1988	1856	1856	1856
Adj Flow Rate, veh/h	76	932	118	27	953	95	111	120	9	111	197	215
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	3	3	3	2	2	2	3	3	3
Cap, veh/h	338	1784	881	96	1547	801	204	580	43	378	314	280
Arrive On Green	0.10	0.51	0.51	0.03	0.44	0.44	0.06	0.16	0.16	0.07	0.18	0.18
Sat Flow, veh/h	3401	3497	1558	3428	3526	1570	3673	3564	265	1767	1763	1570
Grp Volume(v), veh/h	76	932	118	27	953	95	111	63	66	111	197	215
Grp Sat Flow(s),veh/h/ln	1700	1749	1558	1714	1763	1570	1837	1889	1940	1767	1763	1570
Q Serve(g_s), s	1.7	14.8	3.0	0.6	17.3	2.6	2.5	2.4	2.5	4.3	8.6	10.9
Cycle Q Clear(g_c), s	1.7	14.8	3.0	0.6	17.3	2.6	2.5	2.4	2.5	4.3	8.6	10.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	338	1784	881	96	1547	801	204	307	316	378	314	280
V/C Ratio(X)	0.22	0.52	0.13	0.28	0.62	0.12	0.55	0.21	0.21	0.29	0.63	0.77
Avail Cap(c_a), veh/h	572	3634	1705	329	3409	1630	618	851	874	529	773	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	13.6	8.5	39.6	18.0	10.7	38.3	30.2	30.2	26.1	31.6	32.6
Incr Delay (d2), s/veh	0.1	0.4	0.1	0.6	0.7	0.1	0.8	0.1	0.1	0.4	0.8	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	5.5	0.9	0.3	6.7	0.9	1.1	1.1	1.1	1.8	3.6	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.7	14.0	8.6	40.2	18.7	10.8	39.1	30.3	30.3	26.5	32.4	34.3
LnGrp LOS	C	B	A	D	B	B	D	C	C	C	C	C
Approach Vol, veh/h		1126			1075			240			523	
Approach Delay, s/veh		14.8			18.5			34.4			31.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	48.0	8.6	20.3	12.3	42.0	9.9	19.0
Change Period (Y+Rc), s	4.0	5.5	4.0	5.5	4.0	5.5	4.0	5.5
Max Green Setting (Gmax), s	8.0	86.5	14.0	36.5	14.0	80.5	13.0	37.5
Max Q Clear Time (g_c+I1), s	2.6	16.8	4.5	12.9	3.7	19.3	6.3	4.5
Green Ext Time (p_c), s	0.0	17.4	0.1	1.7	0.0	17.2	0.1	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	20.8
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	164	170	107	447	363	58
Future Volume (vph)	164	170	107	447	363	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			-3%	0%	
Storage Length (ft)		150	200		0	285
Storage Lanes		1	1		0	1
Taper Length (ft)			25		25	
Link Speed (mph)	35			35	25	
Link Distance (ft)	290			356	652	
Travel Time (s)	3.8			4.2	7.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	3%	3%	4%	4%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	50.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	164	170	107	447	363	58
Future Vol, veh/h	164	170	107	447	363	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	150	200	-	-	285
Veh in Median Storage, #0	-	-	0	0	-	
Grade, %	0	-	-	-3	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	5	5	3	3	4	4
Mvmt Flow	171	177	111	466	378	60

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	171	0	859	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	689	-
Critical Hdwy	-	-	4.13	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.227	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1400	-	~ 324	868
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	495	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1400	-	~ 298	868
Mov Cap-2 Maneuver	-	-	-	-	~ 298	-
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	456	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	1.51	156.39
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	298	868	-	-	1400	-
HCM Lane V/C Ratio	1.268	0.07	-	-	0.08	-
HCM Control Delay (s/veh)	179.9	9.5	-	-	7.8	-
HCM Lane LOS	F	A	-	-	A	-
HCM 95th %tile Q(veh)	17.9	0.2	-	-	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	205	17	40	483	71	60
Future Volume (vph)	205	17	40	483	71	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	35			35	25	
Link Distance (ft)	310			189	313	
Travel Time (s)	4.2			3.7	5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	205	17	40	483	71	60
Future Vol, veh/h	205	17	40	483	71	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	223	18	43	525	77	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	241	0	844	121
Stage 1	-	-	-	-	232	-
Stage 2	-	-	-	-	612	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1324	-	317	909
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	540	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1324	-	303	909
Mov Cap-2 Maneuver	-	-	-	-	303	-
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	515	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.6	17.21
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	436	-	-	138	-
HCM Lane V/C Ratio	0.327	-	-	0.033	-
HCM Control Delay (s/veh)	17.2	-	-	7.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0.1	-

Appendix D

SimTraffic Queuing Calculations

Panattoni Rock Creek Industrial
SimTraffic Queuing Results

		95th % Queue	
	Existing	Existing	
Intersection/Movement	**Storage**	**AM**	**PM**
1. SW Langer Farms Parkway/SW Tualatin-Sherwood Rd			
Eastbound Left-Turn	250	125	125
Eastbound Thru	650	525	550
Eastbound Right-Turn	650	350	375
Westbound Left-Turn	150	125	200
Westbound Shared Thru-Right	675	325	500
Northbound Left-Turn	375	125	300
Northbound Thru	375	150	125
Northbound Right-Turn	300	125	100
Southbound Left-Turn	125	50	100
Southbound Shared Thru-Right	500+	100	250
2. SW Oregon Street/SW Tualatin-Sherwood Rd			
Eastbound Left-Turn	225	50	75
Eastbound Thru	750+	400	1,000
Eastbound Right-Turn	125	125	150
Westbound Left-Turn	320	125	400
Westbound Shared Thru-Right	575	225	775
Northbound Shared Left-Thru	190+TWLTL	125	200
Northbound Right-Turn	500+	225	175
Southbound Shared Left-Thru-Right	-	25	75
3. SW 124th Ave/SW Tualatin-Sherwood Rd			
Eastbound Left-Turn	350	325	175
Eastbound Thru	750	725	625
Eastbound Right-Turn	350	250	275
Westbound Left-Turn	400	50	250
Westbound Thru	1,000+	475	825
Westbound Right-Turn	400	175	350
Northbound Left-Turn	375	200	150
Northbound Thru	1,000+	175	125
Northbound Shared Thru-Right	1,000+	175	75
Southbound Left-Turn	250	200	150
Southbound Thru	725+	200	250
Southbound Right-Turn	250	75	200

1. Highlighted movements currently exceed available storage.

Panattoni Rock Creek Industrial
SimTraffic Queuing Results

		95th % Queue			
		AM		PM	
Intersection/Movement	Future Storage	Future No Action	Future With Project	Future No Action	Future With Project
1. SW Langer Farms Parkway/SW Tualatin-Sherwood Rd					
Eastbound Left-Turn	125	50	50	75	75
Eastbound Thru	650	275	325	375	325
Eastbound Shared Thru-Right	650	275	275	325	350
Westbound Left-Turn	400	100	100	200	175
Westbound Thru	675	200	175	275	300
Westbound Shared Thru-Right	675	125	125	225	250
Northbound Left-Turn	375	125	150	350	225
Northbound Thru	375	150	150	200	150
Northbound Right-Turn	300	75	75	100	75
Southbound Left-Turn	125	50	75	100	125
Southbound Shared Thru-Right	500+	100	100	300	275
2. SW Oregon Street/SW Tualatin-Sherwood Rd					
Eastbound Left-Turn	250+TWLTL	25	25	50	25
Eastbound Thru	750+	225	225	300	300
Eastbound Thru	750+	175	200	275	275
Eastbound Right-Turn	225	75	75	125	125
Westbound Left-Turn	300	125	175	275	325
Westbound Thru	575	100	125	200	300
Westbound Shared Thru-Right	575	75	75	175	225
Northbound Shared Left-Thru	190+TWLTL	125	125	200	225
Northbound Right-Turn	500+	175	175	125	125
Southbound Shared Left-Thru-Right	-	25	25	75	50
3. SW 124th Ave/SW Tualatin-Sherwood Rd					
Eastbound Left-Turn	250	50	50	50	25
Eastbound Left-Turn	250	175	175	150	150
Eastbound Thru	750	400	400	350	325
Eastbound Thru	750	325	350	300	275
Eastbound Right-Turn	350	50	50	50	75
Westbound Left-Turn	400	< 25	< 25	< 25	< 25
Westbound Left-Turn	400	50	50	50	50
Westbound Thru	1,000+	325	325	375	350
Westbound Thru	1,000+	275	275	325	325
Westbound Right-Turn	400	75	75	50	50
Northbound Left-Turn	375	125	125	75	75
Northbound Left-Turn	375	175	175	150	150
Northbound Thru	1,000+	200	200	125	100
Northbound Shared Thru-Right	1,000+	200	175	75	75
Southbound Left-Turn	250	200	200	125	150
Southbound Thru	725+	175	175	200	175
Southbound Shared Thru-Right	725'+	125	175	275	225

1. Highlighted movements are estimated to exceed available storage.

Intersection: 1: SW Langer Farms Parkway & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	TR
Maximum Queue (ft)	274	524	515	174	424	171	173	173	85	144
Average Queue (ft)	23	290	91	53	155	68	76	56	14	44
95th Queue (ft)	119	515	355	117	320	134	146	117	48	98
Link Distance (ft)		485	485		392	436	436			428
Upstream Blk Time (%)		6	3		1					
Queuing Penalty (veh)		0	0		0					
Storage Bay Dist (ft)	250			150				300	125	
Storage Blk Time (%)	0	13		1	5				0	1
Queuing Penalty (veh)	0	2		5	4				0	0

Intersection: 2: SW Oregon St & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	TR	LT	R	LTR
Maximum Queue (ft)	87	542	150	151	314	151	223	52
Average Queue (ft)	9	211	52	62	91	64	138	4
95th Queue (ft)	58	388	137	120	217	124	229	23
Link Distance (ft)		861			705	179	179	208
Upstream Blk Time (%)						0	7	
Queuing Penalty (veh)						0	0	
Storage Bay Dist (ft)	225		125	320				
Storage Blk Time (%)		12	0		0			
Queuing Penalty (veh)		16	1		0			

Intersection: 3: SW 124th Ave & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	R
Maximum Queue (ft)	375	624	375	70	631	422	255	222	210	249	261	99
Average Queue (ft)	98	495	55	13	266	39	109	112	100	104	120	27
95th Queue (ft)	312	716	250	43	469	176	204	184	177	189	212	68
Link Distance (ft)		559			660			694	694		403	403
Upstream Blk Time (%)		20			0							
Queuing Penalty (veh)		0			0							
Storage Bay Dist (ft)	350		350	400		400	375			250		
Storage Blk Time (%)	0	23	0		2	0				0	1	
Queuing Penalty (veh)	0	27	1		2	0				0	1	

Zone Summary

Zone wide Queuing Penalty: 60

Intersection: 1: SW Langer Farms Parkway & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	TR
Maximum Queue (ft)	274	514	510	175	450	319	145	157	150	288
Average Queue (ft)	24	361	128	137	387	162	62	52	36	158
95th Queue (ft)	120	557	377	209	507	293	123	111	107	257
Link Distance (ft)		485	485		392	436	436			428
Upstream Blk Time (%)		6	2		29					
Queuing Penalty (veh)		0	0		0					
Storage Bay Dist (ft)	250			150				300	125	
Storage Blk Time (%)	0	22		11	29				0	20
Queuing Penalty (veh)	0	3		91	57				0	6

Intersection: 2: SW Oregon St & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	TR	LT	R	LTR
Maximum Queue (ft)	131	909	150	345	734	248	217	84
Average Queue (ft)	10	561	56	274	357	116	86	29
95th Queue (ft)	67	1000	151	411	767	206	168	68
Link Distance (ft)		864			705	367	367	208
Upstream Blk Time (%)		9			6			
Queuing Penalty (veh)		0			0			
Storage Bay Dist (ft)	225		125	320				
Storage Blk Time (%)	0	34	0	14	1			
Queuing Penalty (veh)	0	44	1	126	5			

Intersection: 3: SW 124th Ave & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	R
Maximum Queue (ft)	268	606	375	350	738	347	189	149	108	218	296	256
Average Queue (ft)	47	362	66	58	517	89	88	63	25	81	140	103
95th Queue (ft)	167	614	265	255	829	346	159	118	67	160	244	197
Link Distance (ft)		559			686			694	694		403	403
Upstream Blk Time (%)		4			12							
Queuing Penalty (veh)		0			0							
Storage Bay Dist (ft)	350		350	400		400	375			250		
Storage Blk Time (%)	0	7	0	0	18	0				0	1	
Queuing Penalty (veh)	0	12	0	0	20	1				0	1	

Zone Summary

Zone wide Queuing Penalty: 367

Intersection: 1: SW Langer Farms Parkway & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	107	345	345	126	281	213	172	205	93	78	116
Average Queue (ft)	13	174	133	45	100	46	71	76	46	24	46
95th Queue (ft)	61	288	265	93	206	129	133	149	77	62	96
Link Distance (ft)		484	484		393	393	436	436			416
Upstream Blk Time (%)			0								
Queuing Penalty (veh)			0								
Storage Bay Dist (ft)	125			400					300	125	
Storage Blk Time (%)		12									0
Queuing Penalty (veh)		1									0

Intersection: 2: SW Oregon St & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	LT	R	LTR
Maximum Queue (ft)	36	253	220	127	186	146	100	150	198	60
Average Queue (ft)	6	136	88	41	71	47	30	61	102	5
95th Queue (ft)	26	217	178	86	135	107	77	118	179	29
Link Distance (ft)		860	860			706	706	168	168	196
Upstream Blk Time (%)								0	1	
Queuing Penalty (veh)								0	0	
Storage Bay Dist (ft)	250			225	300					
Storage Blk Time (%)		0	0	0						
Queuing Penalty (veh)		0	0	0						

Intersection: 3: SW 124th Ave & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	107	249	448	387	53	9	66	365	314	112	171	193
Average Queue (ft)	8	76	232	182	16	0	14	200	141	31	33	93
95th Queue (ft)	49	184	393	337	46	5	46	313	266	76	117	169
Link Distance (ft)			550	550				652	652			
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	250	250			350	400	400			400	375	375
Storage Blk Time (%)		0	6	0				0	0			
Queuing Penalty (veh)		0	4	0				0	0			

Intersection: 3: SW 124th Ave & SW Tualatin-Sherwood Rd

Movement	NB	NB	SB	SB	SB
Directions Served	T	TR	L	T	TR
Maximum Queue (ft)	248	249	246	231	170
Average Queue (ft)	113	95	115	86	62
95th Queue (ft)	195	190	208	166	134
Link Distance (ft)	675	675		385	385
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			250		
Storage Blk Time (%)			1		
Queuing Penalty (veh)			0		

Zone Summary

Zone wide Queuing Penalty: 6

Intersection: 1: SW Langer Farms Parkway & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	149	412	386	262	333	248	364	212	144	149	337
Average Queue (ft)	18	236	203	104	179	125	178	80	46	41	163
95th Queue (ft)	78	367	336	194	279	226	349	194	95	112	291
Link Distance (ft)		484	484		393	393	436	436			416
Upstream Blk Time (%)		0	0		0		2	1			0
Queuing Penalty (veh)		0	0		0		0	0			0
Storage Bay Dist (ft)	125			400					300	125	
Storage Blk Time (%)		26			0			1		0	22
Queuing Penalty (veh)		4			0			2		0	7

Intersection: 2: SW Oregon St & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	LT	R	LTR
Maximum Queue (ft)	135	380	325	225	312	334	279	253	206	78
Average Queue (ft)	10	191	147	53	170	84	81	111	63	28
95th Queue (ft)	62	305	266	127	279	202	175	198	136	65
Link Distance (ft)		864	864			706	706	355	355	196
Upstream Blk Time (%)									0	
Queuing Penalty (veh)									0	
Storage Bay Dist (ft)	250			225	300					
Storage Blk Time (%)		3	1	0	1					
Queuing Penalty (veh)		0	1	0	5					

Intersection: 3: SW 124th Ave & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	62	274	446	355	68	10	70	413	397	75	128	153
Average Queue (ft)	7	67	220	163	25	1	23	247	205	24	16	77
95th Queue (ft)	47	157	352	290	58	8	58	378	336	59	71	142
Link Distance (ft)			550	550				678	678			
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	250	250			350	400	400			400	375	375
Storage Blk Time (%)		0	4	0				0	0			
Queuing Penalty (veh)		0	2	0				0	0			

Intersection: 3: SW 124th Ave & SW Tualatin-Sherwood Rd

Movement	NB	NB	SB	SB	SB
Directions Served	T	TR	L	T	TR
Maximum Queue (ft)	155	121	156	242	347
Average Queue (ft)	61	25	66	110	143
95th Queue (ft)	120	70	123	195	278
Link Distance (ft)	675	675		385	385
Upstream Blk Time (%)					1
Queuing Penalty (veh)					0
Storage Bay Dist (ft)			250		
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Zone Summary

Zone wide Queuing Penalty: 22

Intersection: 1: SW Langer Farms Parkway & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	88	372	313	139	219	179	174	190	104	92	110
Average Queue (ft)	11	188	149	43	95	43	72	79	51	27	46
95th Queue (ft)	50	313	266	91	182	116	140	144	86	71	92
Link Distance (ft)		484	484		393	393	436	436			416
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	125			400					300	125	
Storage Blk Time (%)		16									0
Queuing Penalty (veh)		2									0

Intersection: 2: SW Oregon St & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	LT	R	LTR
Maximum Queue (ft)	46	276	252	124	238	156	138	176	207	50
Average Queue (ft)	5	142	92	43	90	49	31	65	97	4
95th Queue (ft)	27	227	194	87	180	115	84	127	176	25
Link Distance (ft)		860	860			706	706	168	168	196
Upstream Blk Time (%)								1	1	
Queuing Penalty (veh)								0	0	
Storage Bay Dist (ft)	250			225	300					
Storage Blk Time (%)		0	0		0					
Queuing Penalty (veh)		0	0		0					

Intersection: 3: SW 124th Ave & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	117	274	497	411	56	12	92	347	313	104	165	200
Average Queue (ft)	11	75	245	192	14	0	17	201	149	31	34	94
95th Queue (ft)	56	189	400	343	44	6	54	317	278	75	120	173
Link Distance (ft)			550	550				652	652			
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	250	250			350	400	400			400	375	375
Storage Blk Time (%)		0	6	0				0				
Queuing Penalty (veh)		0	4	0				0				

Intersection: 3: SW 124th Ave & SW Tualatin-Sherwood Rd

Movement	NB	NB	SB	SB	SB
Directions Served	T	TR	L	T	TR
Maximum Queue (ft)	248	236	236	234	220
Average Queue (ft)	108	87	106	87	76
95th Queue (ft)	194	179	200	173	165
Link Distance (ft)	675	675		385	385
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			250		
Storage Blk Time (%)			0	0	
Queuing Penalty (veh)			0	0	

Zone Summary

Zone wide Queuing Penalty: 8

Intersection: 1: SW Langer Farms Parkway & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (ft)	126	363	399	206	339	262	269	171	100	149	318
Average Queue (ft)	16	220	204	99	185	121	127	72	43	41	151
95th Queue (ft)	65	334	339	179	303	245	221	140	72	113	264
Link Distance (ft)		484	484		393	393	436	436			416
Upstream Blk Time (%)			0								0
Queuing Penalty (veh)			0								0
Storage Bay Dist (ft)	125			400					300	125	
Storage Blk Time (%)		24								0	19
Queuing Penalty (veh)		3								0	7

Intersection: 2: SW Oregon St & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	LT	R	LTR
Maximum Queue (ft)	35	347	309	197	324	510	412	270	179	76
Average Queue (ft)	6	195	147	58	196	107	91	121	63	26
95th Queue (ft)	25	306	269	121	324	303	232	223	130	62
Link Distance (ft)		864	864			706	706	355	355	196
Upstream Blk Time (%)						0		0		
Queuing Penalty (veh)						0		0		
Storage Bay Dist (ft)	250			225	300					
Storage Blk Time (%)		3	1	0	4	0				
Queuing Penalty (veh)		0	1	0	17	0				

Intersection: 3: SW 124th Ave & SW Tualatin-Sherwood Rd

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	L
Maximum Queue (ft)	29	233	354	328	80	10	96	394	379	78	142	168
Average Queue (ft)	2	57	212	157	28	0	21	242	199	26	17	78
95th Queue (ft)	14	146	327	282	64	5	57	348	321	59	76	145
Link Distance (ft)			550	550				678	678			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	400	400			400	375	375
Storage Blk Time (%)		0	4	0				0	0			
Queuing Penalty (veh)		0	3	0				0	0			

Intersection: 3: SW 124th Ave & SW Tualatin-Sherwood Rd

Movement	NB	NB	SB	SB	SB
Directions Served	T	TR	L	T	TR
Maximum Queue (ft)	124	99	218	208	296
Average Queue (ft)	59	24	73	106	115
95th Queue (ft)	107	66	156	187	224
Link Distance (ft)	675	675		385	385
Upstream Blk Time (%)					0
Queuing Penalty (veh)					0
Storage Bay Dist (ft)			250		
Storage Blk Time (%)			0	0	
Queuing Penalty (veh)			0	0	

Zone Summary

Zone wide Queuing Penalty: 32

Appendix E

Trip Generation Calculations

Rock Creek Industrial (Sherwood, OR)
Weekday Trip Generation Summary

Land Use	Units [1]	ITE LUC [2]	Trip Rate or Equation [2]	Directional Distribution In	Directional Distribution Out	Trips Generated In	Trips Generated Out	Trips Generated Total	TRUCKS Trip Rate [2]	TRUCKS Distribution In	TRUCKS Distribution Out	TRUCKS Truck Trips Generated In	TRUCKS Truck Trips Generated Out	TRUCKS Truck Trips Generated Total	Non-Truck Trips Generated In	Non-Truck Trips Generated Out	Non-Truck Trips Generated Total
DAILY																	
Proposed Use:																	
Warehousing	421,820 GFA	150	T = 1.58(X)+38.29	50%	50%	352	353	705	0.60	50%	50%	126	127	253	226	226	452
					New Daily Trips =	**352**	**353**	**705**				**126**	**127**	**253**	**226**	**226**	**452**
AM PEAK HOUR																	
Proposed Use:																	
Warehousing	421,820 GFA	150	T = 0.12(X)+23.62	77%	23%	57	17	74	0.02	52%	48%	4	4	8	53	13	66
					New AM Peak Hour Trips =	**57**	**17**	**74**				**4**	**4**	**8**	**53**	**13**	**66**
PM PEAK HOUR																	
Proposed Use:																	
Warehousing	421,820 GFA	150	T = 0.12(X)+26.48	28%	72%	22	55	77	0.03	52%	48%	7	6	13	15	49	64
					New PM Peak Hour Trips =	**22**	**55**	**77**				**7**	**6**	**13**	**15**	**49**	**64**

Notes:
[1] GFA = Gross Floor Area.
[2] Based on Institute of Transportation Engineers (ITE) *Trip Generation* Manual, 11th Edition, 2021.

Appendix F

Signal Warrant Analysis

Panattoni Rock Creek Industrial
TENW Project #2023-196

Signal Warrant Analysis for Tonquin Court/SW Oregon Street

Warrant 3 - Peak Hour (AM Peak Hour)

Condition A

This warrant is met if all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach

Tonquin Ct/SW Oregon St, NB approach (1 lane)			
Control Delay (sec/veh) =	17.3	sec/veh	**Based on results from HCM 7th Edition analysis
Stopped Delay (sec/veh) =	13.3	sec/veh	
Total Volume (veh/hr) =	35	veh/hour	
Vehicle-Hours =	0.13	veh-hours	
CONDITION 1 MET =	**NO**		

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes.

Tonquin Ct/SW Oregon St, NB approach (1 lane)		35
CONDITION 2 MET =	**NO**	

3. The total entering volume serviced during the hour equals or exceeds 650 vehicle per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

Tonquin Ct/SW Oregon St		815
CONDITION 3 MET =	**YES**	

WARRANT MET =	**NO**

NOTE:
This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

Panattoni Rock Creek Industrial
TENW Project #2023-196

Signal Warrant Analysis for Tonquin Court/SW Oregon Street

Warrant 3 - Peak Hour (PM Peak Hour)

Condition A

This warrant is met if all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach

Tonquin Ct/SW Oregon St, NB approach (1 lane)			
Control Delay (sec/veh) =	17.2	sec/veh	**Based on results from HCM 7th Edition analysis
Stopped Delay (sec/veh) =	13.2	sec/veh	
Total Volume (veh/hr) =	131	veh/hour	
Vehicle-Hours =	0.48	veh-hours	
CONDITION 1 MET =	**NO**		

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes.

Tonquin Ct/SW Oregon St, NB approach (1 lane)		131
CONDITION 2 MET =	**YES**	

3. The total entering volume serviced during the hour equals or exceeds 650 vehicle per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

Tonquin Ct/SW Oregon St		876
CONDITION 3 MET =	**YES**	

WARRANT MET =	**NO**

NOTE:
This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

Panattoni Rock Creek Industrial
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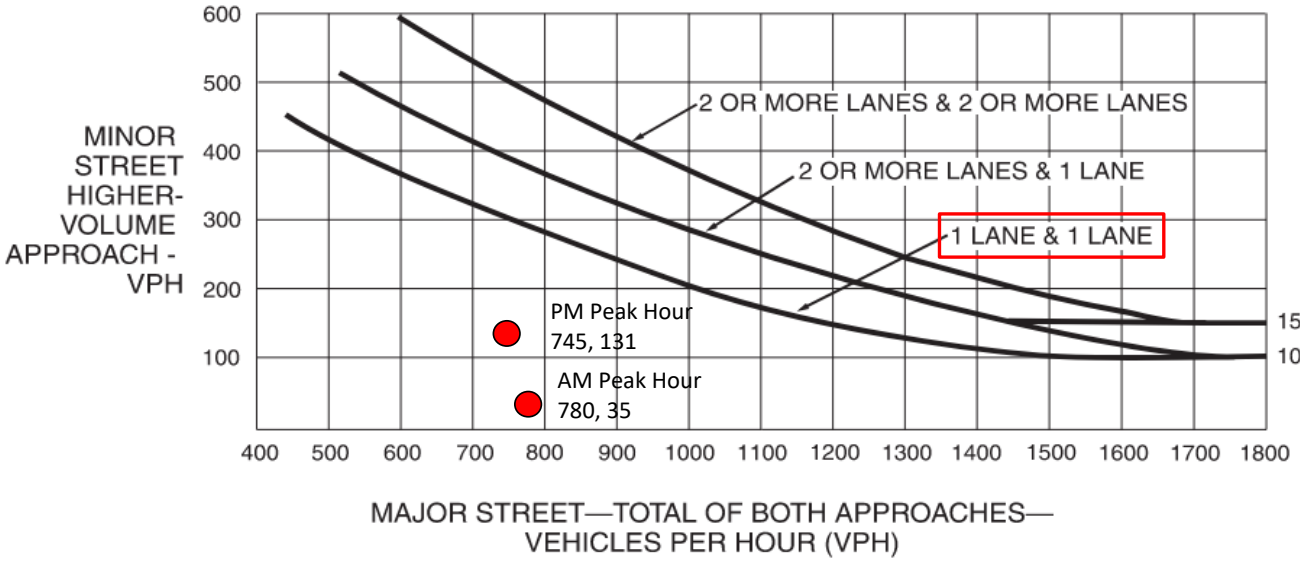
Signal Warrant Analysis for Tonquin Court/SW Oregon Street

Warrant 3 - Peak Hour
Condition B

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

WARRANT MET (2) = NO

Notes:
(1) The highest hourly minor/major approach volumes as shown in the data for Warrant 1.
(2) The signal warrant is satisfied when the conditions given below exist for one hour of an average day.

MUTCD Warrant Requirements

Warrant 3: Peak Hour - Condition B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor street approach (one direction only) for 1 hour of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

NOTE:

This signal warrant shall only be applied in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.