



lancaster  
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## Tualatin Logistics Park

Transportation Impact  
Analysis

Tualatin, Oregon

Date:

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## Executive Summary

1. The proposed Tualatin Logistics Park is a 452,795-square-foot, flexible space warehouse with approximately 197 passenger vehicle parking spaces, 133 trailer parking spaces, 115 dock doors, and 4 grade doors that would replace the existing Tualatin Island Greens, a 43-tee driving range and 18-hole miniature golf park.
2. The project site (Tax Lot 2S128A 100) is approximately 24.16 acres and is zoned General Manufacturing (MG). Located between SW Cipole Road and SW 124th Avenue approximately 800 feet north of SW Tualatin-Sherwood Road, the property is surrounded by homogenous land uses, consisting of predominantly industrial warehouses or undeveloped land.
3. Four access scenarios on SW 124th Avenue are evaluated as part of this TIA.
  - Each includes the existing full access driveway along SW Cipole Road at the southern boundary of the site, approximately 1,100 feet north of SW Tualatin-Sherwood Road.
  - Scenario 1 includes a potential full access driveway directly across SW 124<sup>th</sup> Avenue at the SW Cimino Street intersection.
  - Scenario 2 includes a potential right-in/right-out access at the northern boundary of the site, approximately 545 feet south of Myslony Street.
  - Scenario 3 includes a potential full access at the northern boundary of the site, approximately 545 feet south of Myslony Street.
  - Scenario 4 includes a potential full access driveway directly across SW 124<sup>th</sup> Avenue at the SW Cimino Street intersection and a potential right-in/right-out access at the northern boundary of the site, approximately 545 feet south of Myslony Street.
4. The proposed development is speculative with flexible space that could accommodate a single tenant or multiple tenants. Specht has developed similar properties in the Portland metropolitan area with less than 20 percent of the 1.87 million square of space in manufacturing uses and more than 80 percent in warehousing uses. However, a much more conservative assumption of general light industrial is assumed for this TIA.
5. Considering the existing site use, the trip generation calculations show that the Tualatin Logistics site assuming general light industrial for the site is projected to generate an additional 321 net trips during the morning peak hour, 246 net trips during the evening peak hour, and 1,690 net trips during the average weekday.
6. Based on a review of the most recent five years of available crash data, no significant trends or crash patterns were identified at any of the study intersections that do not already have planned and funded improvements.
7. Left-turn lane warrants are not met for either peak hour under the 2025 buildout scenario for the proposed SW Access to SW Cipole Road.
8. Preliminary traffic signal warrants are not met at any of the proposed site driveways (regardless of location) for either peak hour under buildout conditions.



9. Based on the sight distance analysis, all site access options are expected to operate safely. No mitigation pertaining to sight distance is required; however, trimming of some of the lower tree branches that extend over fencing into the public right-of-way could improve sight lines for the NE Access proposed in Scenarios 2 and 3.
10. The SW Access to SW Cipole Road will meet Washington County access spacing standards and no alternative is proposed.
11. While the SE Access to SW 124th Avenue in Scenario 1 would meet the TDC 75.140 specifications for an access at least 800 feet north of SW Tualatin-Sherwood Road, opposite SW Cimino Street, it has few significant systemic advantages and poses significant disadvantages to development of the subject site. A site access at the NE corner of the site is the preferred option with a full-movement access (Scenario 3) as the desired configuration and a right-in/right-out access (Scenario 2) as an acceptable alternative. If access is required at the SE corner of the site, a right-in/right-out access at the NE corner (Scenario 4) would offer some benefits with few impacts to the system; however, this option is not preferred.
12. All proposed driveways can accommodate trucks entering and exiting from the north or south.
13. All study area intersections are anticipated to operate within the acceptable jurisdictional standards. Therefore, no mitigation for traffic operations is required or recommended. The access configuration options have little effect on study area operations.
14. An analysis of queuing for key study intersections shows that the queues in the southbound left-turn lanes on SW 124th Avenue at SW Tualatin-Sherwood Road are expected to exceed the available storage. This condition is expected with the 2025 background condition and will worsen with all four buildout scenarios. All other queuing can be accommodated within the available storage.
15. An option to improve operations at the SW Tualatin-Sherwood Road & SW 124th Avenue intersection is to restripe the southbound approach to provide two lanes with outer lane serving both through and right-turn movements. The alternative lane striping would result in a small reduction in the average delay per vehicle, particularly in the morning. The 95th percentile queues would be reduced so that no spillback into the adjacent through lane is likely.
16. With Scenarios 2 and 3, the access opposite SW Cimino Street could potentially be limited access (right-in/right-out plus possible left out). Columbia Corrugated Box has indicated they are amenable to a limited access at this location. This change would allow the northbound left-turn lane to be removed and much longer southbound left-turn lanes to be constructed on SW 124th Avenue at SW Tualatin-Sherwood Road.

# Project Description

## Introduction

The proposed Tualatin Logistics Park is a 452,795-square-foot, flexible space warehouse with approximately 197 passenger vehicle parking spaces, 133 trailer parking spaces, 115 dock doors, and 4 grade doors to be located at 20400 SW Cipole Road. The development would replace the existing Tualatin Island Greens, a 43-tee driving range and 18-hole miniature golf park.

Four access scenarios on SW 124th Avenue are evaluated as part of this TIA. Scenario 1 considers an access alignment at the SE corner of the site, opposite SW Cimino Street as indicated in Tualatin Development Code. Scenario 2 considers a right-in/right-out access at the NE corner of the site. This second scenario is proposed as an alternative to the SE corner access for several reasons. Significant grade differences will exist between the site and SW 124th Avenue. The curb cut on SW 124th Avenue spans the tax lots of the subject property and the property to the south (Columbia Corrugated Box). Providing access to both tax lots from SW 124th significantly impacts what can be developed on the southeast corner of the site. Scenario 3 considers how the site would operation if the access at the NE corner of the site is permitted to have full access. Scenario 4 assumes that the access issues to SW 124<sup>th</sup> Avenue opposite SW Cimino Street can be resolved and considers a right-in/right-out access at the NE corner of the site to provide optimal internal site circulation.

The purpose of this study is to determine whether the transportation system within the vicinity of the site is capable of safely and efficiently supporting the proposed development and to determine any mitigation that may be necessary to do so.

Based on prior scoping coordination with the City of Tualatin and Washington County, the report includes safety and capacity analyses at 12 intersections:

1. SW Tualatin-Sherwood Road & SW Oregon Street
2. SW Tualatin-Sherwood Road & SW Cipole Road
3. SW Tualatin-Sherwood Road & SW 124th Avenue
4. SW Tualatin-Sherwood Road & SW 120th Avenue
5. SW Tualatin-Sherwood Road & SW 115th Avenue
6. SW Tualatin-Sherwood Road & SW Avery Street/112th Avenue
7. SW Cipole Road & Site Access
8. SW Cipole Road & SW Herman Road
9. SW 124th Avenue & SW Cimino Street/Site Access for Scenario 1
10. SW 124<sup>th</sup> Avenue & Site Access for Scenarios 2 and 3
11. SW 124th Avenue & SW Myslony Road
12. SW 124th Avenue & SW Herman Road

Detailed information on traffic counts, trip generation calculations, safety analyses, and level of service calculations are included in the appendix to this report.

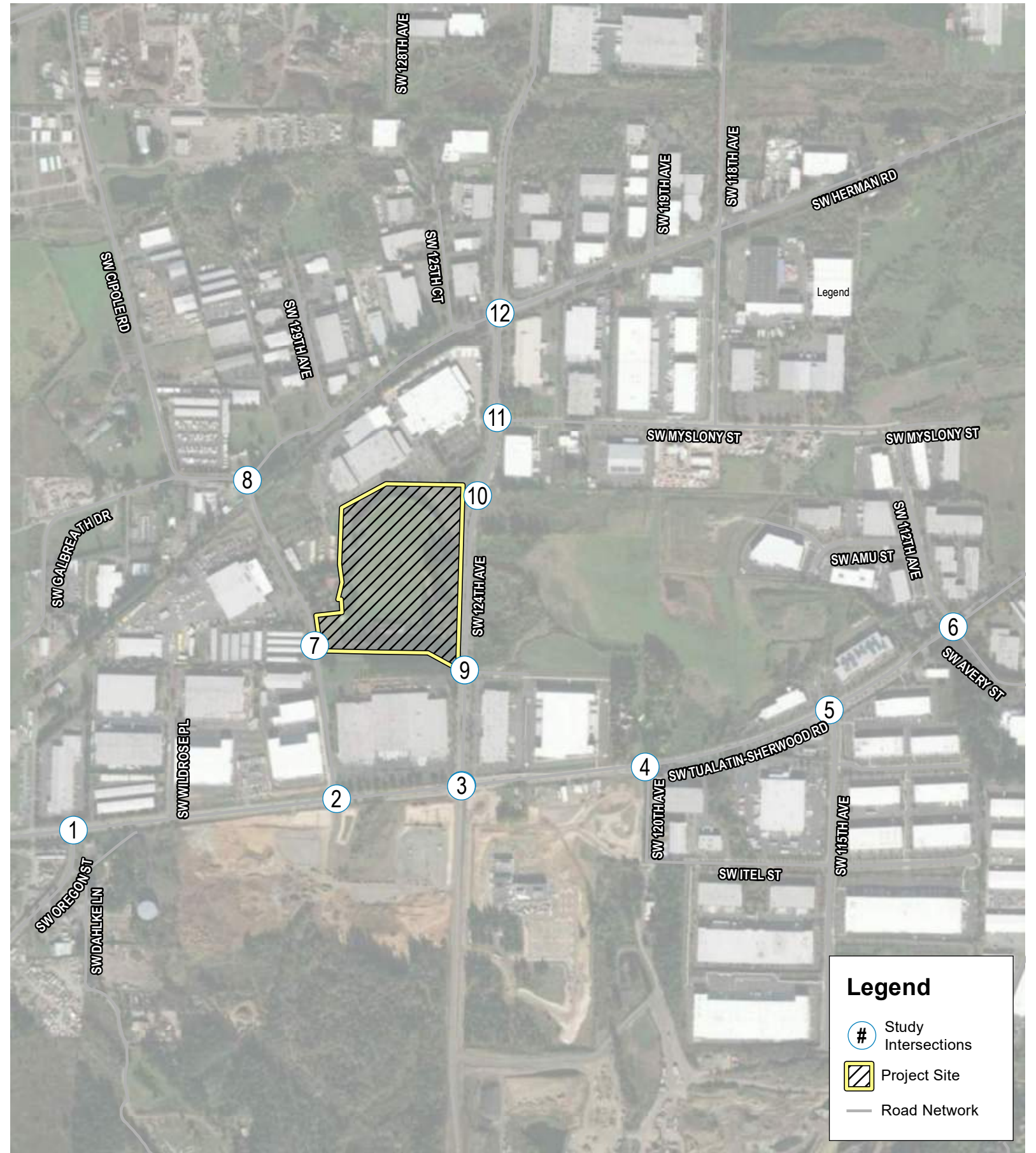
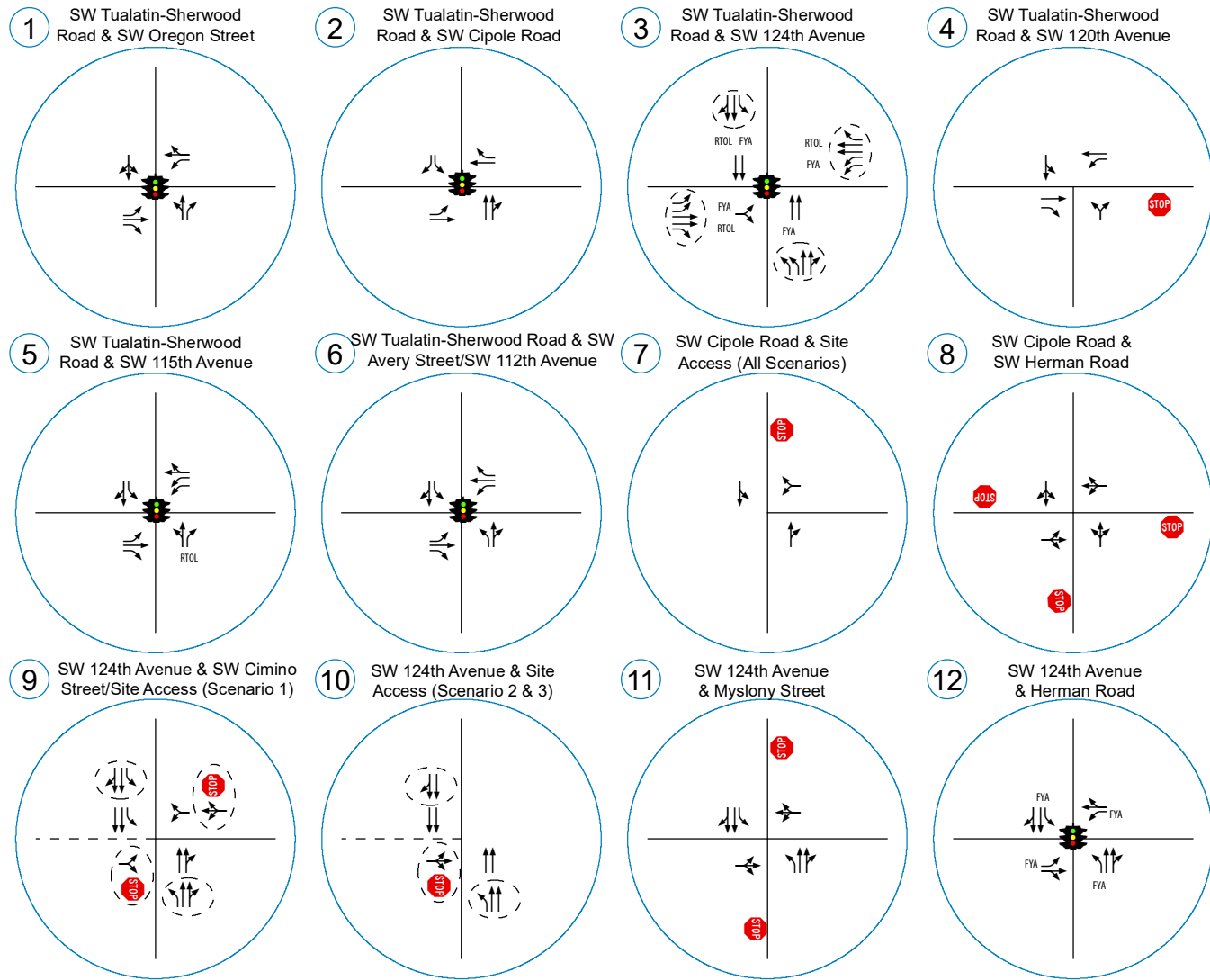
## Location Description

The project site (Tax Lot 2S128A 100) is approximately 24.16 acres and is zoned General Manufacturing (MG). Located between SW Cipole Road and SW 124th Avenue approximately 800 feet north of SW Tualatin-Sherwood Road, the property is surrounded by homogenous land uses consisting of predominantly industrial warehouses or undeveloped land.

All three scenarios consider two access point for the site:

- Each includes the existing full access driveway along SW Cipole Road at the southern boundary of the site, approximately 1,100 feet north of SW Tualatin-Sherwood Road.
- Scenario 1 includes a potential full access driveway directly across SW 124<sup>th</sup> Avenue at the SW Cimino Street intersection.
- Scenario 2 includes a potential right-in/right-out access at the northern boundary of the site, approximately 545 feet south of Myslony Street.
- Scenario 3 includes a potential full access at the northern boundary of the site, approximately 545 feet south of Myslony Street.
- Scenario 4 includes a potential full access driveway directly across SW 124<sup>th</sup> Avenue at the SW Cimino Street intersection and a potential right-in/right-out access at the northern boundary of the site, approximately 545 feet south of Myslony Street.

A site plan is included in the appendix and the site location is shown in Figure 1.



## Vicinity Streets

The characteristics of roadways expected to be impacted by the proposed development are summarized in Table 1.

**Table 1: Roadway Characteristics**

Street Name	Jurisdiction	Functional Classification	Travel Lanes	Posted Speed	Curbs & Sidewalks	On-Street Parking	Bicycle Facilities
SW Tualatin-Sherwood Road	Washington County	Major Arterial	3-4*	45 mph	Partial Both Sides	Prohibited	Bike Lanes
SW Oregon Street	Washington County	Arterial	2-3	35 mph	Partial Both Sides	Prohibited	Partial Bike Lanes
SW Cipole Road	Washington County	Major Collector	2	45 mph	Partial Both Sides	Prohibited	None
SW 124 <sup>th</sup> Avenue	City of Tualatin (adjacent to site)	Major Arterial	4-5	45 mph	Partial Both Sides	Prohibited	Bike Lanes
SW 120 <sup>th</sup> Avenue	City of Tualatin	Connector	2-	Not Posted	None	Prohibited	None
SW 115 <sup>th</sup> Avenue	City of Tualatin	Major Collector	2-4	Not Posted	Both Sides	Prohibited	Partial Bike Lanes
SW 112 <sup>th</sup> Avenue	City of Tualatin	Major Collector	2-3	Not Posted	Both Sides	Prohibited	Bike Lanes
SW Avery Street	City of Tualatin	Minor Arterial	2-3	35 mph	Both Sides	Prohibited	Partial Bike Lanes
SW Myslony Street	City of Tualatin	Major Collector	2-3	Not Posted	Partial Both Sides	Partially Permitted	Partial Bike Lanes
SW Herman Road	City of Tualatin	Minor Arterial	2-3	45 mph	North Side	Prohibited	Bike Lanes

\* The Tualatin-Sherwood Road expansion project is a Washington County Capital Improvement Program (CIP) Project intends to expand the roadway to five lanes, improve bicycle and pedestrian facilities, improve storm drainage, and install street lighting.

## Study Intersections

Through coordination with the City of Tualatin and Washington County, 12 study intersections were identified for evaluation. The existing characteristics of these intersections are summarized in Table 2. A vicinity map showing the project site, vicinity streets, and study intersection configurations is shown in Figure 1.



Table 2: Vicinity Intersection Descriptions

	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
1	SW Tualatin-Sherwood Road & SW Oregon Street	Four Legs	Signal	EB/WB Protected/Permitted NB/SB Permitted NB Right-Turn Overlap
2	SW Tualatin-Sherwood Road & SW Cipole Road	Three Legs	Signal	EB Protected/Permitted SB Permitted <sup>1</sup>
3	SW 124th Avenue & SW Tualatin-Sherwood Road	Four Legs	Signal	All Protected/Permitted Left EB/WB/SB Right-Turn Overlap
4	SW Tualatin-Sherwood Road & SW 120th Avenue	Three Legs	Stop Controlled	NB Stop Sign
5	SW Tualatin-Sherwood Road & SW 115th Avenue	Four Legs	Signal	EB Protected/Permitted WB Protected Dual Left NB Right-Turn Overlap
6	SW Tualatin-Sherwood Road & SW Avery Street/112th Avenue	Four Legs	Signal	EB/WB Protected/Permitted NB/SB Protected
7	SW Cipole Road & Site Access (All Scenarios)	Three Legs	Stop Controlled	WB Stop Sign
8	SW Cipole Road & SW Herman Road	Four Legs	Stop Controlled	All-Way Stop Signs
9	SW 124th Avenue & SW Cimino Street/Site Access for Scenario 1	Four Legs <sup>1</sup>	Stop Controlled	EB/WB Stop Signs <sup>1</sup>
10	SW 124th Avenue & Site Access for Scenarios 2, 3 and 4	Three Legs <sup>2</sup>	Stop Controlled	EB Stop Sign <sup>2</sup>
11	SW 124th Avenue & SW Myslony Road	Four Legs	Unsignalized	EB/WB Stop-Controlled
12	SW 124th Avenue & SW Herman Road	Four Legs	Signalized	All Protected/Permitted Left

Notes:

1. The eastbound leg will be constructed under Scenario 1 by the project and will be stop controlled.
2. The eastbound leg will be constructed under Scenario 2 or 4 as right-in/right-out or Scenario 3 as full access and will be stop controlled.

**Public Transit**

The project is located near one transit line that has stops within an approximate one-half mile walking/biking distance of the southern part of the site.

Route 97 – Tualatin-Sherwood Road provides weekday rush-hour service between W Langer Dr/Sherwood Plaza and the Tualatin WES Station. The nearest bus stops to the site are located near the intersection of SW Cipole Road and SW Tualatin-Sherwood Road. Weekday service is scheduled with four westbound and three eastbound trips in the morning at approximately 60-minute headways. Afternoon service is scheduled with four eastbound and three westbound trips at approximately 60-minute headways. There is currently no weekend or holiday service.



## Site Trips

### Trip Generation

To estimate trips that will be generated by the redevelopment, trip rates from the *Trip Generation Manual*<sup>1</sup> were used based on the number of existing driving range tees, number of golf holes, and the proposed square footage.

#### Existing Site Development

The site is currently occupied by Tualatin Island Greens Golf Center and Grill. The golf facilities include a driving range and an 18-hole miniature golf course. The driving range includes 43 tees with synthetic mats for year-round use and additional grass tees available in the spring and summer. These facilities are open from 9:00 AM to 8:00 PM, September through March, and from 9:00 AM to 9:00 PM, April through August. The site also includes a restaurant with hours from 10:30 to 6:30 PM, September through March, and 10:30 AM to 7:30 PM, April 9:00 AM to 8:00 PM from September to March through August.

Trip generation was estimated based on the golf facilities; the restaurant is assumed to be used primarily by the golfing customers. Trip data for both types of golf facilities are limited; therefore, the following assumptions were made to estimate trips for the site:

- The trip data for the miniature golf land use code (ITE LUC 431) is limited to a single survey during the weekday PM peak period. No activity is assumed during the morning peak hour. The weekday PM peak hour trip rate is very low and may vary over the year with more activity during summer months and less during winter months. However, we suggest that credit for the facility should be included in the trip generation for the site. No daily data is available; therefore, the weekday rate was assumed to be 10 times the daily rate.
- The trip data for a driving range (ITE LUC 432) is limited to a single survey for the morning and weekday periods but has seven surveys for the weekday PM peak period. While the driving range does not open until 9:00 AM, retail and maintenance staff need to be on site before 9:00 AM. Two of the ITE survey sites also had staff data available with counts of 14 and 15 employees. Additionally, food service deliveries also typically occur in the morning. Therefore, the morning peak hour trips were included in the trip generation estimates. Trip estimates were prepared based on the 43 year-round tees.

One of the concerns that was raised about prior trip generation estimates is that the golf site peaks may occur later than the peaks of the street traffic or the peaks of industrial development. To acknowledge this may be the case for the traffic study, a 20 percent discount in peak hour trips is proposed.

The resulting trip generation is presented in Table 3.

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<sup>1</sup> Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.

**Table 3: Trip Generation Summary – Existing Land Uses**

Land Use	ITE Code	Size	AM Peak Hour			PM Peak Hour			Weekday Total
			In	Out	Total	In	Out	Total	
Driving Range	432	43 Tees	10	7	17	24	30	54	586
Miniature Golf	431	18 Holes	0	0	0	2	4	6	60
<i>20% Discount for Offset Peak Hour</i>			-2	-1	-3	-5	-7	-12	-130
<b>Total</b>			<b>8</b>	<b>6</b>	<b>14</b>	<b>21</b>	<b>27</b>	<b>48</b>	<b>516</b>

**Proposed Site Development**

Specht Properties, Inc. proposes to redevelop the site with a single industrial building enclosing 452,795 SF of gross floor area with 115 dock doors and 4 grade doors. As proposed, the site includes 197 parking spaces and 133 trailer parking spaces. Some accessory office space is included in the building layout.

The proposed development is speculative with flexible space that could accommodate a single tenant or multiple tenants. Specht has developed similar properties in the Portland metropolitan area. The locations, sizes, and tenant descriptions are attached to this memorandum, each with a recent photo of the site. The sites range from a single 290,000-SF building to three buildings totaling more than 733,000 SF. Only two of the sites have any manufacturing tenants and a portion of those operations are warehousing and distribution. Of the total 1.87 million SF of space, approximately 18 percent is leased to tenants whose operations include manufacturing.

A range of potential industrial land use assumptions was considered to estimate the trip generation for the site. Trip estimates were lowest for ITE LUC 154, High-Cube Transload and Short-Term Storage Warehouse, and highest for LUC 110, General Light Industrial, and LUC 156, High-Cube Parcel Hub Warehouse. Table 4 summarizes the total and truck trip generation for the range of industrial uses.

While the original traffic scoping suggested a mix of 85 percent warehouse and 15 percent manufacturing based on the available site parking, a much more conservative assumption of general light industrial is assumed for this TIA. A parcel hub warehouse would generate the same number of trips but with a substantially different directional distribution from other industrial uses. The truck trip generation of general light industrial is slightly lower than other uses; however, the variation in the number of trucks generated during the peak hours for the industrial uses is small and the percentage of overall site-generated traffic is very low. Truck percentages for the trip generation were compared with those on the existing roadway and were found to be very similar to the truck percentages on the adjacent roadways.





Table 4: Trip Generation Summary – Potential Industrial Land Uses

Land Use	ITE Code	AM Peak Hour			PM Peak Hour			Weekday Total	Employee Equivalent*
		In	Out	Total	In	Out	Total		
<b>Total Vehicle Trips based on 452,795 SF Industrial Building</b>									
General Light Industrial	110	295	40	335	41	253	294	2,206	636
Manufacturing	140	234	74	308	104	231	335	2,150	1,022
Warehousing	150	59	18	77	23	59	82	774	125
High-Cube Transload and Short-Term Storage Warehouse	154	28	8	36	13	32	45	634	NA
High-Cube Fulfillment Center Warehouse - Non-Sort	155	55	13	68	28	44	72	820	487
High-Cube Parcel Hub Warehouse	156	159	158	317	197	93	290	2,096	NA
<b>Truck Trips based on 452,795 SF Industrial Building</b>									
General Light Industrial	110	3	2	5	3	3	5	114	-
Manufacturing	140	8	6	14	6	8	14	204	-
Warehousing	150	5	4	9	7	7	14	272	-
High-Cube Transload and Short-Term Storage Warehouse	154	4	5	9	2	3	5	100	-
High-Cube Fulfillment Center Warehouse - Non-Sort	155	5	5	9	2	3	5	104	-
High-Cube Parcel Hub Warehouse	156	NA	NA	41	NA	NA	27	262	-

\* Estimated as average number of employees needed to generate the equivalent number of vehicle trips based on KSF

**Total Site Trip Generation**

Table 5 summarizes the estimated net trip generation of the site with the assumptions discussed above.

Table 5: Trip Generation Summary (Warehousing)

Land Use	AM Peak Hour			PM Peak Hour			Weekday Total
	In	Out	Total	In	Out	Total	
Existing Land Use	-8	-6	-14	-21	-27	-48	-516
Proposed Land Use	295	40	335	41	253	294	2,206
Net Increase	287	34	321	20	227	246	1,690

The trip generation calculations show that the Tualatin Logistics site assuming general light industrial for the site is projected to generate an additional 321 net trips during the morning peak hour, 246 net trips during the evening peak hour, and 1,690 net trips during the average weekday.



## Trip Distribution and Assignment

The directional distribution of site trips to/from the project site is necessary to identify intersections to be included in the study area of the TIA. The following trip distribution was estimated based on the locations of likely trip destinations and locations of major transportation facilities in the site vicinity:

- Approximately 30 percent of site trips will travel to/from the south along SW 124<sup>th</sup> Avenue
- Approximately 20 percent of site trips will travel to/from the west along SW Tualatin-Sherwood Road
- Approximately 30 percent of site trips will travel to/from the east along SW Tualatin-Sherwood Road
- Approximately 5 percent of site trips will travel to/from the north along SW Cipole Road
- Approximately 15 percent of site trips will travel to/from the north along SW 124<sup>th</sup> Avenue

Trip distribution at the site accesses will depend on the location and configuration of the accesses.

### **Access Scenario 1**

With the first scenario assuming an access on SW 124<sup>th</sup> Avenue at the southeast corner of the site and an access on SW Cipole Road, the split of traffic between the two accesses is assumed to be 50 percent at each access. A detailed illustration of the distribution for this scenario was presented in the scoping memorandum, which has been included in Appendix A.

The resulting trip assignment is shown in Figure 2.

### **Access Scenario 2**

With the second scenario assuming a limited access on SW 124<sup>th</sup> Avenue at the northeast corner of the site, the split of traffic is assumed to be 65 to 70 percent using the SW Cipole Road access while 30 to 35 percent using the limited access at SW 124<sup>th</sup> Avenue. A detailed illustration of the distribution for this scenario was presented in the scoping memorandum, which has been included in Appendix A.

The resulting trip assignment is shown in Figure 3.

### **Access Scenario 3**

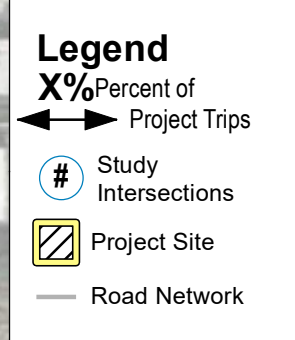
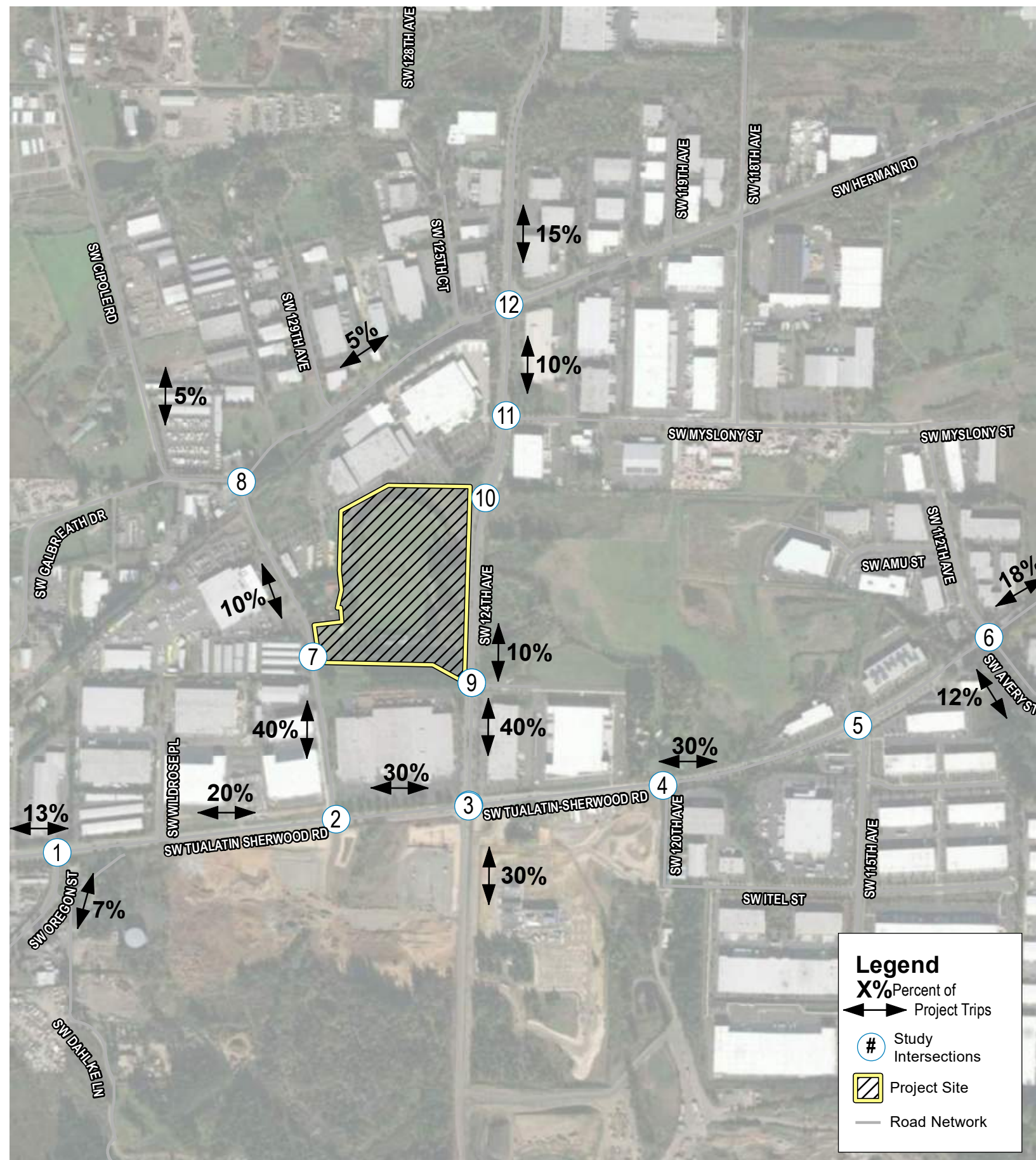
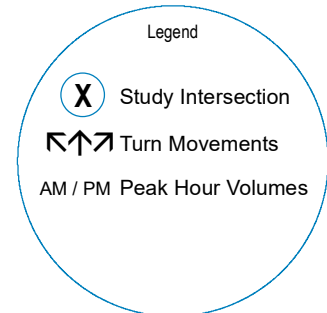
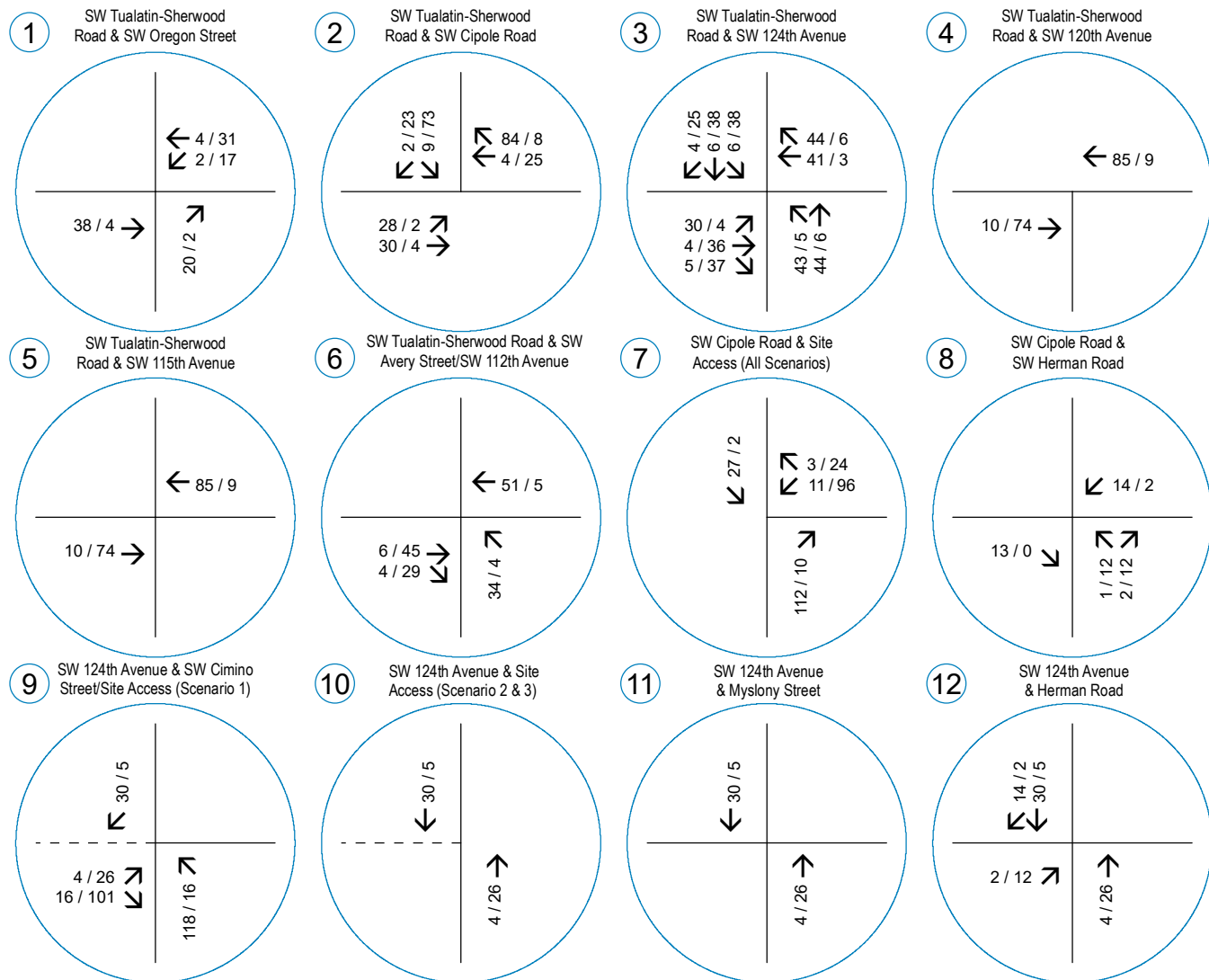
With the third scenario assuming a full access on SW 124<sup>th</sup> Avenue at the northeast corner of the site, the split of traffic is assumed to be approximately 65 percent using the SW Cipole Road access and 35 percent using the access on SW 124<sup>th</sup> Avenue.

The resulting trip assignment is shown in Figure 4.

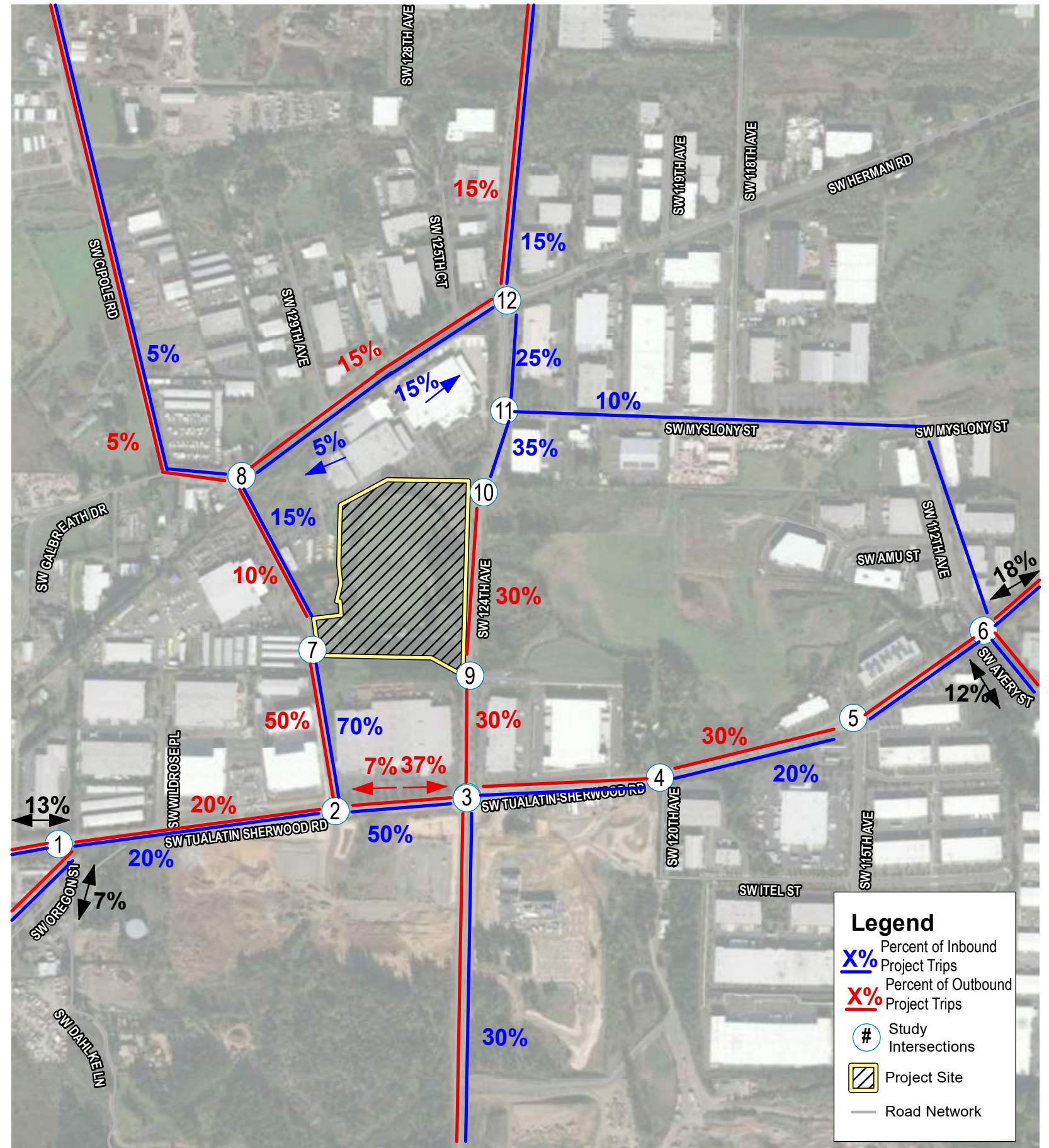
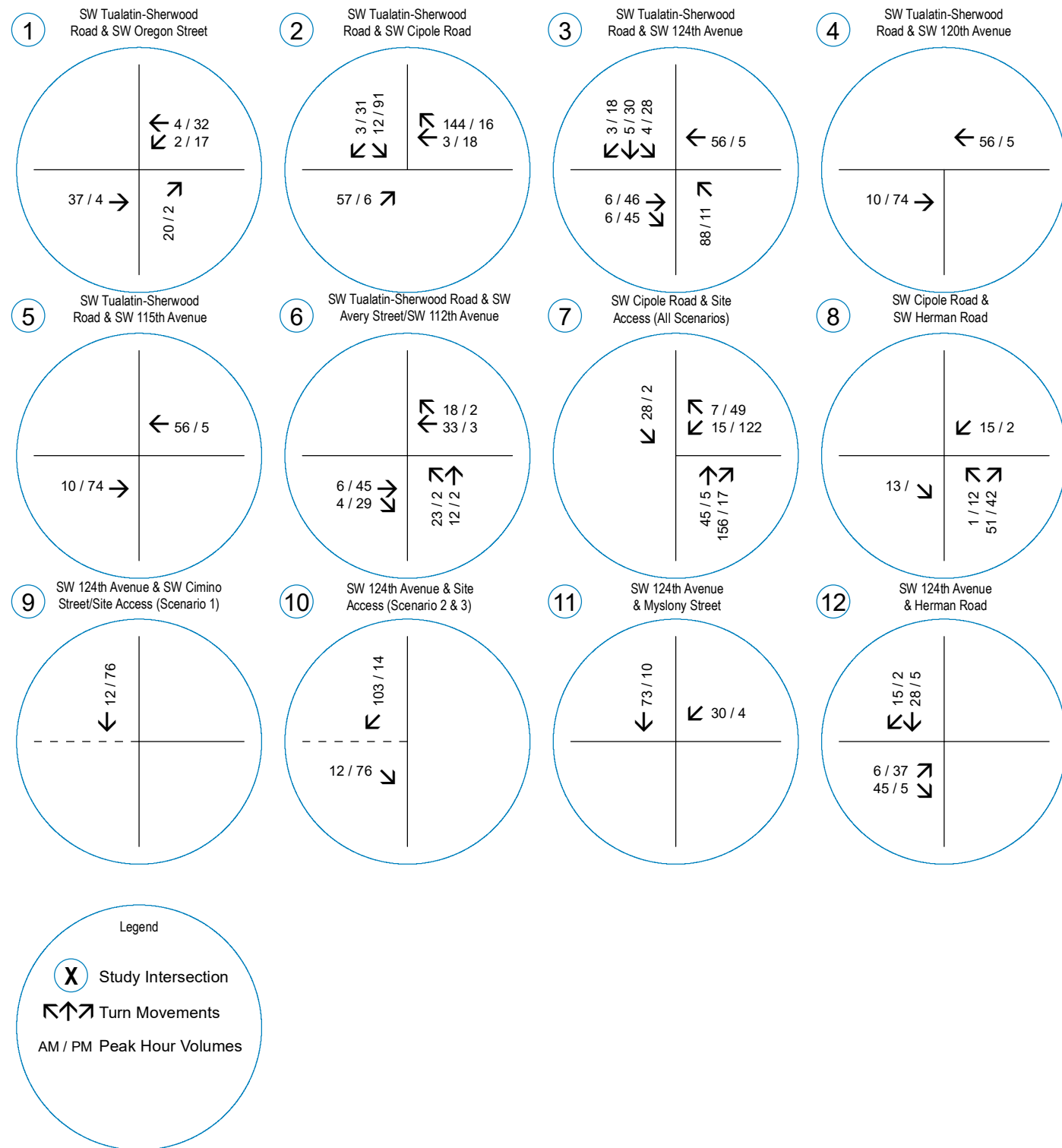
### **Access Scenario 4**

The fourth scenario assumes a full access on SW 124<sup>th</sup> Avenue at the southeast corner of the site and a limited access on SW 124<sup>th</sup> Avenue at the northeast corner of the site. The split of traffic is assumed to be approximately 35 percent using the SW Cipole Road access, 35 percent using the access on SW 124<sup>th</sup> Avenue opposite SW Cimino Street, and 30 percent using the limited access at the northeast corner of the site.

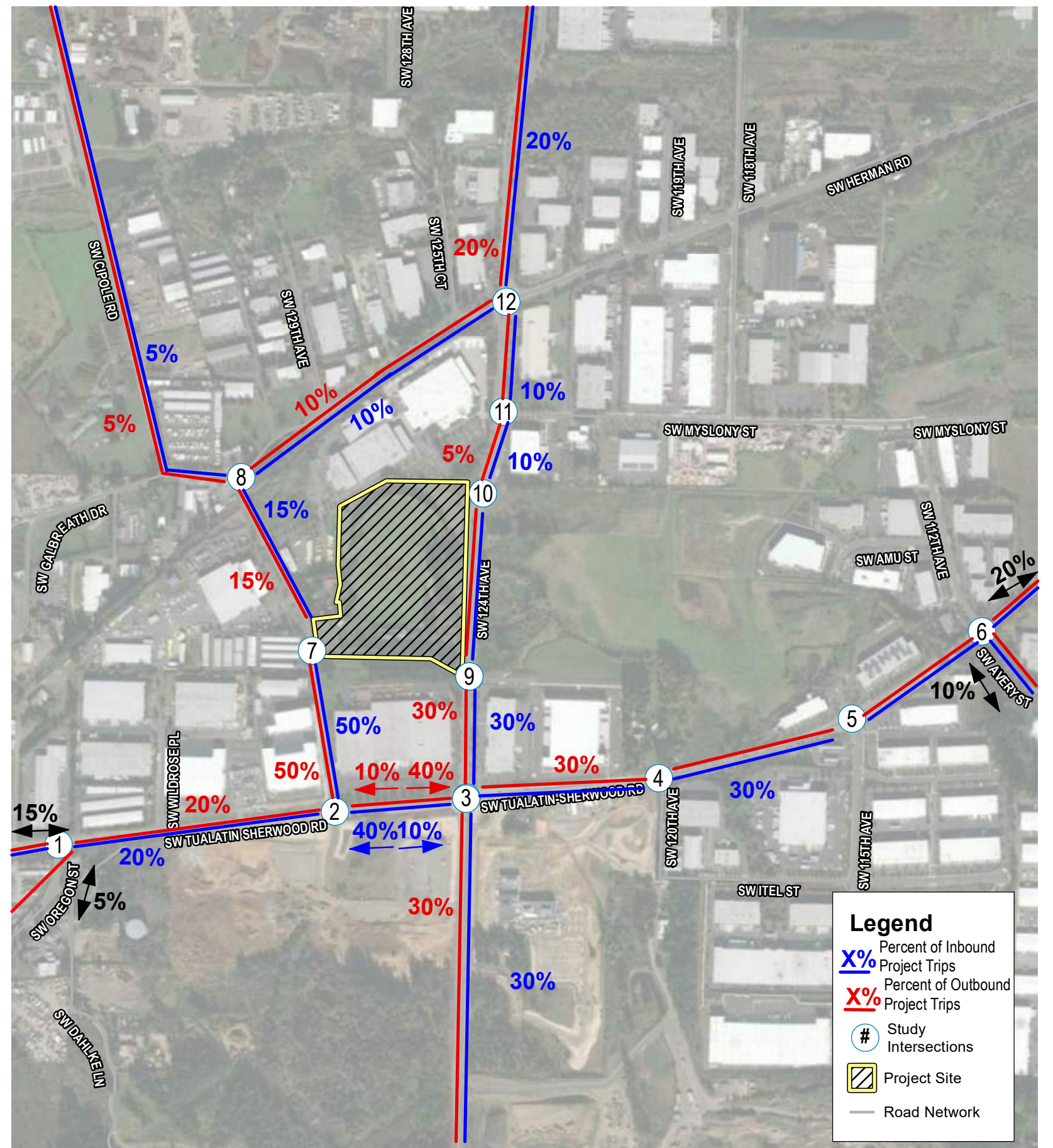
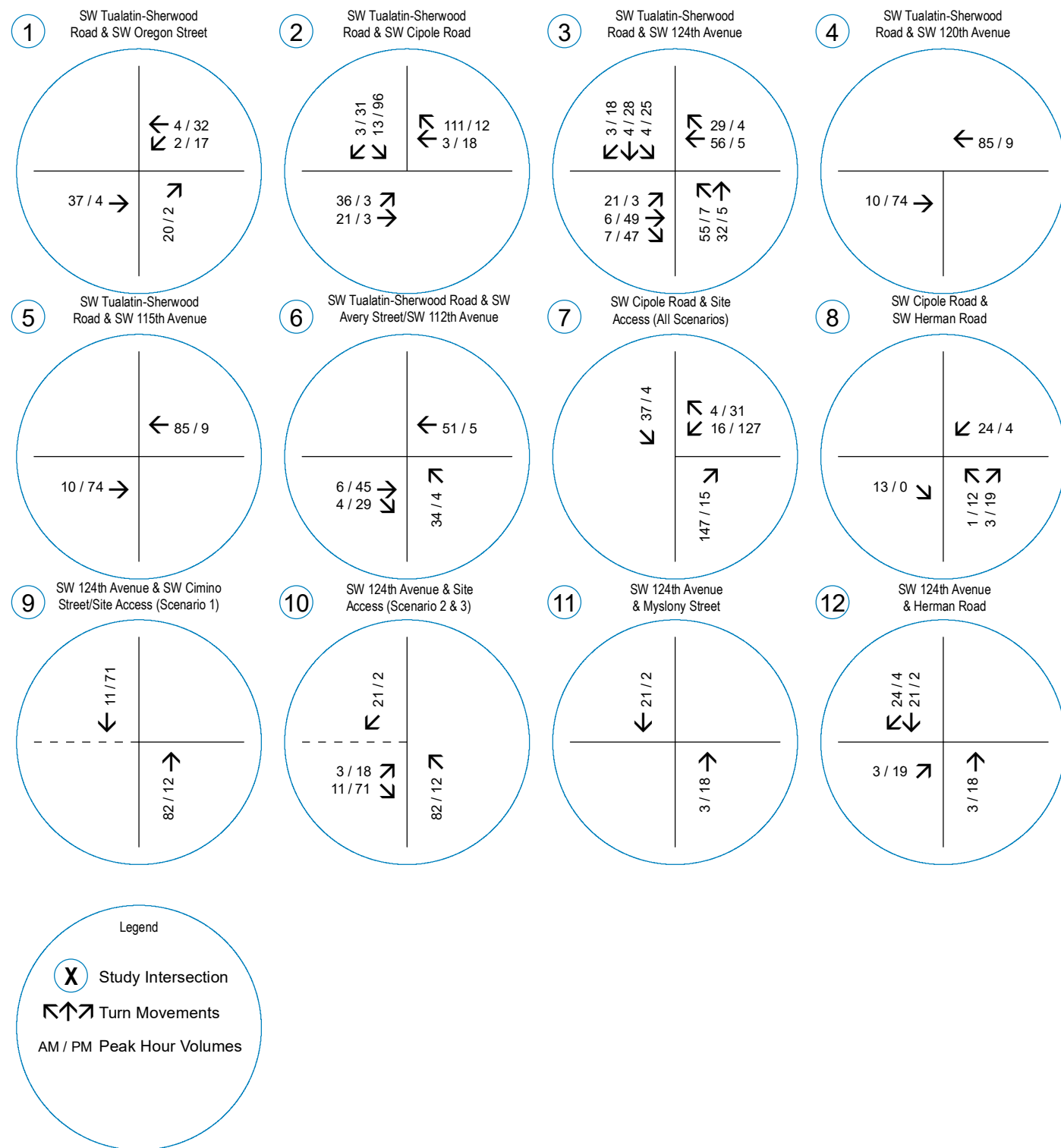
The resulting trip assignment is shown in Figure 5.



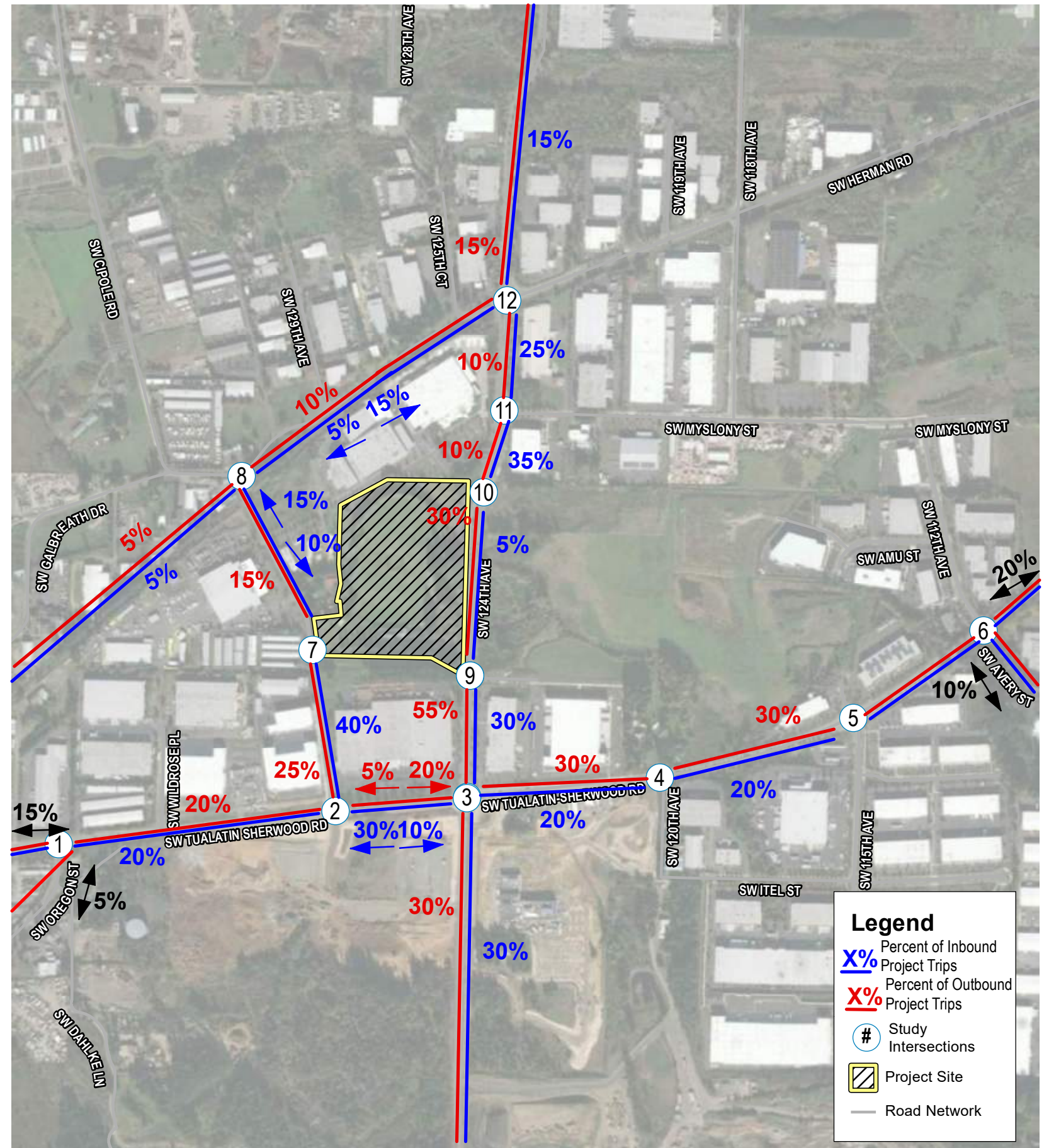
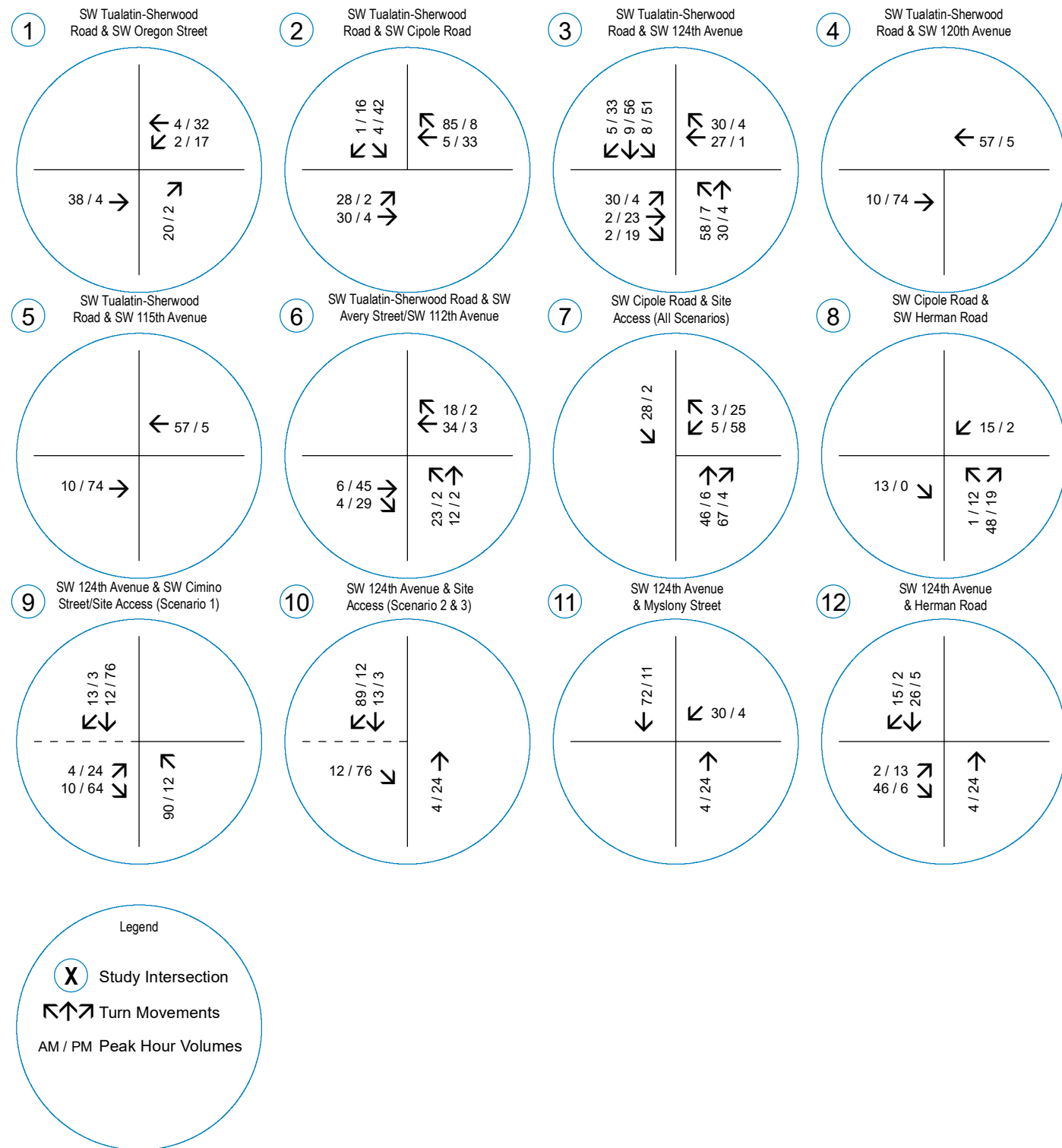












## Traffic Volumes

### Existing Conditions

The COVID-19 pandemic initiated a significant decrease in traffic due to policies on social distancing that have closed or limited business operations, reduced commuting as many people work from home, and shifted schools to distance learning. Data collection under these altered conditions does not reflect normal volumes on the study area roadways. Historical traffic data was available at some locations, but many of the study area intersections did not have counts in the past five years or were not reflective of the current roadway network. The recently constructed continuation of SW 124<sup>th</sup> Avenue, south of Tualatin-Sherwood Road, has significantly changed traffic patterns within the immediate study area. Therefore, a combination of current counts and historical traffic counts were used to approximate year 2021 existing conditions.

The mostly recent historical counts were collected as part of the approved TIA for the T-S Corporate Park located in the southwest corner of the SW Tualatin-Sherwood Road intersection with SW 124<sup>th</sup> Avenue. That TIA estimated 2021 background conditions by applying a 1.5 percent annual growth rate and adding trips generated by the following approved projects:

- Parkway Village South (SW Langer Farms Parkway)
- Spring Creek Industrial
- Four-S Corporate Warehouse
- IPT Tualatin
- Majestic SW 115<sup>th</sup> Avenue Industrial Park
- Hedges C Building
- Tualatin Business Park

These adjusted volumes were generally used for the intersections along SW Tualatin-Sherwood Road. A comparison with the 2021 traffic counts shows that the volumes on SW 124<sup>th</sup> Avenue were generally higher than the estimates for the T-S Corporate Park. Therefore, the through volumes and some of the turning volumes were increased slightly to reflect this pattern. The adjustments were carried through to other intersections as appropriate.

For intersections that have historical counts but were not part of the study area for the T-S Corporate Park, the same growth methodology was applied.

For intersections where historical traffic counts are not available, the 2021 count volumes were compared with adjusted 2021 volumes to develop adjustment factors to account for the pandemic impacts.

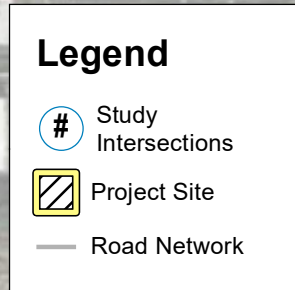
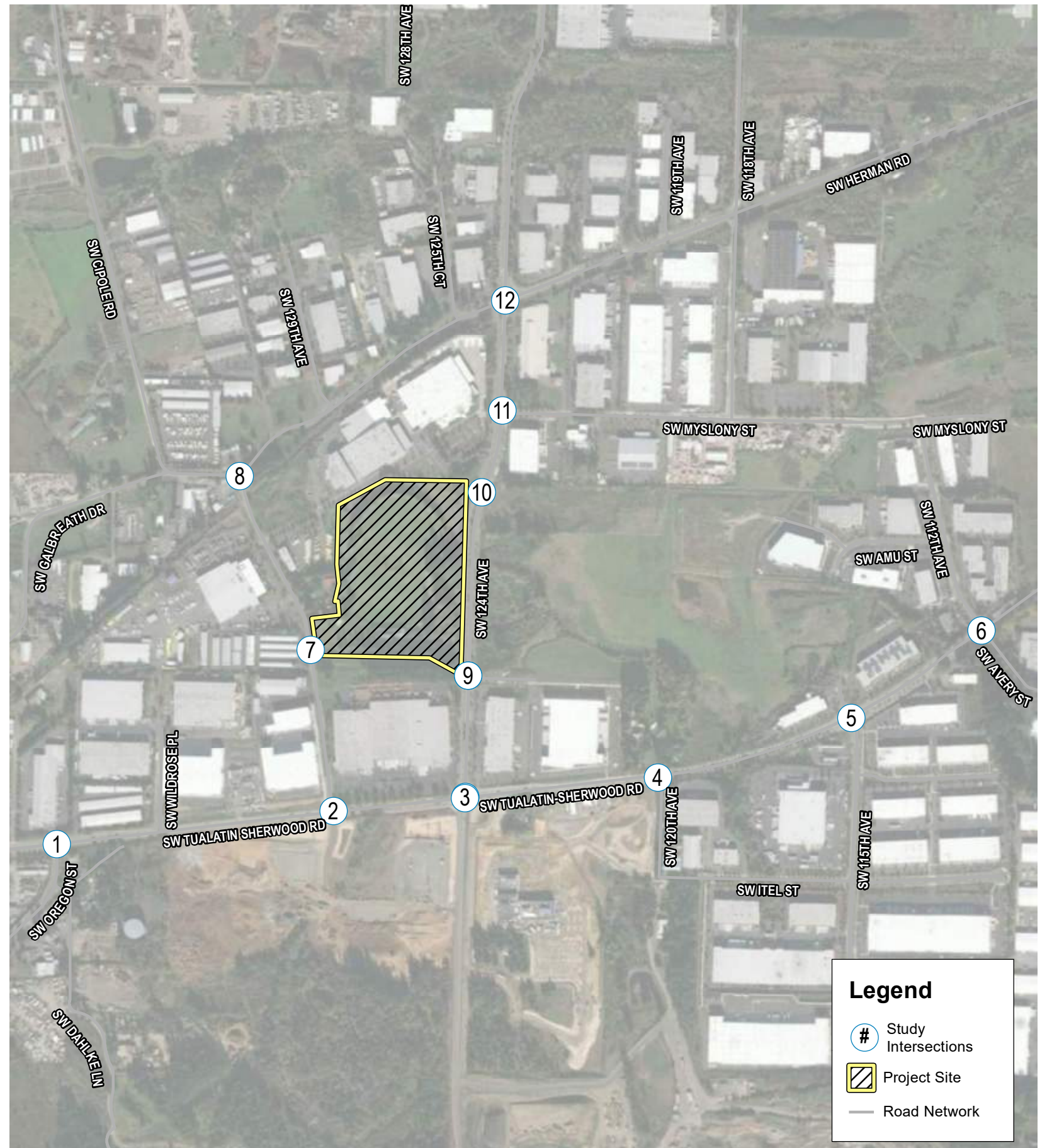
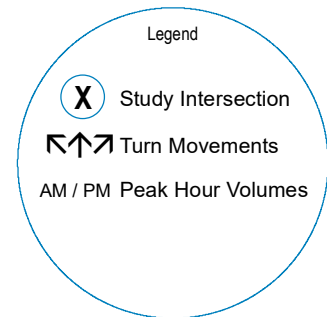
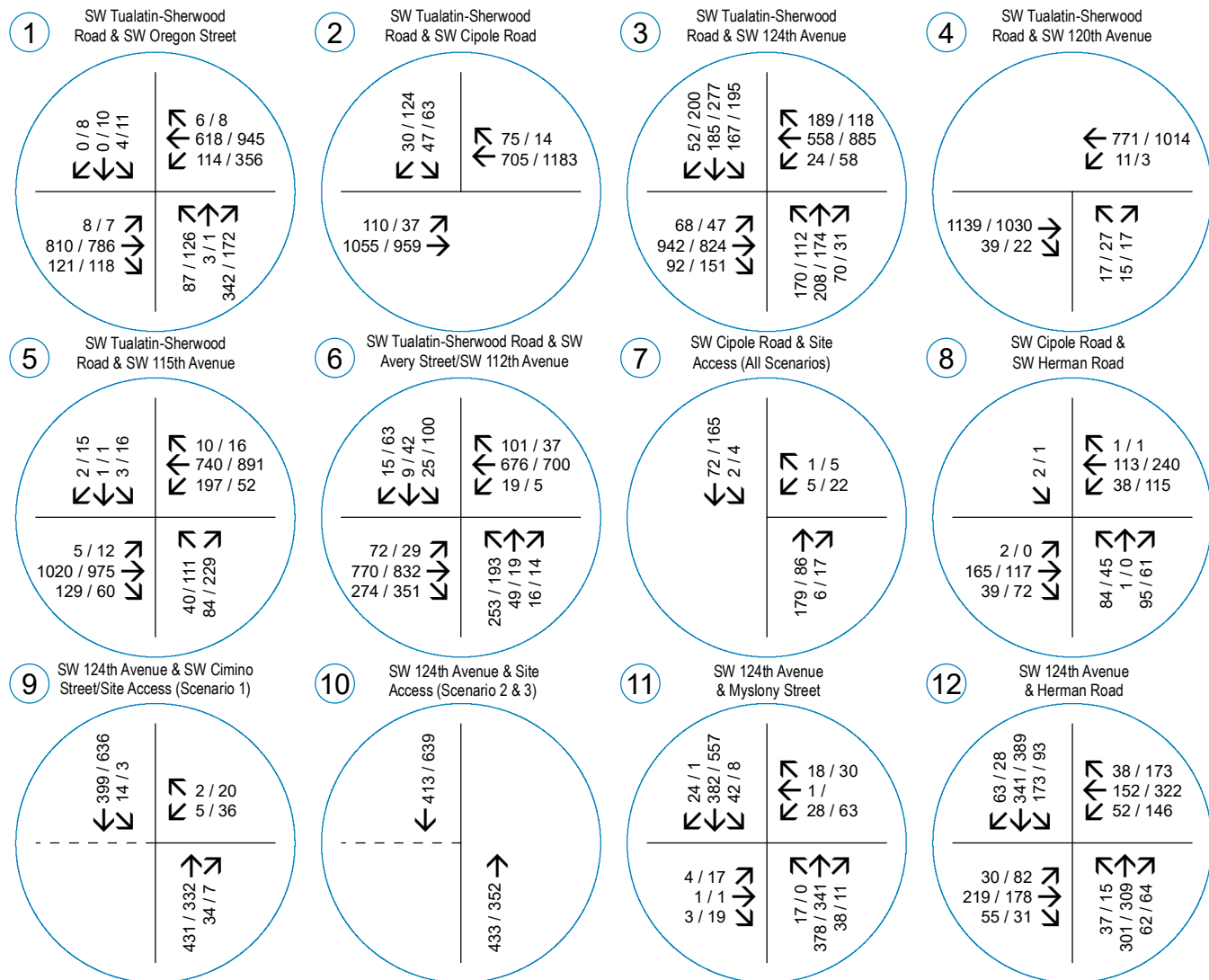
Table 6 summarizes the data used and the adjustment methodology. The resulting 2021 existing condition traffic volumes during the morning and evening peak hours are displayed in Figure 6.

Table 6: Year 2021 Existing Condition Traffic Volume Development

Intersection		Historical Counts	New Counts	Adjustment Method
1	SW Tualatin-Sherwood Road & SW Oregon Street	2/13/2019	-	<ul style="list-style-type: none"> <li>Used 2021 Background Traffic Estimates from the T-S Corporate Park TIA</li> <li>Balanced with adjustments at SW 124<sup>th</sup> Avenue</li> </ul>
2	SW Tualatin-Sherwood Road & SW Cipole Road	2/13/2019 10/23/2018	-	<ul style="list-style-type: none"> <li>Used 2021 Background Traffic Estimates from the T-S Corporate Park TIA</li> <li>Balanced with adjustments at SW 124<sup>th</sup> Avenue</li> </ul>
3	SW 124 <sup>th</sup> Avenue & SW Tualatin-Sherwood Road	2/13/2019 2/6&7/2019 10/23/2018	11/18/2021	<ul style="list-style-type: none"> <li>Used 2021 Background Traffic Estimates from the T-S Corporate Park TIA</li> <li>Adjusted volumes upward on SW 124<sup>th</sup> based on 2021 Count</li> </ul>
4	SW Tualatin-Sherwood Road & SW 120 <sup>th</sup> Avenue	2/13/2019 2/6&7/2019 10/23/2018	-	<ul style="list-style-type: none"> <li>Used 2021 Background Traffic Estimates from the T-S Corporate Park TIA</li> <li>Balanced with adjustments at SW 124<sup>th</sup> Avenue</li> </ul>
5	SW Tualatin-Sherwood Road & SW 115 <sup>th</sup> Avenue	2/13/2019 2/6&7/2019 10/23/2018	-	<ul style="list-style-type: none"> <li>Used 2021 Background Traffic Estimates from the T-S Corporate Park TIA</li> <li>Balanced with adjustments at SW 124<sup>th</sup> Avenue</li> </ul>
6	SW Tualatin-Sherwood Road & SW Avery Street/112 <sup>th</sup> Avenue	2/13/2019 2/6&7/2019 10/23/2018	-	<ul style="list-style-type: none"> <li>Use 2021 Background Traffic Estimates from the T-S Corporate Park TIA</li> <li>Balanced with adjustments at SW 124<sup>th</sup> Avenue</li> </ul>
7	SW Cipole Road & Site Access (All Scenarios)	-	11/18/2021	<ul style="list-style-type: none"> <li>Compared SW Cipole Rd link volumes with Intersection 2</li> <li>Balanced volumes with Intersection 2</li> </ul>
8	SW Cipole Road & SW Herman Road	-	11/18/2021	<ul style="list-style-type: none"> <li>Compared link volumes with Intersections 7 and 11 and developed adjustment factor</li> </ul>
9	SW 124 <sup>th</sup> Avenue & SW Cimino Street/Site Access for Scenario 1	7/12/2017	6/15/2021	<ul style="list-style-type: none"> <li>Compared link volumes with Intersection 3</li> <li>Balanced volumes with Intersection 3</li> </ul>
10	SW 124 <sup>th</sup> Avenue & Site Access for Scenarios 2, 3, and 4	-	-	<ul style="list-style-type: none"> <li>Balanced with Intersection 9</li> </ul>
11	SW 124 <sup>th</sup> Avenue & SW Myslony Road	7/10/2018	-	<ul style="list-style-type: none"> <li>Adjusted volumes to be consistent with the methodology from T-S Corporate Park TIA</li> <li>Balanced volumes with Intersection 10</li> </ul>
12	SW 124 <sup>th</sup> Avenue & SW Herman Road	8/16/2018	-	<ul style="list-style-type: none"> <li>Adjust volumes to be consistent with the methodology from T-S Corporate Park TIA</li> <li>Balanced volumes with Intersection 11</li> </ul>







## Background Year 2025 Conditions

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. Two components were included in the background traffic estimates: 1) general growth and 2) growth associated with planned developments. Although the buildout is targeted for the summer of 2023, an analysis year of 2025 was evaluated to correspond with completion of the improvements along SW Tualatin-Sherwood Road.

For the background growth, an annual growth rate of 1.5 percent per year, consistent with the growth rate used in the T-S Corporate Park study, was applied to the adjusted year 2021 existing traffic volumes. This growth rate is generally consistent with historical growth rates on study area roadways.

In addition to the background growth, two nearby projects are currently under construction that are planned to be fully operational at the time of project buildout. These include:

- PGE Integrated Operations Center – this project is located on the southeast corner of SW Tualatin-Sherwood Road & SW 124<sup>th</sup> Avenue and is planned to be fully operational by 2022.
- T-S Corporate Park – this project is located on the southwest corner of SW Tualatin-Sherwood Road & SW 124<sup>th</sup> Avenue and is planned to be fully operational by the end of 2021.

Therefore, trip assignment associated with both nearby developments were included in the background year scenario. Detailed project information can be found in the appendix to this document.

Figure 7 displays the Year 2025 background volumes which include the general growth and growth from planned developments.

### **Tualatin-Sherwood Road (Langer Farms Parkway to Teton Avenue)**

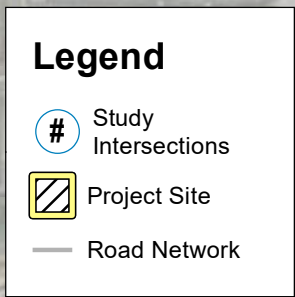
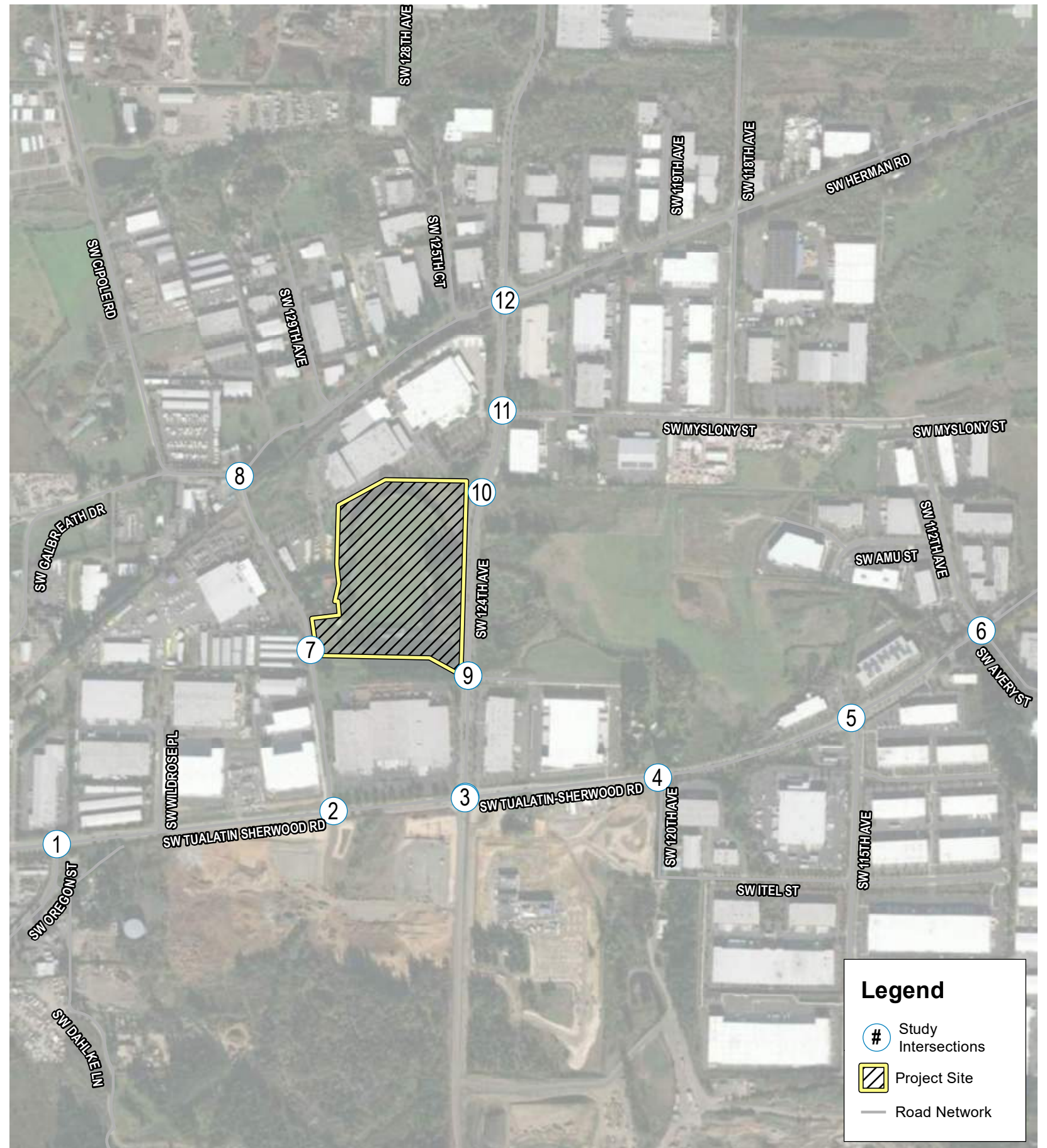
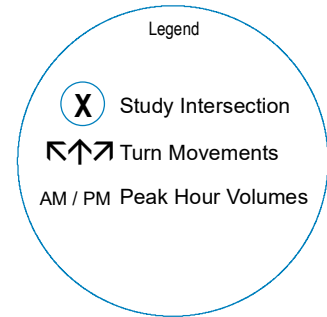
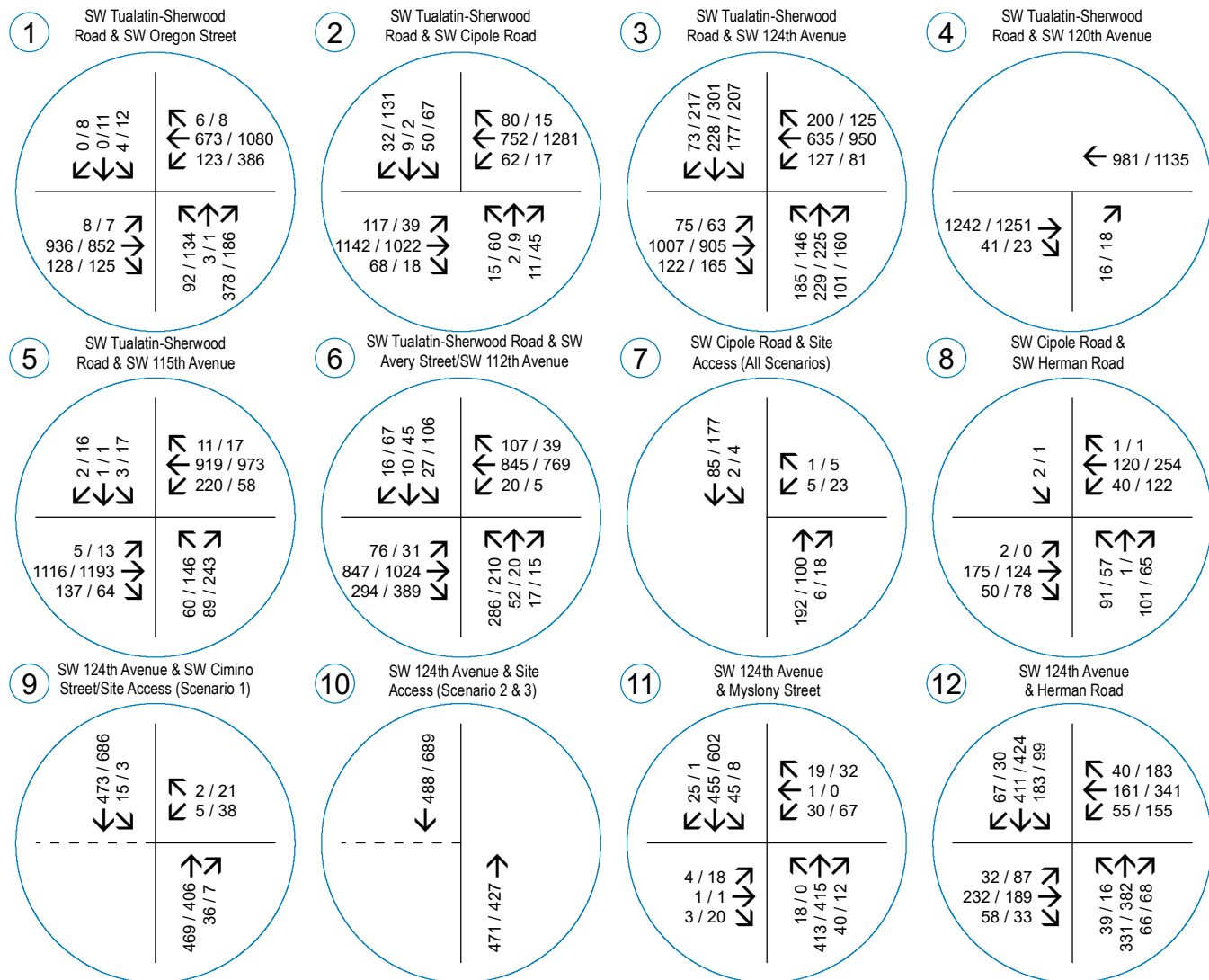
The Tualatin-Sherwood Road expansion project is a Washington County Capital Improvement Program (CIP) Project intends to expand the roadway to five lanes, improve bicycle and pedestrian facilities, improve storm drainage, and install street lighting. This project is currently applying for permits and starting the right-of-way acquisition process. Construction is planned to break ground late Summer 2022, with a target completion of the in the fall of 2025. Thus, this project was assumed as part of the Background conditions.

Note, traffic forecasts were not available for the opening year of this project, so the background volumes shown in Figure 7 do not reflect any shifts in traffic due to latent demand that may occur with increased capacity on SW Tualatin-Sherwood Road.

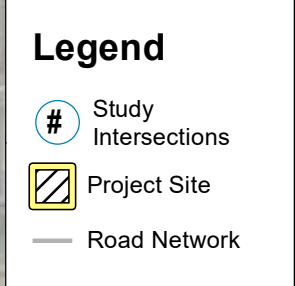
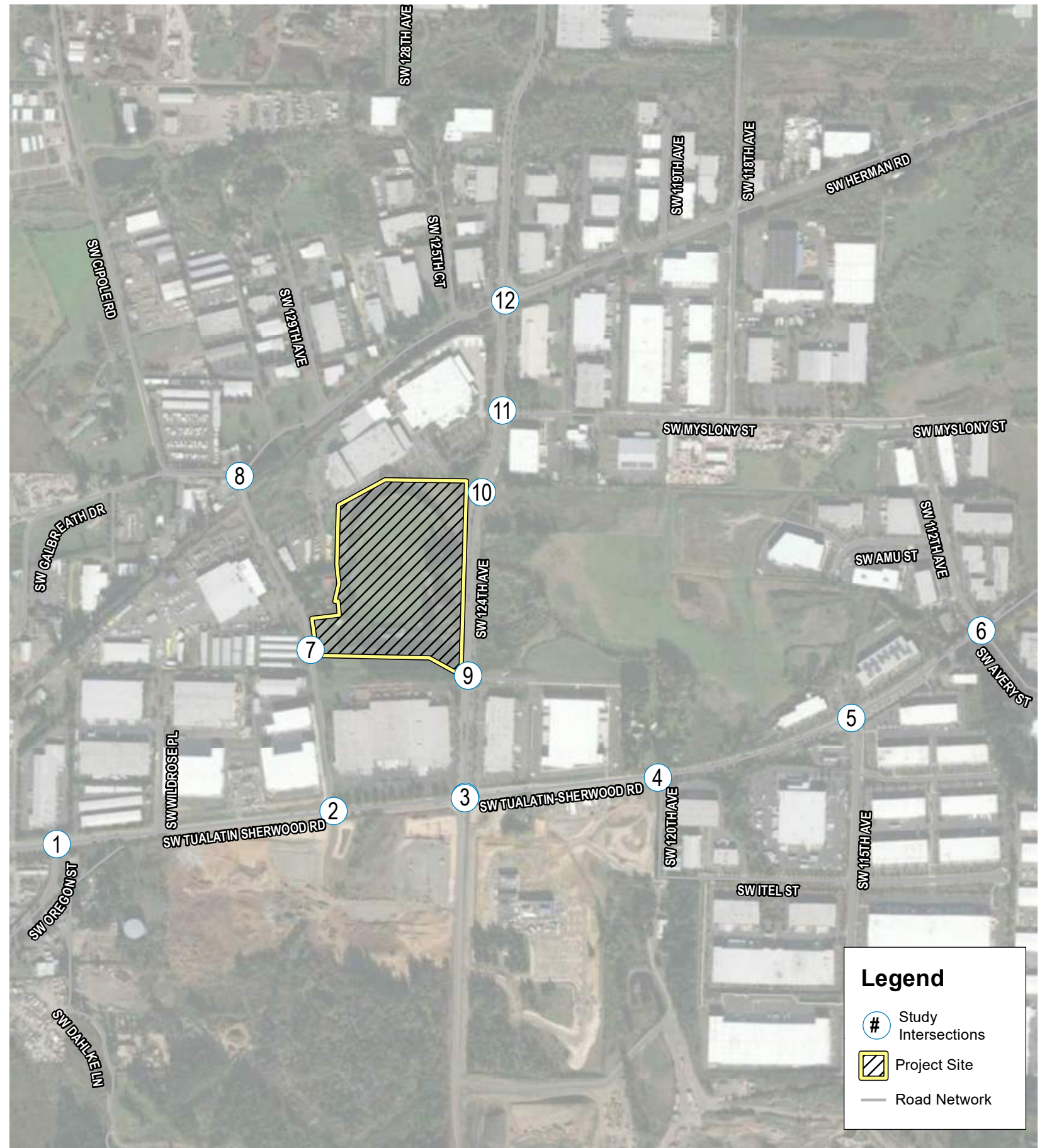
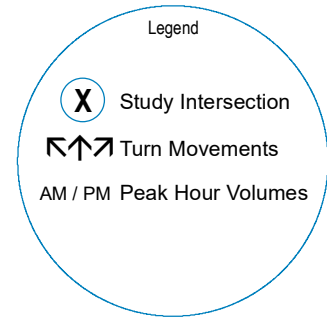
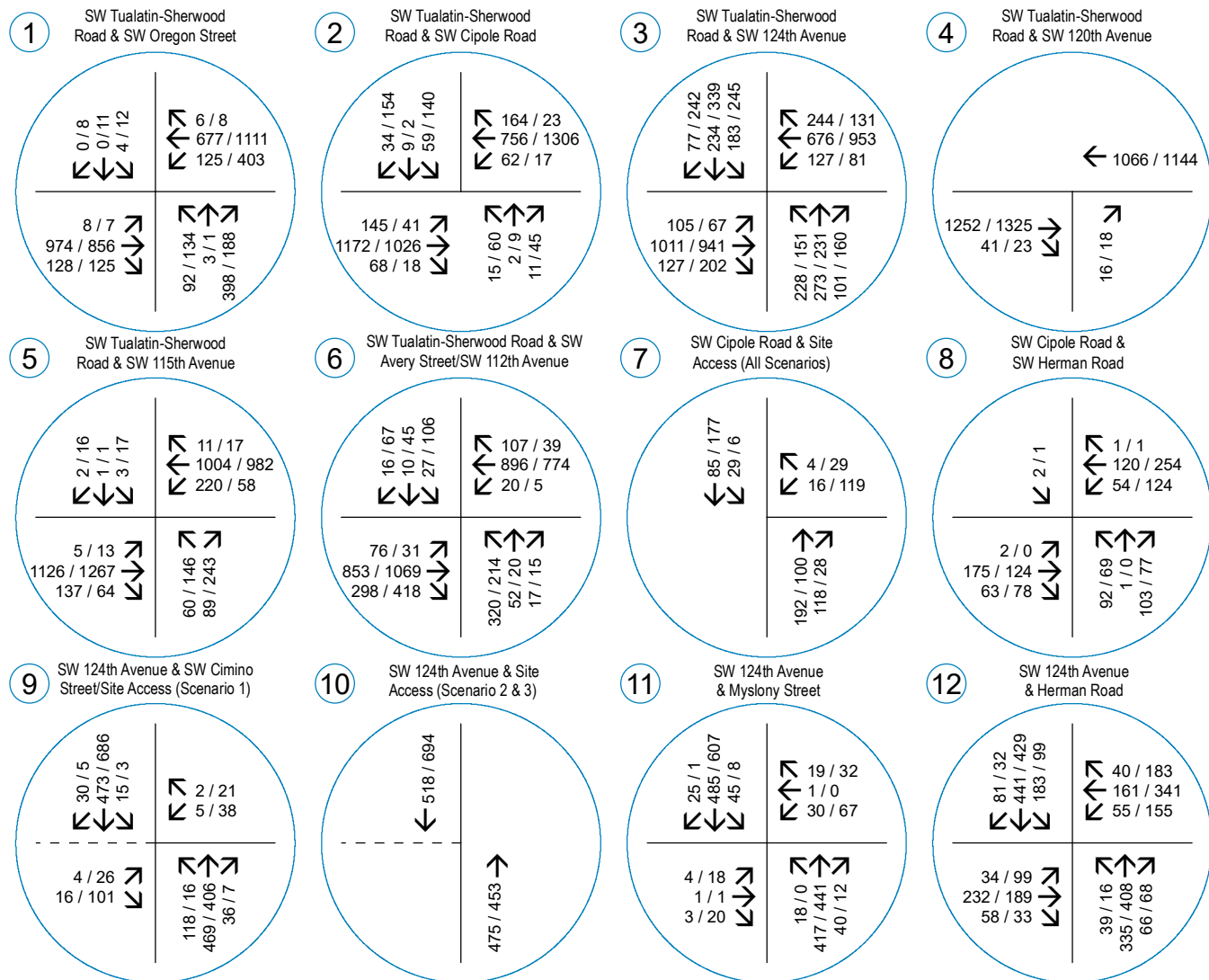
## Buildout Year 2025 Conditions

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the Year 2025 background volumes to obtain the expected Year 2025 buildout conditions. Year 2025 buildout volumes which include the additional site trips projected to be generated by the proposed development are shown in Figure 8 for Access Scenario 1, Figure 9 for Access Scenario 2, Figure 10 for Access Scenario 3, and Figure 11 of Access Scenario 4.

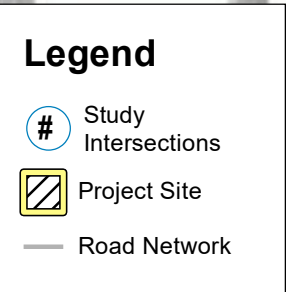
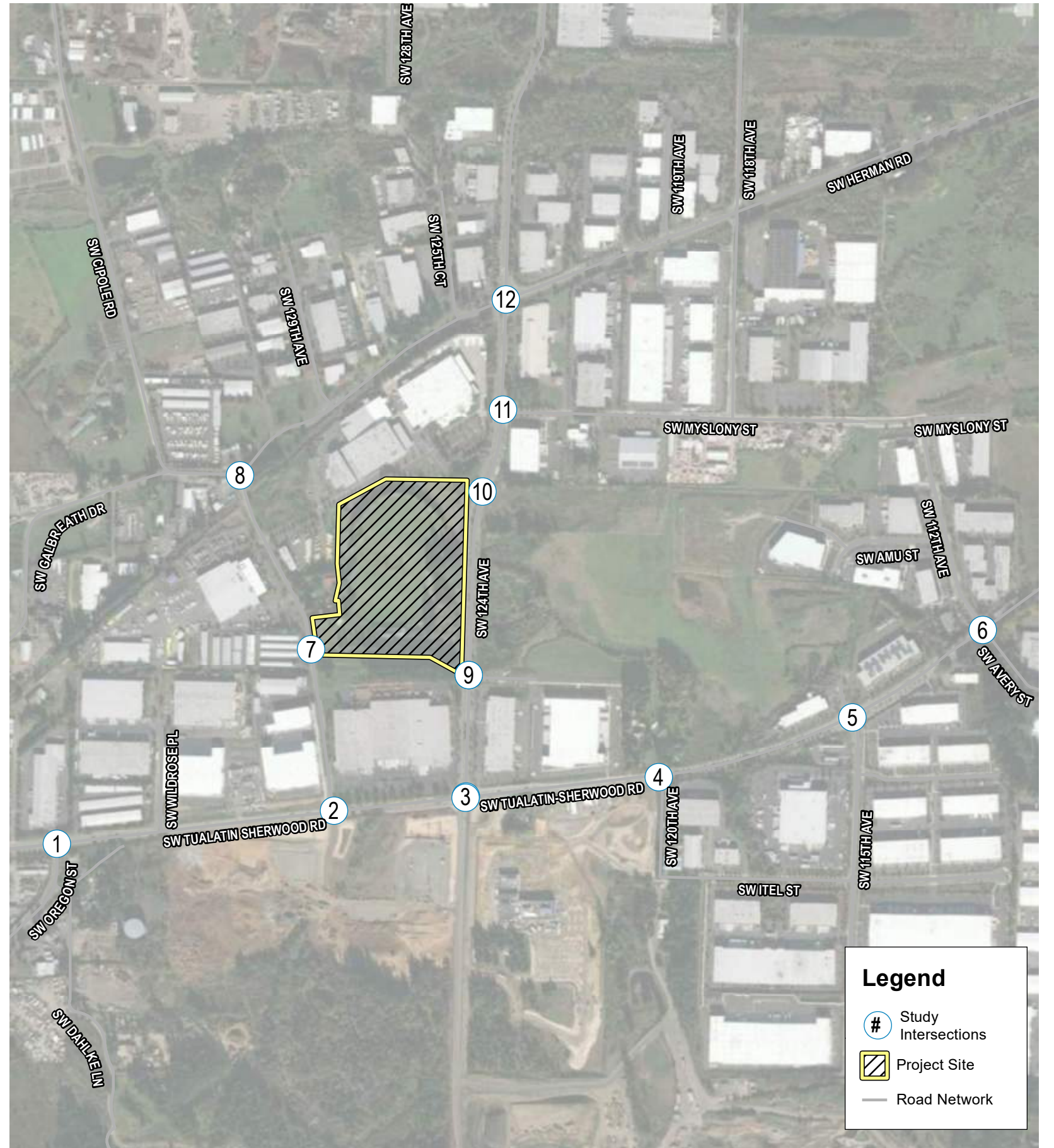
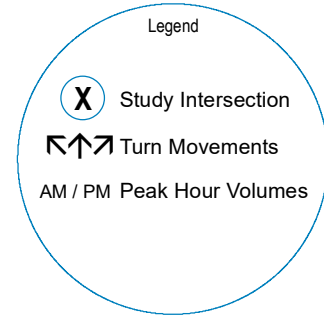
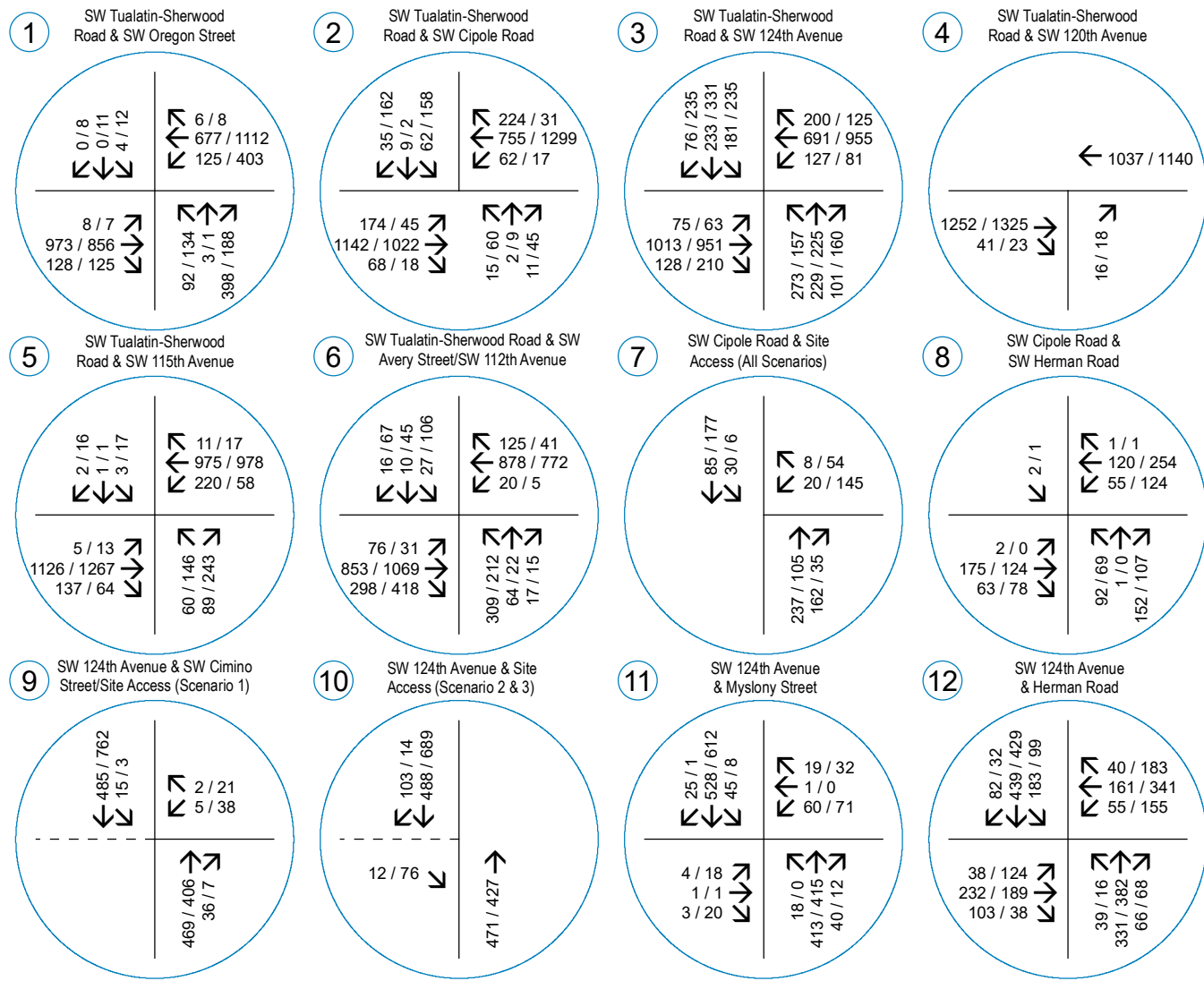




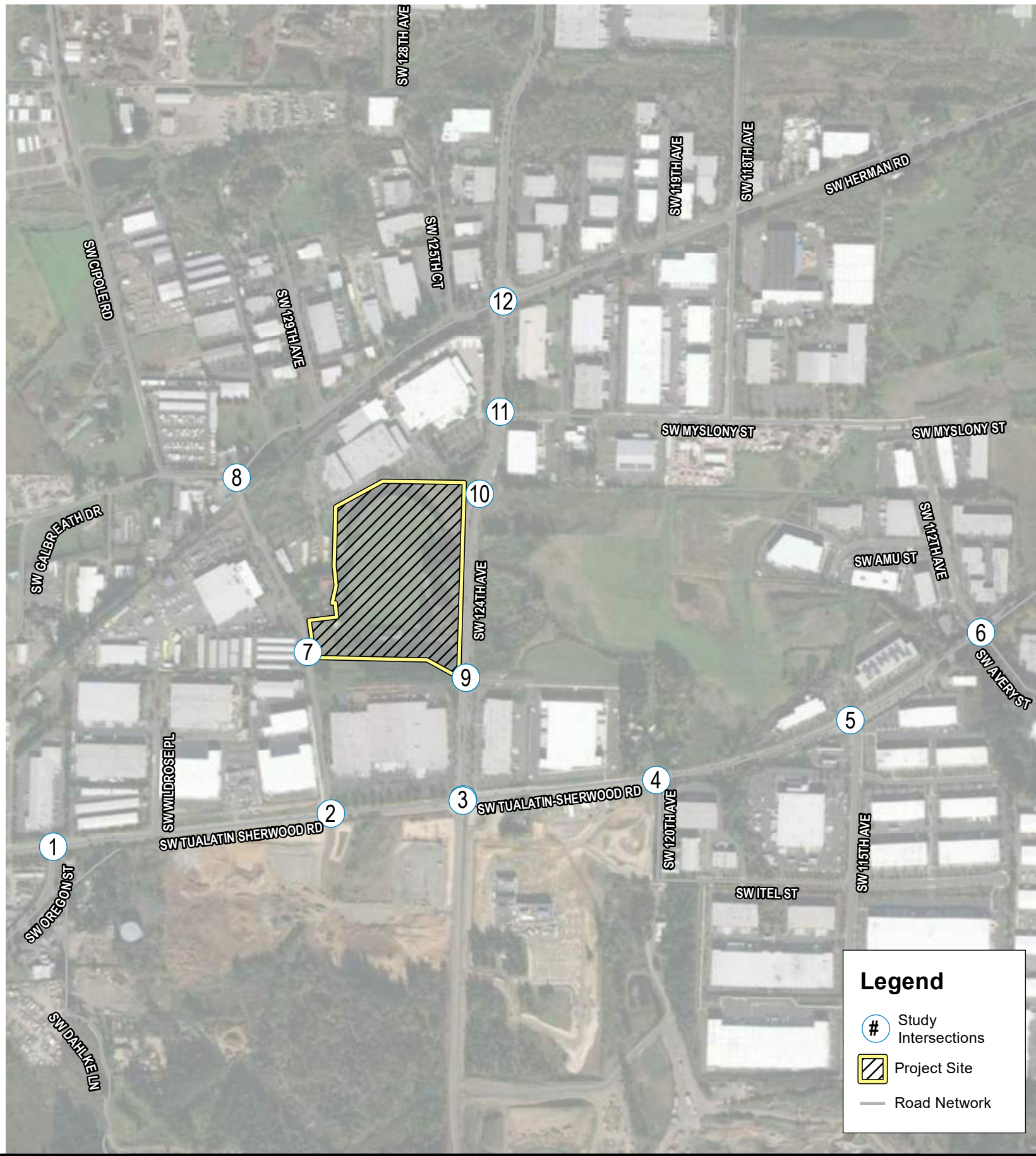
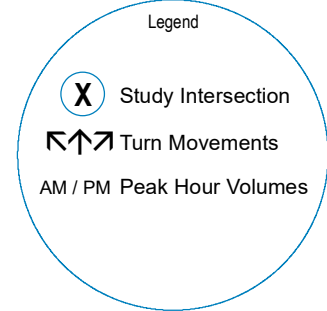
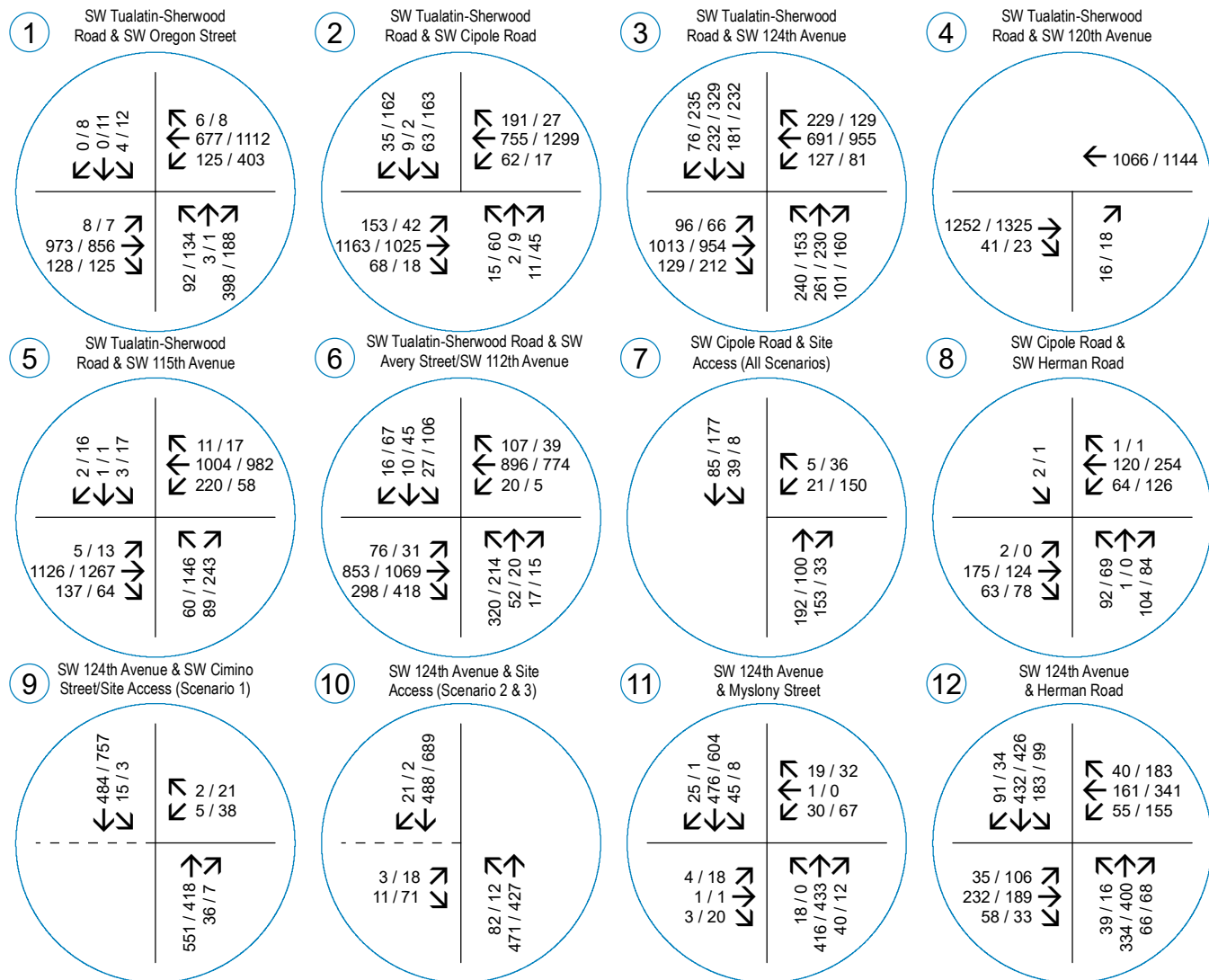




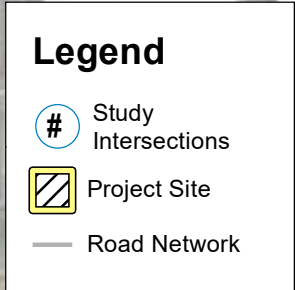
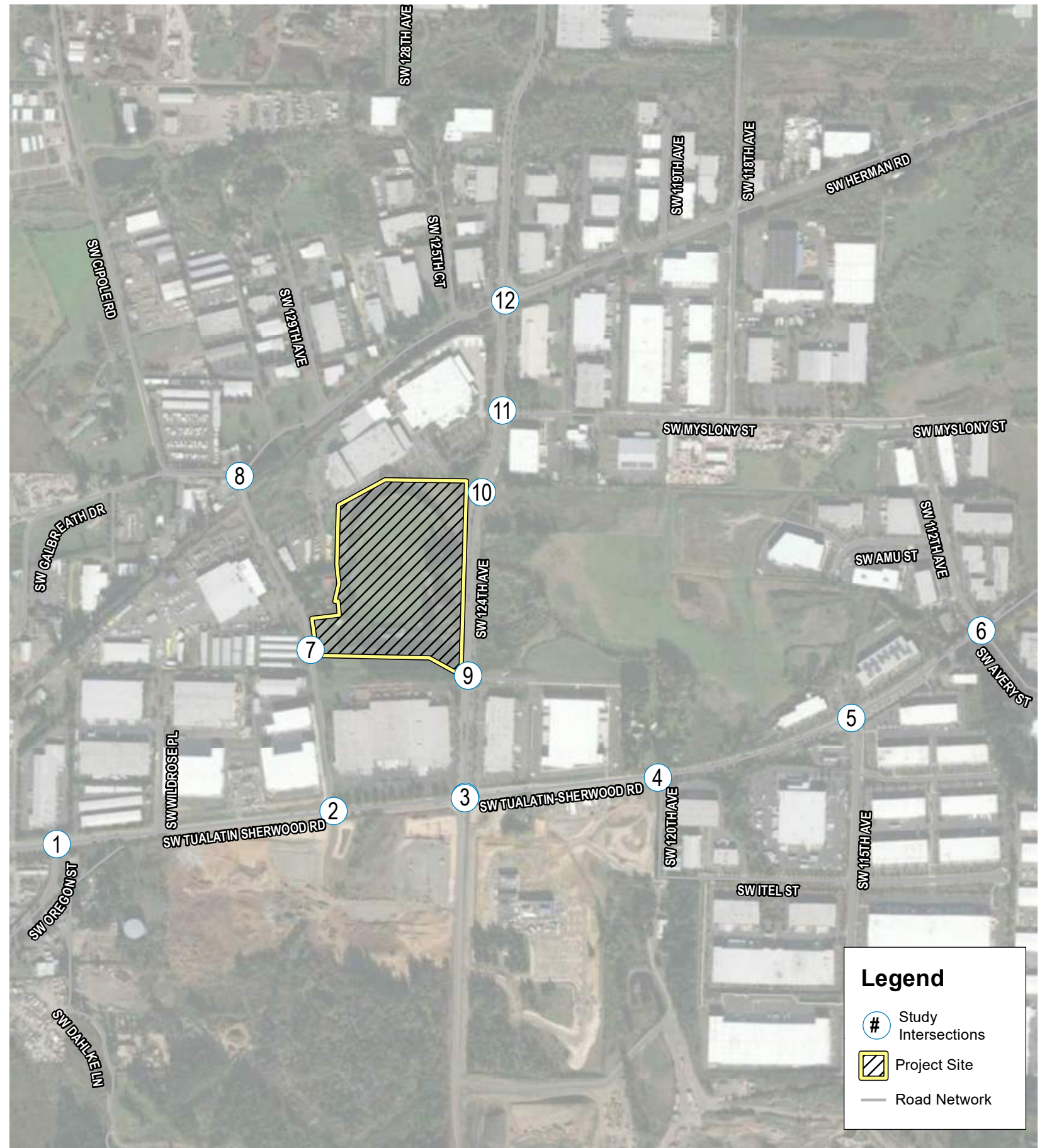
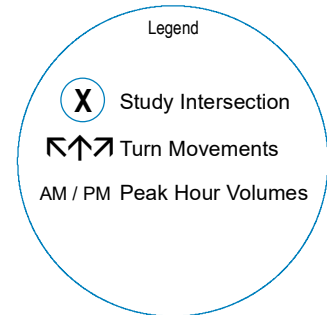
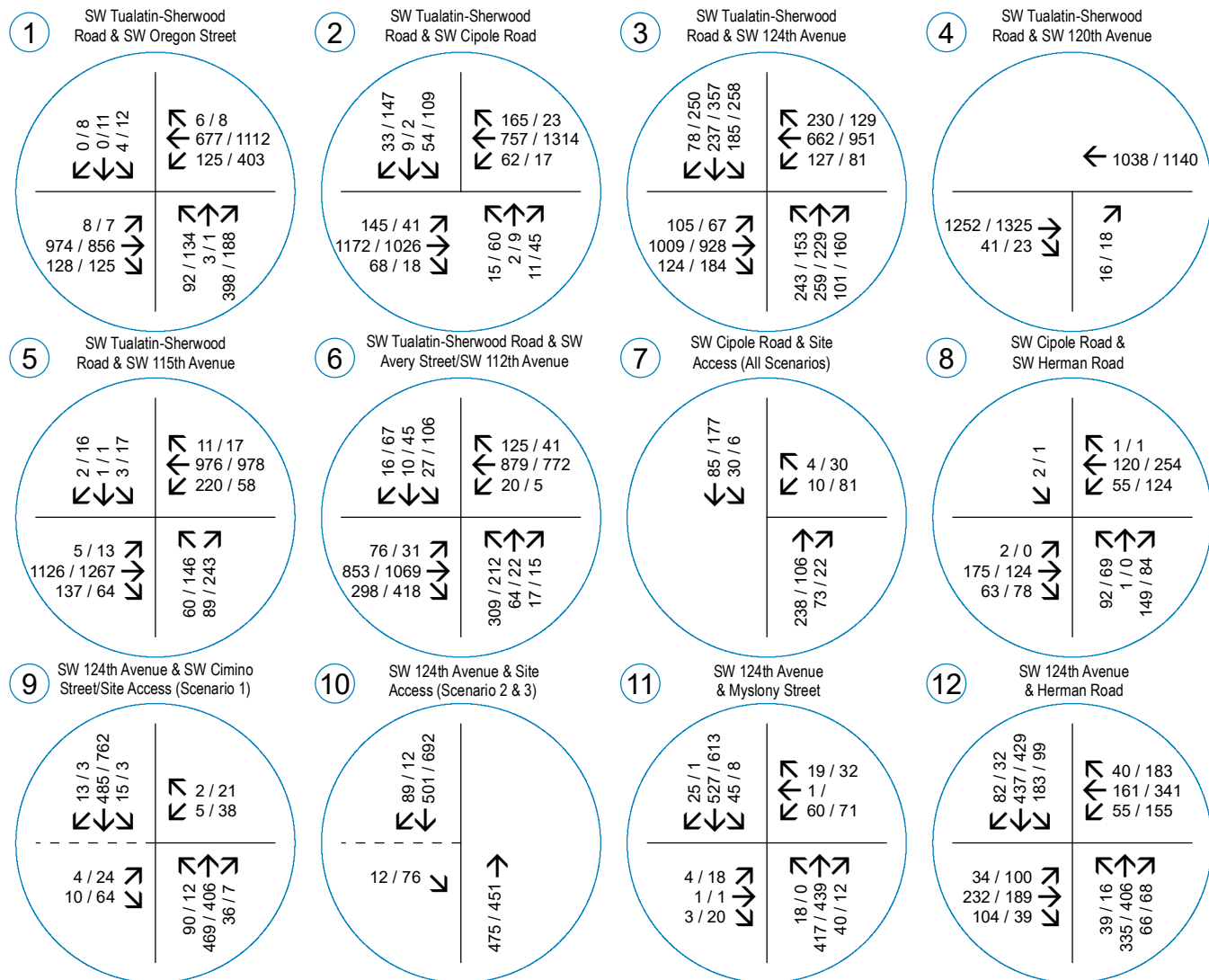












# Safety Analysis

## Crash History Review

Using data obtained from ODOT's Crash Data System, a review of approximately five years of the most recent available crash history (January 2015 through December 2019) was performed at the study intersections. The crash data was evaluated based on the number of crashes, the type of collisions, and the severity of the collisions. Crash severity is based on injuries sustained by people involved in the crash, and includes five categories:

- Property Damage Only (PDO)
- Possible Injury (Injury C)
- Non-Incapacitating Injury (Injury B)
- Incapacitating Injury (Injury A)
- Fatality or Fatal Injury

Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak period represents approximately 10 percent of the average daily traffic (ADT) at the intersection.

Table 7 provides a summary of crash types while Table 8 summarizes crash severities and rates for each of the study intersections. Detailed ODOT crash reports are included in the technical appendix to this report.

### **Pedestrian and Bicycle Collisions**

One crash reported at the intersection of SW Tualatin-Sherwood Road & SW 112<sup>th</sup> Avenue/SW Avery Street involved a bicyclist who rear-ended a vehicle on SW Tualatin-Sherwood Road.

No collisions with a pedestrian were reported during the five-year analysis period.

### **Crash Severity**

None of the intersection crashes reported in the five-year analysis period resulted in a fatality but four of the crashes resulted in an incapacitating injury (Type A):

- A rear-end collision between two eastbound vehicles on SW Tualatin-Sherwood Road just west of SW Oregon Street resulted a Type A injury to the driver of the vehicle that was struck.
- A fixed-object collision on SW Tualatin-Sherwood Road resulted in two Type A injuries. The vehicle was traveling eastbound approximately 220 feet east of SW Cipole Road. The crash was reported to be the result of a physical illness.
- A rear-end collision involving three westbound vehicles on SW Tualatin-Sherwood Road just west of SW 112<sup>th</sup> Avenue resulted in Type A injury to the driver of the vehicle at fault. One Type B and two Type C injuries were also reported.
- An angle collision between a northbound vehicle on SW 124<sup>th</sup> Avenue and a westbound vehicle on SW Herman Road resulted in a Type A injury to the driver who disregarded the signal and two Type B injuries in the vehicle that was struck.



Table 7: Crash Type Summary

Intersection		Crash Type						Total Crashes
		Rear End	Turning/ Angle	Fixed Object	Side-swipe	Bike/ Ped	Other	
1	SW Tualatin-Sherwood Road & SW Oregon Street	52	18	1	2	0	1	74
2	SW Tualatin-Sherwood Road & SW Cipole Road	23	0	1	0	0	0	24
3	SW 124th Avenue & SW Tualatin-Sherwood Road	81	6	1	1	0	1	90
4	SW Tualatin-Sherwood Road & SW 120th Avenue	17	1	0	0	0	2	20
5	SW Tualatin-Sherwood Road & SW 115th Avenue	28	1	0	0	0	0	29
6	SW Tualatin-Sherwood Road & SW Avery Street/112th Avenue	68	10	1	2	1	0	82
7	SW Cipole Road & Site Access (All Scenarios)	0	0	0	0	0	0	0
8	SW Cipole Road & SW Herman Road	0	0	0	0	0	0	0
9	SW 124th Avenue & SW Cimino Street/Site Access for Scenario 1	1	0	0	0	0	0	1
10	SW 124th Avenue & Site Access for Scenarios 2 and 3	-	-	-	-	-	-	-
11	SW 124th Avenue & SW Myslony Road	0	2	0	1	0	0	3
12	SW 124th Avenue & SW Herman Road	4	7	0	0	0	1	12



Table 8: Crash Severity and Rate Summary

	Intersection	Crash Severity					Total Crashes	PHV	Crash Rate	90 <sup>th</sup> % Rate
		PDO	C	B	A	Fatal				
1	SW Tualatin-Sherwood Road & SW Oregon Street	25	38	10	1	0	74	2,548	1.591	0.860
2	SW Tualatin-Sherwood Road & SW Cipole Road	6	15	2	1	0	24	2,380	0.553	0.509
3	SW 124th Avenue & SW Tualatin-Sherwood Road	40	43	7	0	0	90	3,072	1.605	0.860
4	SW Tualatin-Sherwood Road & SW 120th Avenue	10	9	1	0	0	20	2,113	0.519	0.293
5	SW Tualatin-Sherwood Road & SW 115th Avenue	9	19	1	0	0	29	2,378	0.668	0.860
6	SW Tualatin-Sherwood Road & SW Avery Street/112th Avenue	37	36	8	1	0	82	2,385	1.884	0.860
7	SW Cipole Road & Site Access (All Scenarios)	0	0	0	0	0	0	299	0.000	0.293
8	SW Cipole Road & SW Herman Road	0	0	0	0	0	0	652	0.000	0.408
9	SW 124th Avenue & SW Cimino Street/Site Access for Scenario 1	1	0	0	0	0	1	1,034	0.053	0.293
10	SW 124th Avenue & Site Access for Scenarios 2 and 3	0	0	0	0	0	0	991	0.000	0.293
11	SW 124th Avenue & SW Myslony Road	1	1	1	0	0	3	1,048	0.157	0.408
12	SW 124th Avenue & SW Herman Road	9	2	0	1	0	12	1,830	0.359	0.860

**ODOT 90<sup>th</sup> Percentile Crash Rates**

Intersection crash rates were compared to the published statewide 90<sup>th</sup> percentile crash rates within ODOT’s Analysis Procedures Manual (APM). According to Exhibit 4-1: Intersection Crash Rates per MEV by Land Type and Traffic Control in the APM, intersections which experience crash rates in excess of 90<sup>th</sup> percentile crash rates should be “flagged for further analysis”.

Five of the intersections along SW Tualatin-Sherwood Road were identified as having a crash rate that exceeds the ODOT 90<sup>th</sup> percentile threshold. Historically, this corridor has experienced significant queuing that begins at the intersection with OR Highway 99W in Sherwood and often extends into Tualatin. Many of the rear-end collisions in the corridor occurred hundreds of feet from the associated intersection.



Washington County has two planned improvements along SW Tualatin-Sherwood Road that will help to relieve the congestion and should consequently reduce the crash rates in this corridor:

- The first is the project at SW Tualatin-Sherwood Road and Highway 99W in Sherwood. This project will add significant capacity to the highway intersection and widen SW Tualatin-Sherwood Road to SW Olds Place. Construction began in September 2021 and is expected to be completed in the spring of 2025.
- The second is the project on SW Tualatin-Sherwood Road from Langer Farms Parkway to Teton Avenue. This project will widen SW Tualatin-Sherwood Road to provide two through travel lanes in each direction and will add turn lanes to some intersections.

Reducing congestion will have a particularly strong influence on reducing rear-end type collisions, which accounted for nearly 85% of the crashes in the corridor. Therefore, no additional mitigation is recommended.

### **Washington County SPIS List**

Six of the study area intersections is listed in the Washington County 2015-2017 SPIS List:

1. SW Tualatin-Sherwood Road & SW Oregon Street - #13 of 365 based on 46 crashes in a 3-year period
2. SW Tualatin-Sherwood Road & SW Cipole Road - #30 of 365 based on 32 crashes in a 3-year period
3. SW Tualatin-Sherwood Road & SW 124th Avenue - #20 of 365 based on 45 crashes in a 3-year period
4. SW Tualatin-Sherwood Road & SW 120th Avenue - #288 of 365 based on 12 crashes in a 3-year period
5. SW Tualatin-Sherwood Road & SW 115th Avenue - #160 of 365 based on 18 crashes in a 3-year period
6. SW Tualatin-Sherwood Road & SW Avery Street/112th Avenue - #22 of 365 based on 43 crashes in a 3-year period

These listings are consistent with the crash rate findings and should be similarly improved with the Washington County planned and funded improvements in the corridor.

### **Conclusion**

Based on a review of the most recent five years of available crash data, no significant trends or crash patterns were identified at any of the study intersections that do not already have planned and funded improvements.

## Warrant Analysis

Turn lane warrants and preliminary traffic signal warrants were examined for the study intersections where such treatments would be applicable.

### **Left-Turn Lane Warrants**

Left-turn lane warrants were examined at the existing site access on SW Cipole Road using the methodology outlined in the National Cooperative Highway Research Program Report (NCHRP) 457, published by the Transportation Research Board in 2001. These turn-lane warrants are evaluated based on the number of left-turning vehicles, the number of advancing and opposing vehicles, and the roadway travel speed.

Left-turn lane warrants are not met for the southbound approach for either peak hour under 2025 buildout scenario. Detailed information on the warrant analysis is included in the appendix.

## **Preliminary Traffic Signal Warrants**

Preliminary traffic signal warrants were examined for the site accesses for 2025 buildout conditions and all access scenarios to determine whether the installation of a new traffic signal will be warranted at these intersections upon completion of the proposed development.

Traffic signal warrants are not met at any of these intersections for either peak hour under 2025 buildout scenario. Detailed information on the warrant analysis is included in the appendix.

## **Sight Distance**

A sight distance analysis was performed for the planned project driveways. Both intersection sight distance (ISD) and stopping sight distance (SSD) are assessed. The ISD is an operational measure, intended to provide sufficient line of sight along the major street so that a driver could turn from the minor street without impeding traffic flow. The SSD is the minimum requirement to ensure safe operation of the roadway. Stopping sight distance allows an oncoming driver to see a hazard in the roadway, react, and come to a complete stop if necessary to avoid a collision. As long as the available intersection sight distance is at least equal to the minimum required stopping sight distance for the design speed of the roadway, adequate sight distance is available for safe operation of the intersection.

### **Intersection Sight Distance**

Because SW 124<sup>th</sup> Avenue is under City of Tualatin jurisdiction and SW Cipole Road is under Washington County jurisdiction, different ISD standards are applicable.

For SW 124<sup>th</sup> Avenue, sight distance is measured and evaluated in accordance with standards established in *A Policy on Geometric Design of Highway and Streets*<sup>2</sup>. For intersection sight distance, the driver's eye is assumed to be 14.5 feet from the near edge of the nearest travel lane of the intersecting street and at a height of 3.5 feet above the minor-street approach pavement. The oncoming vehicle driver's eye height along the major-street approach is assumed to be 3.5 feet above the cross-street pavement. A speed study on SW 124<sup>th</sup> Avenue south of SW Myslony Street measured the northbound 85<sup>th</sup> percentile speed at 52 mph and the southbound 85<sup>th</sup> percentile speed at 48 mph.

For SW Cipole Road, sight distance is measured and evaluated in accordance with standards established in *Washington County Code Section 501-8.5*. For intersection sight distance, the driver's eye is assumed to be 15 feet from the near edge of the nearest travel lane of the intersecting street and at a height of 3.5 feet above the minor-street approach pavement. The oncoming vehicle driver's eye height along the major-street approach is assumed to be 4.25 feet above the cross-street pavement. Intersection sight distance is required to be ten times the roadway design speed, 85<sup>th</sup> percentile speed, or the posted speed limit plus 5 mph. In this instance, the posted speed of 45 mph plus 5 mph was used for a total speed requirement of 50 mph.

### **Stopping Sight Distance**

Stopping sight distance (SSD) is considered the minimum requirement to ensure safe operation of the driveway access. This distance allows the driver of a vehicle traveling on the major street to react to a turning vehicle or other object in the roadway and come to a complete stop to avoid a collision. To ensure safe operation of a

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<sup>2</sup> American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 7<sup>th</sup> Edition, 2018.

driveway, the available sight distance must at least equal the minimum required stopping sight distance. SSD is the same for both passenger vehicles and trucks.

**Available Sight Distance**

Table 9 compares the available sight distance measured in the field with the calculated recommendations and requirements for the traffic movements at the site driveways.

**Table 9: Sight Distance Comparison**

Access	Recommended ISD		Required SSD		Available Sight Distance	
	To North	To South	To North	To South	To North	To South
SW Access to SW Cipole Road	500 ft	500 ft	425 ft	425 ft	>1,000 ft	>1,000 ft
SE Access to SW 124 <sup>th</sup> Avenue (Scenarios 1 & 4)	625 ft	625 ft	425 ft	425 ft	>1,000 ft	~800 ft
NE Access to SW 124 <sup>th</sup> Avenue (Scenarios 2 & 4)	460 ft	-	400 ft	-	550 ft	>1,000 ft
NE Access to SW 124 <sup>th</sup> Avenue (Scenario 3)	600 ft	650 ft	400 ft	455 ft	550 ft	>1,000 ft

*SW Access to SW Cipole Road*

The SW Access to SW Cipole Road has sight distance exceeding 1,000 feet in both directions, which meets the ISD recommendations and SSD requirements for the driveway intersection.

*SE Access to SW 124<sup>th</sup> Avenue (Scenarios 1 & 4)*

The SE Access to SW 124<sup>th</sup> Avenue in Scenario 1 (opposite SW Cimino Street has an existing curb cut that is built to City of Tualatin standards along a straight, flat roadway. Sight lines to the north meet the ISD recommendations and SSD requirements for the driveway and sight lines to the south meet the ISD recommendations.

*NE Access to SW 124<sup>th</sup> Avenue (Scenarios 2 & 4)*

The NE Access to SW 124<sup>th</sup> Avenue in Scenario 2 would be limited to right-turn movements. Sight lines to the north meet the ISD recommendations and SSD requirements for the driveways. Sight lines to the south are not necessary.

*NE Access to SW 124<sup>th</sup> Avenue (Scenario 3)*

With full access to SW 124<sup>th</sup> Avenue on the NE corner of the site, the driveway would meet the ISD recommendations and SSD requirements looking to the south but has limited sight distance due to a horizontal curve with a landscaping berm and trees fronting the neighboring property to the north. The berm blocks sight distance for passenger vehicles and the lower branches from the trees block the sight lines for taller vehicles. Sight distance was measured to exceed 550 feet, which meets the SSD requirements for the driveway intersection.

Note, the ISD calculations presented in Table 9, are the recommendations for vehicles making a left turn. The recommendation for vehicles making a right turn is 460 feet looking to the north. This recommendation is met and the majority (80 percent) of the vehicles exiting this driveway are expected to turn right.



As discussed above, ISD is an operational measure, intended to provide sufficient line of sight along the major street so that a driver could turn from the minor street without impeding traffic flow. More specifically, the ISD for vehicles making a left-turn movement is intended to allow sufficient sight distance for vehicles from a minor street to cross one or more major street travel lanes, with traffic coming from the left, and then pull into the closest travel lane of the major street, with traffic coming from the right, without requiring oncoming drivers to slow to less than 70 percent of their approach speed. The same ISD calculation is typically applied looking in both directions, but the crossing portion of the movement actually requires a shorter sight line than the turning portion of the movement.

If the left-turn movement is permitted, it would entail crossing three lanes (two southbound plus the center median lane) to enter the closest northbound through lane. With traffic approaching from the north at 48 mph, the crossing portion of the movement would require about 530 feet of sight distance to avoid impeding traffic while the turning portion of the movement would require 650 feet of sight distance to avoid impeding the northbound traffic approaching at 52 mph.

One final consideration is the object height used in the sight distance measurements. The driver's eye is assumed to be 3.5 feet and the object height they must be able to see is also 3.5 feet. However, very few vehicles on the roadway are as short as 3.5 feet. Many are considerably taller and would be visible over the berm that restricts sight lines for objects at a height of 3.5 feet.

Considering these factors, the available sight distance for a full access driveway to SW 124<sup>th</sup> Avenue at the NE corner of the sight appears adequate; however, trimming of the lower tree branches that extend over the fencing into the public right-of-way could improve sight lines.

### **Conclusion**

Based on the sight distance analysis, all site accesses are expected to operate safely. No mitigation pertaining to sight distance is required.

## Access Spacing

The site accesses on SW 124<sup>th</sup> Avenue fall under the City of Tualatin access spacing standards while the access on SW Cipole Road falls under Washington County jurisdiction.

### **SW Cipole Road Site Access**

For SW Cipole Road with a Washington County collector classification, the access spacing standard is 100 feet measured between the edge of travel lanes or easements on both sides of the roadway. The SW Access to SW Cipole Road will meet this standard.

### **SW 124<sup>th</sup> Avenue Site Access**

Tualatin Development Code (TDC) 75.140 (6)(iv) indicates one driveway on the west side of SW 124<sup>th</sup> Avenue between SW Tualatin-Sherwood Road and SW Myslonny Road to be located at least 800 feet north of SW Tualatin-Sherwood Road, approximately opposite SW Cimino Street. However, TDC 75.020 allows for application of new or alternative driveway approaches.

### *SE Access to SW 124<sup>th</sup> Avenue (Scenario 1)*

The SE Access to SW 124<sup>th</sup> Avenue in Scenario 1 would meet the TDC 75.140 specifications for an access at least 800 feet north of SW Tualatin-Sherwood Road, approximately opposite SW Cimino Street.

Advantages of this access location include:

- The SE Access location meets the TDC code specifications.
- The curb cut on SW 124th Avenue spans the tax lots of the subject property and the property to the south (Columbia Corrugated Box). A shared driveway could serve both the proposed development and Columbia Corrugated Box site.
- The SE Access location does not affect potential driveway locations for the two undeveloped parcels located on the east side of SW 124th Avenue.

Disadvantages of this access location include:

- Significant grade differences will exist between the site, the Columbia Corrugated Box site, and SW 124th Avenue. Providing access to both tax lots from SW 124th significantly impacts what can be developed on the southeast corner of the subject site.
- The access will require a northbound left-turn lane which was constructed with the five-lane section of SW 124<sup>th</sup> Avenue. This northbound left-turn lane restricts the length of turn lanes that can be provided on SW 124<sup>th</sup> Avenue at SW Tualatin-Sherwood Road.
- The proposed development is designed to accommodate multiple tenants with truck courts provided on the east and west building frontages and employee parking provided around the north and south ends of the building. The intermixing of the on-site truck activity and the employee vehicles is a safety concern for the site operations. Access at the SE corner of the site would require employees to drive through the truck courts to access the parking on the north side of the building.

#### *NE Limited Access to SW 124<sup>th</sup> Avenue (Scenario 2)*

The NE Access to SW 124th Avenue is proposed as an alternative to the southeast corner access. This driveway is proposed to be located approximately 1,265 feet north of the intersection of SW 124th Avenue at SW Cimino Street and 545 feet south of the intersection of SW 124th Avenue and SW Myslony Street. The location of is somewhat restricted by topography of the land adjacent to SW 124th Avenue and the turning needs of trucks entering the truck court within the site. In Scenario 2, the NE Access would be limited to right-turn movements.

Advantages of this access location and configuration include:

- Under existing conditions, there are no active accesses on the west side of SW 124th Avenue between SW Tualatin-Sherwood Road and SW Myslony Road. The subject site is the only undeveloped parcel on the west side of SW 124th Avenue. Whether the driveway is located at the NE corner or SE corner of the site, it will be the only site access along SW 124th Avenue.
- The NE Access would locate the driveway activity much further away from the busy signalized intersection of SW 124th Avenue & SW Tualatin-Sherwood Road.
- Even if Columbia Corrugated Box were to construct a driveway opposite SW Cimino Street, only two access would be present on the west side between SW Tualatin-Sherwood Road and SW Myslony Street. The average access spacing on this segment would average more than 800 feet.
- With the access limited to right turns, the center median on SW 124th Avenue would remain intact.

- Access at the NE corner of the site would provide a direct connection to the parking on the north side of the building. The intermixing of the on-site truck activity and the employee vehicles could be reduced making for safer on-site operations.
- Access at the NE corner of the site allows for maximum use of the property because the grades differential between SW 124th Avenue and the subject site is much less at the northern boundary.
- The NE Access location with turn limitations does not affect potential driveway locations for the two undeveloped parcels located on the east side of SW 124th Avenue.
- Eliminating access for the proposed development opposite SW Cimino Street would allow for some different access options to be considered at this intersection. Columbia Corrugated Box has indicated they are amenable to a limited access at this location. This change would allow the northbound left-turn lane to be removed and much longer southbound left-turn lanes to be constructed on SW 124th Avenue at SW Tualatin-Sherwood Road.

Disadvantages of this access location and configuration include:

- The NE Access to SW 124th Avenue does not meet the TDC 75.140 specifications. It would be a new driveway approach and would need to follow the procedures and criteria in TDC 75.020.
- Access at the NE corner of the site does not allow for a potential shared access with Columbia Corrugated Box.
- This proposal could result in two accesses rather on the west side of SW 124<sup>th</sup> Avenue rather than a single access.
- By limiting the access to right-turn movements, some traffic will need to take more circuitous routes to/from the site. This will likely add traffic to SW 112<sup>th</sup> Avenue, SW Myslony Street, SW Herman Road, and SW Cipole Road.
- By limiting the access to right-turn movements, some employees will likely travel through the truck courts to use the SW Access onto SW Cipole Road.

### *NE Access to SW 124<sup>th</sup> Avenue (Scenario 3)*

With Scenario 3, the NE Access to SW 124th Avenue is proposed to be a full-movement driveway at the same location as Scenario 2. The driveway would require removal of 300 to 350 feet of the center median to allow for vehicle deceleration and queue storage in the northbound direction.

Advantages of this access location and configuration include:

- Under existing conditions, there are no active accesses on the west side of SW 124th Avenue between SW Tualatin-Sherwood Road and SW Myslony Road. The subject site is the only undeveloped parcel on the west side of SW 124th Avenue. Whether the driveway is located at the NE corner or SE corner of the site, it will be the only site access along SW 124th Avenue.
- The NE Access would locate the driveway activity much further away from the busy signalized intersection of SW 124th Avenue & SW Tualatin-Sherwood Road.



- Even if Columbia Corrugated Box were to construct a driveway opposite SW Cimino Street, only two access would be present on the west side between SW Tualatin-Sherwood Road and SW Myslony Street. The average access spacing on this segment would average more than 800 feet.
- Access at the NE corner of the site allows for maximum use of the property because the grades differential between SW 124th Avenue and the subject site is much less at the northern boundary.
- Access at the NE corner of the site would provide a direct connection to the parking on the north side of the building. The intermixing of the on-site truck activity and the employee vehicles could be reduced making for safer on-site operations.
- The NE Access would be located approximately 160 feet south of the right-in/right-out driveway on the east side of SW 124th Avenue. Vehicles entering and exiting the NE Access would have no conflicts with this existing driveway.
- Eliminating access for the proposed development opposite SW Cimino Street would allow for some different access options to be considered at this intersection. Columbia Corrugated Box has indicated they are amenable to a limited access at this location. This change would allow the northbound left-turn lane to be removed and much longer southbound left-turn lanes to be constructed on SW 124th Avenue at SW Tualatin-Sherwood Road.

Disadvantages of this access location and configuration include:

- The NE Access to SW 124th Avenue does not meet the TDC 75.140 specifications. It would be a new driveway approach and would need to follow the procedures and criteria in TDC 75.020.
- Access at the NE corner of the site does not allow for a potential shared access with Columbia Corrugated Box.
- This proposal could result in two accesses rather on the west side of SW 124th Avenue rather than a single access.
- A full-movement access at the NE corner of the site would require removal of 300 to 350 feet of the center median to allow for vehicle deceleration and queue storage in the northbound direction.
- A full-movement access at the NE corner of the site would affect the potential access configurations for the two undeveloped parcels on the east side of SW 124th Avenue although it would not preclude providing a full-movement access to these parcels currently under joint ownership.

Note, no known application has been submitted for either property on the east side of SW 124th Avenue at this time. A significant portion of these properties are wetlands, which limits the potential for an access connection to SW Cimino Street. A study conducted for the northern of the two parcels suggested a full access located at the property line between the parcels would be the best location; however, the study did not consider the development of the two properties as a single proposal. Under those conditions, a full access further south would likely be considered more desirable because of proximity to SW Tualatin-Sherwood Road and a location with good sight lines along a straight section of roadway.

The proposed driveway could not be located further to the south to align opposite a potential shared, full-access driveway on the property line of the two parcels on the east side of SW 124th Avenue. However, the

proposed location would be compatible with a full-access driveway to those parcels located 600 to 800 feet to the south (approximately 460 to 660 feet north of SW Cimino Street). Full access driveways that are offset by approximately 600 feet could operate more safely than one driveway.

One industry metric of safety is the number of conflict points at an intersection. Intersections with a greater number of conflict points tend to have a higher number of crashes. A four-leg intersection has 32 conflict points while two three-leg intersections have a combined 18 conflict points. Thus, two driveways aligned to form a four-leg intersection have a higher potential for crashes than two offset, three-leg intersections.

#### *SE Access Plus NE Limited Access to SW 124<sup>th</sup> Avenue (Scenario 4)*

The NE Access to SW 124th Avenue is proposed as an alternative to the southeast corner access. This driveway is proposed to be located approximately 1,265 feet north of the intersection of SW 124th Avenue at SW Cimino Street and 545 feet south of the intersection of SW 124th Avenue and SW Myslony Street. The location of is somewhat restricted by topography of the land adjacent to SW 124th Avenue and the turning needs of trucks entering the truck court within the site. In Scenario 2, the NE Access would be limited to right-turn movements.

Advantages of this access location and configuration include:

- The SE Access location meets the TDC code specifications.
- The curb cut on SW 124th Avenue spans the tax lots of the subject property and the property to the south (Columbia Corrugated Box). A shared driveway could serve both the proposed development and Columbia Corrugated Box site.
- Only two access would be present on the west side between SW Tualatin-Sherwood Road and SW Myslony Street. The average access spacing on this segment would average more than 800 feet.
- Neither access location would affect potential driveway locations for the two undeveloped parcels located on the east side of SW 124th Avenue.
- The NE Access would locate some driveway activity much further away from the busy signalized intersection of SW 124th Avenue & SW Tualatin-Sherwood Road.
- Access at the NE corner of the site would provide a direct connection to the parking on the north side of the building. The intermixing of the on-site truck activity and the employee vehicles would be almost completely unnecessary making for safer on-site operations.

Disadvantages of this access location and configuration include:

- The NE Access to SW 124th Avenue does not meet the TDC 75.140 specifications. It would be a new driveway approach and would need to follow the procedures and criteria in TDC 75.020.
- This proposal could result in two accesses rather on the west side of SW 124<sup>th</sup> Avenue rather than a single access.
- By limiting the access to right-turn movements, some traffic will need to take more circuitous routes to/from the site. This will likely add traffic to SW 112<sup>th</sup> Avenue, SW Myslony Street, SW Herman Road, and SW Cipole Road.

- The access will require a northbound left-turn lane which was constructed with the five-lane section of SW 124<sup>th</sup> Avenue. This northbound left-turn lane restricts the length of turn lanes that can be provided on SW 124<sup>th</sup> Avenue at SW Tualatin-Sherwood Road.

### **Conclusion**

The SW Access to SW Cipole Road will meet Washington County access spacing standards and no alternative is proposed.

While the SE Access to SW 124<sup>th</sup> Avenue in Scenario 1 would meet the TDC 75.140 specifications for an access at least 800 feet north of SW Tualatin-Sherwood Road, approximately opposite SW Cimino Street, it has few significant systemic advantages and poses significant disadvantages to development of the subject site. A site access at the NE corner of the site is the preferred option with a full-movement access (Scenario 3) as the desired configuration and a right-in/right-out access (Scenario 2) as an acceptable alternative.

### **Truck Access**

Truck turning templates for the site driveways are included in drawing *TT1.0 Truck Turning at Driveways* of the application packet. All driveways can accommodate trucks entering and exiting from the north or south.



# Operational Analysis

## Methodology

An operational analysis was conducted for each of the study intersections per the signalized and unsignalized intersection analysis methodologies in the *Highway Capacity Manual* (HCM)<sup>3</sup>. Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little, or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection. The analysis was performed using the Synchro (version 10.3.122.0) software which applies the HCM6 methodologies.

## Performance Standards

The following agency performance standards are applicable in the study area:

- The **City of Tualatin** requires intersections to operate at a minimum D and E for signalized and unsignalized intersections, respectively.
- **Washington County** requires intersections to operate with a v/c ratio of 0.99 or less.

## Delay & Capacity Analysis

The LOS, delay, and v/c results of the capacity analysis are shown in Table 10 for the morning and evening peak hours and three scenarios. Traffic signal timing along SW Tualatin-Sherwood Road was optimized and coordinated for the new lane configuration. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

As shown in Table 10, all study area intersections are anticipated to operate within the acceptable jurisdictional standards for all four buildout scenarios. Therefore, no mitigation for traffic operations is required or recommended.

Note, the access configuration options have little effect on the overall study area operations.

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<sup>3</sup> Transportation Research Board, *Highway Capacity Manual 6<sup>th</sup> Edition*, 2016.

Table 10: Capacity Analysis Summary

Intersection & Scenario	Performance Standard	AM Peak Hour			PM Peak Hour		
		LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
<b>1. SW Tualatin-Sherwood Road &amp; SW Oregon Street</b>							
2021 Existing	0.99	B	16	0.77	C	25	0.81
2025 Background		B	14	0.60	B	20	0.71
2025 Buildout Scenario 1		B	16	0.63	B	20	0.72
2025 Buildout Scenario 2		B	16	0.63	B	20	0.72
2025 Buildout Scenario 3		B	16	0.63	B	20	0.72
2025 Buildout Scenario 4		B	16	0.63	B	20	0.72
<b>2. SW Tualatin-Sherwood Road &amp; SW Cipole Road</b>							
2021 Existing	0.99	A	5	0.73	A	7	0.85
2025 Background		A	4	0.52	B	17	0.55
2025 Buildout Scenario 1		A	4	0.55	B	19	0.62
2025 Buildout Scenario 2		A	4	0.55	B	19	0.64
2025 Buildout Scenario 3		A	4	0.56	B	19	0.64
2025 Buildout Scenario 4		A	4	0.54	B	18	0.60
<b>3. SW Tualatin-Sherwood Road &amp; SW 124th Avenue</b>							
2021 Existing	0.99	D	38	0.95	C	22	0.82
2025 Background		C	28	0.68	C	23	0.61
2025 Buildout Scenario 1		C	30	0.70	C	25	0.64
2025 Buildout Scenario 2		C	30	0.71	C	25	0.64
2025 Buildout Scenario 3		C	30	0.71	C	25	0.64
2025 Buildout Scenario 4		C	30	0.71	C	26	0.66
<b>4. SW Tualatin-Sherwood Road &amp; SW 120th Avenue</b>							
2021 Existing	0.99	E	41	0.25	D	29	0.24
2025 Background		C	21	0.07	B	14	0.05
2025 Buildout Scenario 1		C	21	0.07	B	15	0.05
2025 Buildout Scenario 2		C	21	0.07	B	15	0.05
2025 Buildout Scenario 3		C	21	0.07	B	15	0.05
2025 Buildout Scenario 4		C	21	0.07	B	15	0.05



Table 10: Capacity Analysis Summary

Intersection & Scenario	Performance Standard	AM Peak Hour			PM Peak Hour		
		LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
<b>5. SW Tualatin-Sherwood Road &amp; SW 115th Avenue</b>							
2021 Existing	0.99	B	18	0.80	C	26	0.74
2025 Background		B	13	0.55	C	29	0.57
2025 Buildout Scenario 1		B	13	0.56	C	25	0.59
2025 Buildout Scenario 2		B	13	0.56	C	25	0.59
2025 Buildout Scenario 3		B	13	0.56	C	25	0.59
2025 Buildout Scenario 4		B	13	0.56	C	25	0.59
<b>6. SW Tualatin-Sherwood Road &amp; SW Avery Street/112th Avenue</b>							
2021 Existing	0.99	D	45	0.77	E	58	0.73
2025 Background		D	47	0.63	C	32	0.55
2025 Buildout Scenario 1		D	49	0.68	C	31	0.57
2025 Buildout Scenario 2		D	49	0.68	C	31	0.57
2025 Buildout Scenario 3		D	49	0.68	C	31	0.57
2025 Buildout Scenario 4		D	49	0.67	C	31	0.57
<b>7. SW Cipole Road &amp; Site Access</b>							
2021 Existing	0.99	B	10	0.01	B	10	0.05
2025 Background		B	11	0.01	B	11	0.05
2025 Buildout Scenario 1		B	12	0.05	B	13	0.27
2025 Buildout Scenario 2		B	13	0.08	B	13	0.36
2025 Buildout Scenario 3		B	13	0.07	B	13	0.35
2025 Buildout Scenario 4		B	12	0.04	B	12	0.20
<b>8. SW Cipole Road &amp; SW Herman Road</b>							
2021 Existing	0.99	B	11	0.39	B	13	0.55
2025 Background		B	12	0.44	B	15	0.59
2025 Buildout Scenario 1		B	13	0.47	C	15	0.61
2025 Buildout Scenario 2		B	14	0.49	C	16	0.63
2025 Buildout Scenario 3		B	13	0.47	C	15	0.61
2025 Buildout Scenario 4		B	14	0.49	C	15	0.61



Table 10: Capacity Analysis Summary

Intersection & Scenario	Performance Standard	AM Peak Hour			PM Peak Hour		
		LOS	Delay (s)	V/C	LOS	Delay (s)	V/C
<b>9. SW 124th Avenue &amp; SW Cimino Street/Site Access for Scenario 1</b>							
2021 Existing	LOS E	C	18	0.03	C	16	0.17
2025 Background		C	20	0.03	C	19	0.21
2025 Buildout Scenario 1		D	33	0.06	C	24	0.37
2025 Buildout Scenario 2		C	20	0.03	C	20	0.22
2025 Buildout Scenario 3		C	23	0.04	C	20	0.22
2025 Buildout Scenario 4		D	29	0.05	C	24	0.32
<b>10. SW 124<sup>th</sup> Avenue &amp; Site Access for Scenarios 2 and 3</b>							
2025 Buildout Scenario 2	E	B	11	0.02	B	12	0.15
2025 Buildout Scenario 3		B	13	0.10	C	16	0.23
2025 Buildout Scenario 4		B	11	0.02	B	12	0.15
<b>11. SW 124th Avenue &amp; SW Myslony Road</b>							
2021 Existing	LOS E	C	23	0.22	D	26	0.39
2025 Background		D	28	0.27	E	36	0.51
2025 Buildout Scenario 1		D	29	0.29	E	40	0.54
2025 Buildout Scenario 2		E	48	0.55	E	38	0.54
2025 Buildout Scenario 3		D	29	0.28	E	39	0.53
2025 Buildout Scenario 4		E	49	0.55	E	42	0.57
<b>12. SW 124th Avenue &amp; SW Herman Road</b>							
2021 Existing	LOS D	B	16	0.52	B	17	0.68
2025 Background		B	17	0.54	B	19	0.70
2025 Buildout Scenario 1		B	17	0.54	B	19	0.72
2025 Buildout Scenario 2		B	17	0.57	B	19	0.72
2025 Buildout Scenario 3		B	17	0.54	B	19	0.72
2025 Buildout Scenario 4		B	17	0.57	B	19	0.72

Locations that do not meet standards are **BOLDED**.

## Queuing Analysis

An analysis of queuing was conducted for key study intersections. The analysis was conducted using the Synchro/SimTraffic software, with the reported values representing 95<sup>th</sup> percentile queue lengths. The 95<sup>th</sup> percentile queue is a statistical measurement which indicates there is a 5 percent chance that the queue may exceed this length during the analysis period; however, given this is a probability, the 95<sup>th</sup> percentile queue



length may not be frequently observed in the field. Note, this analysis does not account for upstream congestion outside of the study area.

The effective storage for the turning lanes was obtained from the Washington County plans for the SW Tualatin-Sherwood Road improvements from SW Langer Farms Parkway to SW Teton Avenue, the site plan, or from Google Earth. Where dual left-turn lanes are planned, the storage for each lane is estimated.

The resulting 95<sup>th</sup> percentile queue estimates are summarized in Table 11.

**Table 11: Queuing Analysis Summary**

Movement	Effective Storage	95th Percentile Queue (AM/PM)				
		2025 Background	2025 Buildout Scenario 1	2025 Buildout Scenario 2	2025 Buildout Scenario 3	2025 Buildout Scenario 4
<b>2. SW Tualatin-Sherwood Road &amp; SW Cipole Road</b>						
EB L	350 ft	100/50 ft	125/75 ft	175/75 ft	125/75 ft	125/50 ft
WB L	285 ft	100/50 ft	125/50 ft	75/50 ft	100/50 ft	100/50 ft
NB L	150 ft	50/100 ft	50/100 ft	50/100 ft	50/100 ft	50/100 ft
SB L	300 ft	125/125 ft	125/175 ft	150/200 ft	150/200 ft	150/150 ft
<b>3. SW Tualatin-Sherwood Road &amp; SW 124<sup>th</sup> Avenue</b>						
EB L1	275 ft	75/50 ft	75/50 ft	75/50 ft	100/50 ft	100/75 ft
EB L2	350 ft	100/75 ft	125/75 ft	150/125 ft	150/75 ft	150/100 ft
EB R	350 ft	75/75 ft	125/75 ft	100/75 ft	125/75 ft	125/75 ft
WB L1	380 ft	100/75 ft	125/75 ft	100/75 ft	100/75 ft	100/50 ft
WB L2	470 ft	125/75 ft	150/75 ft	100/100 ft	125/75 ft	125/75 ft
WB R	380 ft	100/50 ft	125/50 ft	100/75 ft	125/75 ft	125/75 ft
NB L1	300 ft	125/125 ft	200/100 ft	225/100 ft	200/125 ft	200/100 ft
NB L2	300 ft	175/150 ft	225/150 ft	250/150 ft	225/150 ft	225/150 ft
SB L1	100 ft	125/125 ft	150/150 ft	150/150 ft	150/150 ft	150/150 ft
SB L2	200 ft	200/200 ft	175/225 ft	200/250 ft	175/225 ft	225/250 ft
SB R	250 ft	50/125 ft	75/175 ft	75/150 ft	75/150 ft	75/150 ft
<b>7. SW Cipole Road &amp; Site Access</b>						
WB LR	225 ft	25/50 ft	50/75 ft	50/100 ft	50/100 ft	50/75 ft
SB LT	325 ft	25/25 ft	50/25 ft	50/25 ft	50/25 ft	50/25 ft





Table 11: Queuing Analysis Summary

Movement	Effective Storage	95th Percentile Queue (AM/PM)				
		2025 Background	2025 Buildout Scenario 1	2025 Buildout Scenario 2	2025 Buildout Scenario 3	2025 Buildout Scenario 4
9. SW 124th Avenue & SW Cimino Street/Site Access for Scenario 1						
EB LTR	200 ft	-	50/75 ft	-	-	50/100 ft
WB LTR	140 ft	50/75 ft	50/75 ft	50/75 ft	50/75 ft	50/75 ft
NB L	100 ft	-	75/25 ft	-	-	75/25 ft
SB L	110 ft	25/25 ft	25/25 ft	25/25 ft	25/25 ft	25/25 ft
10. SW 124th Avenue & Site Access for Scenarios 2 and 3						
EB LR	150 ft	-	-	50/75 ft	50/75 ft	50/75 ft
NB L	TBD	-	-	-	75/25 ft	-

The analysis shows that the queues in the southbound left-turn lanes on SW 124<sup>th</sup> Avenue at SW Tualatin-Sherwood Road are expected to exceed the available storage. This queue estimate may be arising from queues in the adjacent through travel lane which occasionally block access to the left-turn lanes. This condition is expected with the 2025 background condition and will worsen with all four buildout scenarios. The variation between the scenarios is generally only one vehicle which is within the variation associated with the simulation process.

## Potential Improvements

Although mitigation is not specifically required, an option to improve operations at the SW Tualatin-Sherwood Road & SW 124<sup>th</sup> Avenue intersection is to restripe the southbound approach. Instead of one southbound through lane and one right-turn lane, the approach could be restriped to provide two lanes with outer lane serving both through and right-turn movements. This striping condition is possible with the widening of SW 124<sup>th</sup> Avenue on the south side of SW Tualatin-Sherwood Road that is part of the T-S Corporate Park frontage improvements.

The operational and queuing results of these changes are summarized in Table 12.

The alternative lane striping would result in a decrease in small reduction in the average delay per vehicle, particularly in the morning. However, the 95<sup>th</sup> percentile queues would be reduced so that no spillback into the adjacent through lane is likely. Additionally, the 95<sup>th</sup> percentile queues in the adjacent through lane will not block access to the left-turn lanes in the morning and will only affect access to the turn lanes in the evening.



Table 12: Operations & Queuing with Southbound Lane Revisions on SW 124<sup>th</sup> Avenue

Measure	Standard	Operations (AM/PM)				
		2025 Background	2025 Buildout Scenario 1	2025 Buildout Scenario 2	2025 Buildout Scenario 3	2025 Buildout Scenario 4
3. SW Tualatin-Sherwood Road & SW 124 <sup>th</sup> Avenue						
LOS	0.99	C/B	C/C	C/C	C/C	C/C
Delay (s)		28/20	29/25	29/25	29/25	29/26
V/C		0.62/0.56	0.67/0.59	0.65/0.59	0.66/0.59	0.66/0.60
Movement	Effective Storage	95th Percentile Queue (AM/PM)				
		2025 Background	2025 Buildout Scenario 1	2025 Buildout Scenario 2	2025 Buildout Scenario 3	2025 Buildout Scenario 4
3. SW Tualatin-Sherwood Road & SW 124 <sup>th</sup> Avenue						
SB L1	100 ft	150/125 ft	150/150 ft	150/150 ft	150/150 ft	150/150 ft
SB L2	200 ft	150/150 ft	150/175 ft	175/150 ft	175/175 ft	150/175 ft



## Conclusions

Key findings of this study include:

- Based on a review of the most recent five years of available crash data, no significant trends or crash patterns were identified at any of the study intersections that do not already have planned and funded improvements.
- Left-turn lane warrants are not met for either peak hour under the 2025 buildout scenario for the proposed SW Access to SW Cipole Road.
- Preliminary traffic signal warrants are not met at either of the proposed site driveways (regardless of location) for either peak hour under buildout conditions.
- Based on the sight distance analysis, all site access options are expected to operate safely. No mitigation pertaining to sight distance is required; however, trimming of some of the lower tree branches that extend into the public right-of-way could improve sight lines for the NE Access proposed in Scenarios 2 to 4.
- The SW Access to SW Cipole Road will meet Washington County access spacing standards and no alternative is proposed.
- While the SE Access to SW 124th Avenue in Scenario 1 would meet the TDC 75.140 specifications for an access at least 800 feet north of SW Tualatin-Sherwood Road, opposite SW Cimino Street, it has few significant systemic advantages and poses significant disadvantages to development of the subject site. A site access at the NE corner of the site is the preferred option with a full-movement access (Scenario 3) as the desired configuration and a right-in/right-out access (Scenario 2) as an acceptable alternative. If access is required at the SE corner of the site, a right-in/right-out access at the NE corner (Scenario 4) would offer some benefits with few impacts to the system; however, this option is not preferred.
- All proposed driveways can accommodate trucks entering and exiting from the north or south.
- All study area intersections are anticipated to operate within the acceptable jurisdiction standards. Therefore, no mitigation for traffic operations is required or recommended. The access configuration options have little effect on study area operations.
- An analysis of queuing for key study intersections shows that the queues in the southbound left-turn lanes on SW 124th Avenue at SW Tualatin-Sherwood Road are expected to exceed the available storage. This condition is expected with the 2025 background condition and will worsen with all four buildout scenarios. All other queuing can be accommodated within the available storage.
- An option to improve operations at the SW Tualatin-Sherwood Road & SW 124th Avenue intersection is to restripe the southbound approach to provide two lanes with outer lane serving both through and right-turn movements. The alternative lane striping would result in a small reduction in the average delay per vehicle, particularly in the morning. The 95th percentile queues would be reduced so that no spillback into the adjacent through lane is likely.
- With Scenarios 2 and 3, the access opposite SW Cimino Street could potentially be limited access (right-in/right-out plus possible left out). Columbia Corrugated Box has indicated they are amenable to a limited access at this location. This change would allow the northbound left-turn lane to be removed and much longer southbound left-turn lanes to be constructed on SW 124th Avenue at SW Tualatin-Sherwood Road.

## Appendix A – Site Information

Site Plan

Trip Generation Calculations

Scoping Memo



REVISIONS

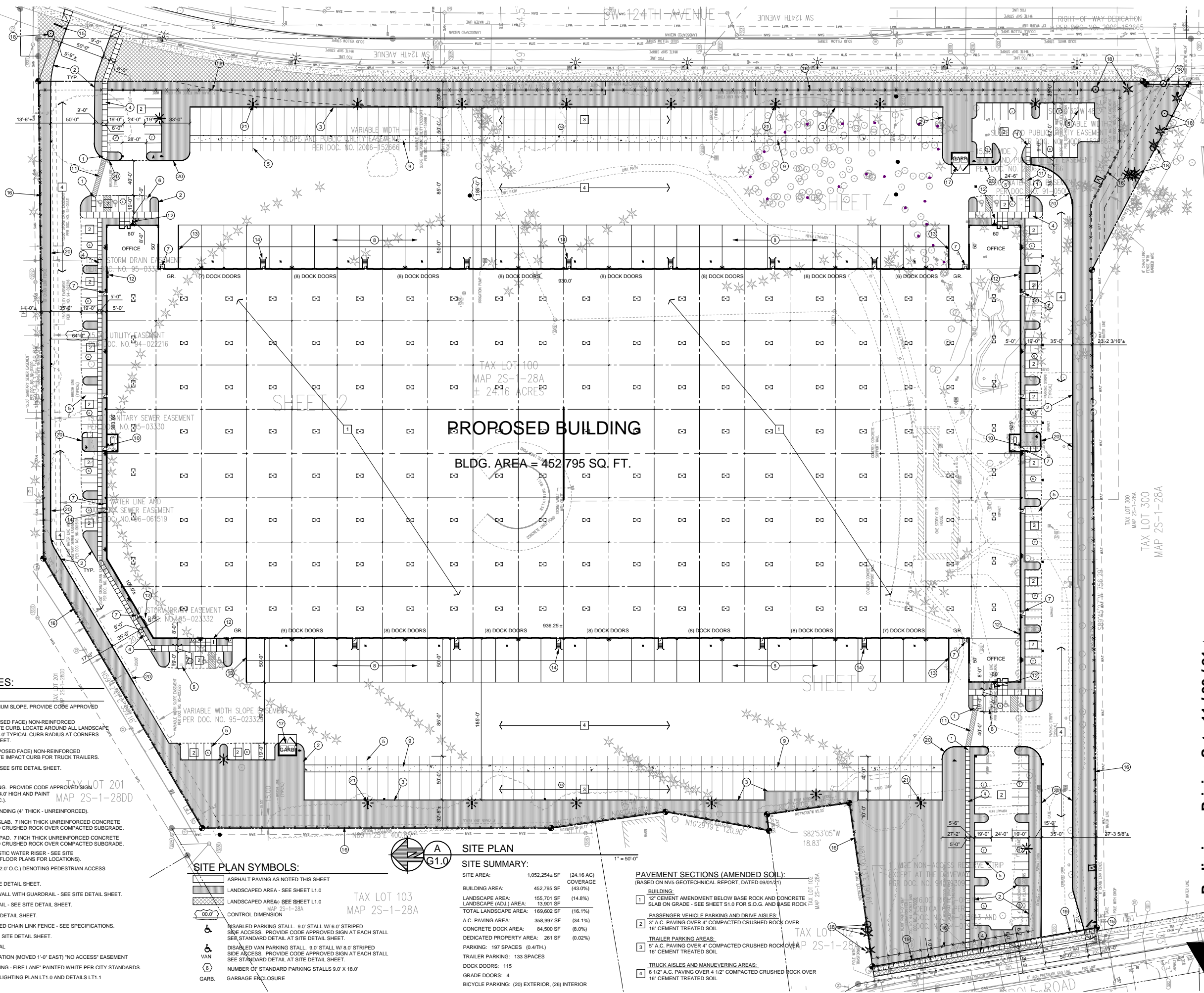
DATE	DESCRIPTION

DATE	APRIL 2021	PROJ. NO.	20190311
SCALE	AS NOTED	CHECKED	HGK
DRAWN	KAN		

SITE PLAN

**G1.0**

NOT FOR CONSTRUCTION



- SITE PLAN KEYNOTES:**
- | MARK | DESCRIPTION   |
|------|---|
| 1    | SIDEWALK RAMP: 1:12 MAXIMUM SLOPE. PROVIDE CODE APPROVED DETECTABLE WARNING.  |
| 2    | 6" THICK X 16" HIGH (6" EXPOSED FACE) NON-REINFORCED POURED-IN-PLACE CONCRETE CURB. LOCATE AROUND ALL LANDSCAPE AREAS AS SHOWN (U.N.O.). 5.0' TYPICAL CURB RADIUS AT CORNERS (U.N.O.). SEE SITE DETAIL SHEET. |
| 3    | 12" THICK X 30" HIGH (12" EXPOSED FACE) NON-REINFORCED POURED-IN-PLACE CONCRETE IMPACT CURB FOR TRUCK TRAILERS.   |
| 4    | NEW CONCRETE SIDEWALK. SEE SITE DETAIL SHEET.   |
| 5    | 3" WIDE PAINT STRIPE.   |
| 6    | CARPPOOL / VANPOOL PARKING. PROVIDE CODE APPROVED SIGN ON A 1 1/2" DIA. STEEL PIPE, 4.0' HIGH AND PAINT "CARPOOL" (IN SPACE ON A.C.).   |
| 7    | 5.0' X 5.0' MIN. CONCRETE LANDING (4" THICK - UNREINFORCED).  |
| 8    | LOADING DOCK CONCRETE SLAB. 7 INCH THICK UNREINFORCED CONCRETE OVER 6 INCHES COMPACTED CRUSHED ROCK OVER COMPACTED SUBGRADE.  |
| 9    | TRUCK TRAILER CONCRETE PAD. 7 INCH THICK UNREINFORCED CONCRETE OVER 6 INCHES COMPACTED CRUSHED ROCK OVER COMPACTED SUBGRADE.  |
| 10   | FIRE SPRINKLER AND DOMESTIC WATER RISER - SEE SITE UTILITY PLAN. (VERIFY WITH FLOOR PLANS FOR LOCATIONS).   |
| 11   | PAINT STRIPING (3" WIDE AT 2.0' O.C.) DENOTING PEDESTRIAN ACCESS WALKWAY OR NO PARKING.   |
| 12   | BICYCLE PARKING - SEE SITE DETAIL SHEET.  |
| 13   | LOADING DOCK RETAINING WALL WITH GUARDRAIL - SEE SITE DETAIL SHEET.   |
| 14   | METAL STAIR WITH GUARDRAIL - SEE SITE DETAIL SHEET.   |
| 15   | MONUMENT SIGN - SEE SITE DETAIL SHEET.  |
| 16   | 6.0' HIGH BLACK VINYL COATED CHAIN LINK FENCE - SEE SPECIFICATIONS.   |
| 17   | GARBAGE ENCLOSURE - SEE SITE DETAIL SHEET.  |
| 18   | TREES TO REMAIN - (18) TOTAL  |
| 19   | NEW PROPERTY LINE DEDICATION (MOVED 1'-0" EAST) "NO ACCESS" EASEMENT  |
| 20   | PAINT CURB RED - "NO PARKING - FIRE LANE" PAINTED WHITE PER CITY STANDARDS.   |
| 21   | NEW LIGHT POLE - SEE SITE LIGHTING PLAN L1.0 AND DETAILS L1.1   |

- SITE PLAN SYMBOLS:**
- ASPHALT PAVING AS NOTED THIS SHEET
  - LANDSCAPED AREA - SEE SHEET L1.0
  - LANDSCAPED AREA: SEE SHEET L1.0
  - CONTROL DIMENSION
  - DISABLED PARKING STALL. 9.0' STALL W/ 6.0' STRIPED SIDE ACCESS. PROVIDE CODE APPROVED SIGN AT EACH STALL. SEE STANDARD DETAIL AT SITE DETAIL SHEET.
  - DISABLED VAN PARKING STALL. 9.0' STALL W/ 8.0' STRIPED SIDE ACCESS. PROVIDE CODE APPROVED SIGN AT EACH STALL. SEE STANDARD DETAIL AT SITE DETAIL SHEET.
  - NUMBER OF STANDARD PARKING STALLS 9.0' X 18.0'
  - GARB. GARBAGE ENCLOSURE

**SITE PLAN**

**SITE SUMMARY:**

SITE AREA:	1,052,254± SF	(24.16 AC)
BUILDING AREA:	452,795 SF	(43.07%)
LANDSCAPE AREA:	155,701 SF	(14.88%)
LANDSCAPE (ADD.) AREA:	13,991 SF	
TOTAL LANDSCAPE AREA:	169,692 SF	(16.11%)
A.C. PAVING AREA:	358,997 SF	(34.11%)
CONCRETE DOCK AREA:	84,500 SF	(8.01%)
DEDICATED PROPERTY AREA:	261 SF	(0.02%)
PARKING:	197 SPACES (0.47H)	
TRAILER PARKING:	133 SPACES	
DOCK DOORS:	115	
GRADE DOORS:	4	
BICYCLE PARKING:	(20) EXTERIOR, (26) INTERIOR	

- PAVEMENT SECTIONS (AMENDED SOIL):**  
(BASED ON NVS GEOTECHNICAL REPORT, DATED 09/01/21)
- BUILDING:**
  - 1 12" CEMENT AMENDMENT BELOW BASE ROCK AND CONCRETE SLAB ON GRADE - SEE SHEET S1.0 FOR S.O.G. AND BASE ROCK
  - PASSENGER VEHICLE PARKING AND DRIVE AISLES:**
  - 2 5" A.C. PAVING OVER 4" COMPACTED CRUSHED ROCK OVER 16" CEMENT TREATED SOIL
  - TRAILER PARKING AREAS:**
  - 3 5" A.C. PAVING OVER 4" COMPACTED CRUSHED ROCK OVER 16" CEMENT TREATED SOIL
  - TRUCK AISLES AND MANEUVERING AREAS:**
  - 4 6 1/2" A.C. PAVING OVER 4 1/2" COMPACTED CRUSHED ROCK OVER 16" CEMENT TREATED SOIL

G:\Acad2019\20190311\Drawings\1.0 G1.0 Site Plan.dwg 1/4/2021 1:00:00 AM

Preliminary Pricing Set - 11 / 03 / 21



TRIP GENERATION CALCULATIONS  
Source: Trip Generation Manual, 11th Edition

*Land Use:* General Light Industrial  
*Land Use Code:* 110  
*Land Use Subcategory:* All Sites  
*Setting/Location:* General Urban/Suburban  
*Variable:* 1000 SF GFA  
*Trip Type:* Vehicle  
*Variable Quantity:* 452.795

WARNING: Variable Quantity is greater than Maximum Survey Size for Peak Hours

**AM PEAK HOUR**

*Trip Rate:* 0.74

	Enter	Exit	Total
Directional Split	88%	12%	
Trip Ends	295	40	335

**PM PEAK HOUR**

*Trip Rate:* 0.65

	Enter	Exit	Total
Directional Split	14%	86%	
Trip Ends	41	253	294

**WEEKDAY**

*Trip Rate:* 4.87

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	1,103	1,103	2,206

**SATURDAY**

*Trip Rate:* 0.69

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	156	156	312



TRIP GENERATION CALCULATIONS  
Source: Trip Generation Manual, 11th Edition

*Land Use:* General Light Industrial  
*Land Use Code:* 110  
*Land Use Subcategory:* All Sites  
*Setting/Location:* General Urban/Suburban  
*Variable:* 1000 SF GFA  
*Trip Type:* Truck  
*Variable Quantity:* 452.795

WARNING: Variable Quantity is greater than Maximum Survey Size for Peak Hours

**AM PEAK HOUR**

*Trip Rate:* 0.01

	Enter	Exit	Total
Directional Split	60%	40%	
Trip Ends	3	2	5

**PM PEAK HOUR**

*Trip Rate:* 0.01

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	3	3	5

**WEEKDAY**

*Trip Rate:* 0.25

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	57	57	114

**SATURDAY**

*Trip Rate:* 0

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	NA	NA	NA



## TRIP GENERATION CALCULATIONS

Source: Trip Generation Manual, 11th Edition

*Land Use:* Miniature Golf Course

*Land Use Code:* 431

*Setting/Location:* General Urban/Suburban

*Variable:* Holes

*Variable Value:* 18

### PM PEAK HOUR

*Trip Rate:* 0.33

	Enter	Exit	Total
Directional Distribution	33%	67%	
Trip Ends	2	4	6

*Note: Only one survey sample*

### WEEKDAY

*Trip Rate:* 3.30

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	30	30	60

*Note: Weekday rate assumed to be ten times the PM peak hour.*





## TRIP GENERATION CALCULATIONS

Source: Trip Generation Manual, 11th Edition

*Land Use:* Golf Driving Range

*Land Use Code:* 432

*Setting/Location:* General Urban/Suburban

*Variable:* Tees/Driving Positions

*Variable Value:* 43

### AM PEAK HOUR

*Trip Rate:* 0.4

	Enter	Exit	Total
Directional Distribution	61%	39%	
Trip Ends	10	7	17

*Note: Only one survey sample*

### PM PEAK HOUR

*Trip Rate:* 1.25

	Enter	Exit	Total
Directional Distribution	45%	55%	
Trip Ends	24	30	54

### WEEKDAY

*Trip Rate:* 13.65

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	293	293	586

*Note: Only one survey sample*

### SATURDAY

*Trip Rate:* 17.68

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	380	380	760

*Note: Only one survey sample*

## Memorandum

To: **Mike McCarthy, Tony Doran, City of Tualatin**  
**Naomi Vogel, Jinde Zhu, Washington County**

Copy: **Peter Skei, Specht Properties, Inc.**  
**Havlin Kemp, VLMK Engineering + Design**

From: **Jennifer Danziger, PE**

Date: **November 18, 2021**

Subject: **Tualatin Logistics Traffic Study Scoping Memorandum – Revision 2**

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This memorandum proposes a revised scope of work for the transportation impact analysis (TIA) of the 452,795-square-foot (SF) industrial project in Tualatin, Oregon.

### Project Description

The proposed Tualatin Logistics Park site includes the redevelopment of the existing Tualatin Island Greens driving range (43 tees) and miniature golf course (18 holes) to a 452,795 square-foot warehouse. The site is located east of SW Cipole Road, west of SW 124th Avenue, and north and south of other commercial warehouse properties. The site will take access via the existing driveway along SW Cipole Road and a second access along SW 124th Avenue.

Two access scenarios on SW 124th Avenue will be evaluated as part of the TIA. One scenario will consider an access alignment at the southeast corner of the site, opposite SW Cimino Street as indicated in Tualatin Development Code. A second scenario will consider a right-in/right-out access at the northeast corner of the site. This second scenario is proposed as an alternative to the southeast corner access for several reasons. Significant grade differences will exist between the site and SW 124th Avenue. The curb cut on SW 124th Avenue spans the tax lots of the subject property and the property to the south (Columbia Corrugated Box). Providing access to both tax lots from SW 124th significantly impacts what can be developed on the southeast corner of the site.

### Trip Generation

To estimate trips that will be generated by the redevelopment, trip rates from the *Trip Generation Manual*<sup>1</sup> were used based on the number of existing driving range tees, number of golf holes, and the proposed square footage.

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<sup>1</sup> Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.

### Existing Site Development

The site is currently occupied by Tualatin Island Greens Golf Center and Grill. The golf facilities include a driving range and an 18-hole miniature golf course. The driving range includes 43 tees with synthetic mats for year-round use and additional grass tees available in the spring and summer. These facilities are open from 9:00 AM to 8:00 PM, September through March, and from 9:00 AM to 9:00 PM, April through August. The site also includes a restaurant with hours from 10:30 to 6:30 PM, September through March, and 10:30 AM to 7:30 PM, April 9:00 AM to 8:00 PM from September to March through August.

Trip generation was estimated based on the golf facilities; the restaurant is assumed to be used primarily by the golfing customers. Trip data for both types of golf facilities are limited; therefore, the following assumptions were made to estimate trips for the site:

- The trip data for the miniature golf land use code (ITE LUC 431) is limited to a single survey during the weekday PM peak period. No activity is assumed during the morning peak hour. The weekday PM peak hour trip rate is very low and may vary over the year with more activity during summer months and less during winter months. However, we suggest that credit for the facility should be included in the trip generation for the site. No daily data is available; therefore, the weekday rate was assumed to be 10 times the daily rate.
- The trip data for a driving range (ITE LUC 432) is limited to a single survey for the morning and weekday periods but has seven surveys for the weekday PM peak period. While the driving range does not open until 9:00 AM, retail and maintenance staff need to be on site before 9:00 AM. Two of the ITE survey sites also had staff data available with counts of 14 and 15 employees. Additionally, food service deliveries also typically occur in the morning. Therefore, the morning peak hour trips were included in the trip generation estimates. Trip estimates were prepared based on the 43 year-round tees.

One of the concerns that was raised about prior trip generation estimates is that the golf site peaks may occur later than the peaks of the street traffic or the peaks of industrial development. To acknowledge this may be the case for the traffic study, a 20 percent discount in peak hour trips is proposed.

The resulting trip generation is presented in Table 1.

**Table 1: Trip Generation Summary – Existing Land Uses**

Land Use	ITE Code	Size	AM Peak Hour			PM Peak Hour			Weekday Total
			In	Out	Total	In	Out	Total	
Driving Range	432	43 Tees	10	7	17	24	30	54	586
Miniature Golf	431	18 Holes	0	0	0	2	4	6	60
<i>20% Discount for Offset Peak Hour</i>			-2	-1	-3	-5	-7	-12	-130
Total			8	6	14	21	27	48	516

### Proposed Site Development

Specht Properties, Inc. proposes to redevelop the site with a single industrial building enclosing 452,795 SF of gross floor area with 115 dock doors and 4 grade doors. As proposed, the site includes 197 parking spaces and 133 trailer parking spaces. Some accessory office space is included in the building layout.



The proposed development is speculative with flexible space that could accommodate a single tenant or multiple tenants. Specht has developed similar properties in the Portland metropolitan area. The locations, sizes, and tenant descriptions are attached to this memorandum, each with a recent photo of the site. The sites range from a single 290,000-SF building to three buildings totalling more than 733,000 SF. Only two of the sites have any manufacturing tenants and a portion of those operations are warehousing and distribution. Of the total 1.87 million SF of space, approximately 18 percent is leased to tenants whose operations include manufacturing.

A range of potential industrial land use assumptions was considered to estimate the trip generation for the site. Trip estimates were lowest for ITE LUC 154, High-Cube Transload and Short-Term Storage Warehouse, and highest for LUC 110, General Light Industrial, and LUC 156, High-Cube Parcel Hub Warehouse. Table 2 summarizes the total and truck trip generation for the range of industrial uses.

**Table 2: Trip Generation Summary – Potential Industrial Land Uses (452,795 SF)**

Land Use	ITE Code	AM Peak Hour			PM Peak Hour			Weekday Total	Employee Equivalent*
		In	Out	Total	In	Out	Total		
<b>Total Vehicle Trips</b>									
General Light Industrial	110	295	40	335	41	253	294	2,206	636
Manufacturing	140	234	74	308	104	231	335	2,150	1,022
Warehousing	150	59	18	77	23	59	82	774	125
High-Cube Transload and Short-Term Storage Warehouse	154	28	8	36	13	32	45	634	NA
High-Cube Fulfillment Center Warehouse - Non-Sort	155	55	13	68	28	44	72	820	487
High-Cube Parcel Hub Warehouse	156	159	158	317	197	93	290	2,096	NA
<b>Truck Trips</b>									
General Light Industrial	110	3	2	5	3	3	5	114	-
Manufacturing	140	8	6	14	6	8	14	204	-
Warehousing	150	5	4	9	7	7	14	272	-
High-Cube Transload and Short-Term Storage Warehouse	154	4	5	9	2	3	5	100	-
High-Cube Fulfillment Center Warehouse - Non-Sort	155	5	5	9	2	3	5	104	-
High-Cube Parcel Hub Warehouse	156	NA	NA	41	NA	NA	27	262	-

\* Estimated as average number of employees needed to generate the equivalent number of vehicle trips based on KSF

While the original traffic scoping suggested a mix of 85 percent warehouse and 15 percent manufacturing based on the available site parking, this memorandum suggests using the much more conservative assumption of general light industrial. A parcel hub warehouse would generate the same number of trips but with a substantially different directional distribution from other industrial uses. The truck trip generation of general light



industrial is slightly lower than other uses; however, the variation in the number of trucks generated during the peak hours for the industrial uses is small and the percentage of overall site-generated traffic is very low.

### Total Site Trip Generation

Table 3 summarizes the estimated net trip generation of the site with the land use assumptions discussed above.

**Table 3: Trip Generation Summary (Warehousing)**

Land Use	AM Peak Hour			PM Peak Hour			Weekday Total
	In	Out	Total	In	Out	Total	
<i>Existing Land Use</i>	-8	-6	-14	-21	-27	-48	-516
Proposed Land Use	295	40	335	41	253	294	2,206
Net Increase	287	34	321	20	227	246	1,690

The trip generation calculations show that the Tualatin Logistics site assuming general light industrial for the site is projected to generate an additional 321 net trips during the morning peak hour, 246 net trips during the evening peak hour, and 1,690 net trips during the average weekday.

### Trip Distribution

The directional distribution of site trips to/from the project site is necessary to identify intersections to be included in the study area of the TIA. The following trip distribution was estimated based on the locations of likely trip destinations and locations of major transportation facilities in the site vicinity:

- Approximately 30 percent of site trips will travel to/from the south along SW 124th Avenue
- Approximately 20 percent of site trips will travel to/from the west along SW Tualatin-Sherwood Road
- Approximately 30 percent of site trips will travel to/from the east along SW Tualatin-Sherwood Road
- Approximately 5 percent of site trips will travel to/from the north along SW Cipole Road
- Approximately 15 percent of site trips will travel to/from the north along SW 124th Avenue

Trip distribution at the site accesses will depend on the location and configuration of the accesses. With the first scenario assuming an access on SW 124th Avenue at the southeast corner of the site, the split of traffic between the two accesses is assumed to be about 50 percent at each access. With the second scenario assuming a limited access on SW 124th Avenue at the northeast corner of the site, the split of traffic is assumed to be 65 to 70 percent using the SW Cipole Road access while 30 to 35 percent using the limited access at SW 124th Avenue.

Three figures displaying the proposed distribution are attached to this memorandum. One figure shows the distribution for the first access scenario. Because of the limited access (right-in/right-out on 124th Avenue) with the second access scenario, distribution in the immediate area of the site will differ for inbound and outbound trips. Thus, two figures show the distribution with the second access scenario, one for inbound and one for outbound traffic.



## Study Intersections

The proposed project lies within the City of Tualatin's planning area boundary, but traffic is also anticipated to affect Washington County roadway facilities. Tualatin Development Code (TDC) 74.440 does not establish criteria for determining the study area traffic studies; the need for a traffic study and the study area are determined by city staff. However, staff have provided a general guideline of 60 peak hour trips and 500 daily trips through an intersection. Washington County (Resolution & Order 86-95) defines the impact area for developments as "those road links where site-generated traffic equals or exceeds 10% of existing average daily traffic" (ADT).

Using the trip generation and distribution and the criteria discussed above, the following list of intersections are proposed for the study area:

1. SW Tualatin-Sherwood Road & SW Oregon Street
2. SW Tualatin-Sherwood Road & SW Cipole Road
3. SW Tualatin-Sherwood Road & SW 124th Avenue
4. SW Tualatin-Sherwood Road & SW 120th Avenue
5. SW Tualatin-Sherwood Road & SW 115th Avenue
6. SW Tualatin-Sherwood Road & SW Avery Street/112th Avenue
7. SW Cipole Road & Site Access
8. SW Cipole Road & SW Herman Road
9. SW 124th Avenue & SW Cimino Street/Site Access
10. SW 124th Avenue & SW Myslony Road
11. SW 124th Avenue & SW Herman Road

The specific calculations for each access scenario are attached to this memorandum.

## Existing Traffic Volumes

The ongoing pandemic has initiated a significant decrease in traffic due to policies on social distancing that have closed or limited business operations and reduced commuting as many people work from home. Although some restrictions have been lifted and schools are open, adjustments are still needed to reflect "normal" traffic conditions.

Historical data is available at most of the study area intersections, as summarized in Table 4. These counts were collected for a variety of TIAs that have been prepared in recent years. Where historical counts are not available, new count data was or will be collected in 2021.



**Table 4: Historical Counts and Proposed Adjustment Methodology**

Intersection	Historical Counts	New Counts	Adjustment Method Proposed
1. SW Tualatin-Sherwood Rd & SW Oregon St	2/13/2019	-	Used 2021 Background Traffic Estimates from the T-S Corporate Park TIA
2. SW Tualatin-Sherwood Rd & SW Cipole Rd	2/13/2019 10/23/2018	-	Used 2021 Background Traffic Estimates from the T-S Corporate Park TIA
3. SW Tualatin-Sherwood Rd & SW 124th Ave	2/13/2019 2/6&7/2019 10/23/2018	11/17/2021	Used 2021 Background Traffic Estimates from the T-S Corporate Park TIA
4. SW Tualatin-Sherwood Rd & SW 120th Ave	2/13/2019 2/6&7/2019 10/23/2018	-	Used 2021 Background Traffic Estimates from the T-S Corporate Park TIA
5. SW Tualatin-Sherwood Rd & SW 115th Ave	2/13/2019 2/6&7/2019 10/23/2018	-	Used 2021 Background Traffic Estimates from the T-S Corporate Park TIA
6. SW Tualatin-Sherwood Rd & SW Avery St/112th Ave	2/13/2019 2/6&7/2019 10/23/2018	-	Used 2021 Background Traffic Estimates from the T-S Corporate Park TIA
7. SW Cipole Rd & Site Access	-	11/17/2021	Compare SW Cipole Rd volumes with Intersection 2 and develop adjustment factor
8. SW Cipole Rd & SW Herman Rd	-	11/17/2021	Compare SW Herman Rd volumes with Intersection 11 and develop adjustment factor
9. SW 124th Ave & SW Cimino Street/Site Access	7/12/2017	6/15/2021	Compare SW 124th Ave volumes with Intersection 3 and develop adjustment factor
10. SW 124th Ave & SW Myslony Rd	7/10/2018	-	Adjust volumes consistently with the methodology from T-S Corporate Park TIA
11. SW 124th Ave & SW Herman Rd	8/16/2018	-	Adjust volumes consistently with the methodology from T-S Corporate Park TIA

The mostly recent historical counts were collected as part of the approved TIA for the T-S Corporate Park located in the southwest corner of the SW Tualatin-Sherwood Road intersection with SW 124th Avenue. That TIA estimated 2021 background conditions by applying a 1.5 percent annual growth rate and adding trips generated by the following approved projects:

- Parkway Village South (SW Langer Farms Parkway)
- Spring Creek Industrial
- Four-S Corporate Warehouse
- IPT Tualatin
- Majestic SW 115th Avenue Industrial Park
- Hedges C Building



- Tualatin Business Park

We propose using these adjusted volumes for the intersections along SW Tualatin-Sherwood Road and following the same methodology for the intersections with historical counts available.

For intersections where historical traffic counts are not available, we propose to compare the 2021 count volumes with adjusted 2021 volumes and develop adjustment factors to account for the pandemic impacts.

## Traffic Volume Projections

To develop future volumes, we propose using a background growth rate of 2 percent per year plus the traffic volumes from approved projects. The projects to be included in the background condition are:

- T-S Corporate Park – this project is planned to be fully operational by the end of 2021. The trip assignment with the extension of SW Cipole Road into the site will be used.
- PGE Integrated Operations Center – this project is planned to be fully operational by 2022.

Although the buildout of the proposed project is targeted for the summer of 2023, an analysis year of 2024 was evaluated to correspond with completion of the improvements along SW Tualatin-Sherwood Road.

The Tualatin-Sherwood Road expansion project is a Washington County Capital Improvement Program (CIP) Project intends to expand the roadway to five lanes, improve bicycle and pedestrian facilities, improve storm drainage, and install street lighting. This project is currently applying for permits and starting the right-of-way acquisition process. Construction is planned to break ground late Summer 2021, with a target completion of the nearby roadway segment in late 2024. Thus, this project was assumed as part of the Background conditions. The most recent lane configurations for this project have been obtained from Washington County's design team.

## Summary of Scoping Proposal

Please review our proposed scope of analysis and confirm the following:

- Trip generation using general light industrial for the proposal and the existing golf use is acceptable.
- Our approach to developing normalized traffic volumes is acceptable.
- Our background growth rate of 2 percent per year is acceptable.

Note, the trip distribution has already been confirmed as acceptable by email.





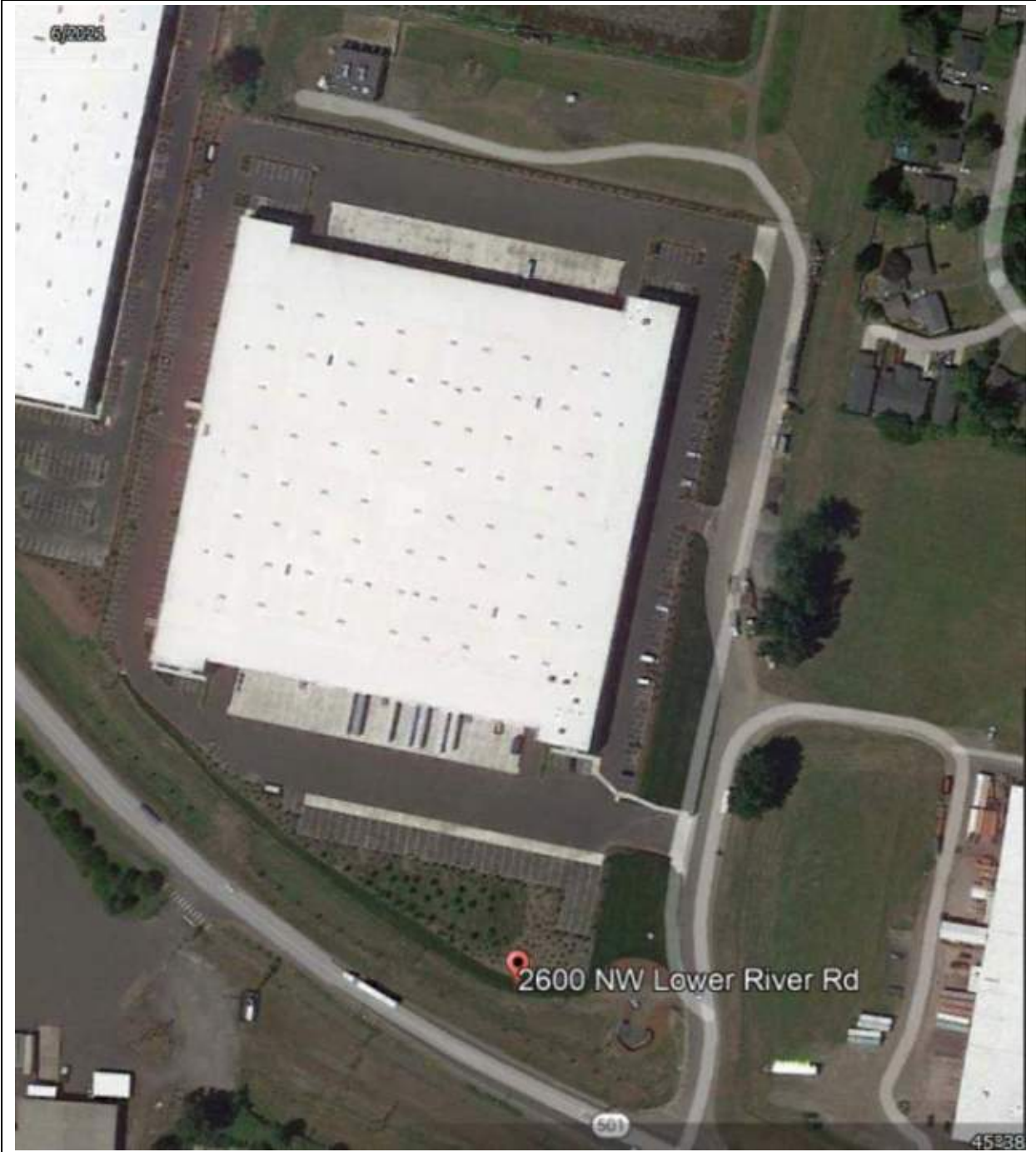
Portside Logistics Park - 2600 NW Lower River Road, Vancouver, Washington

Project Square Footage ("SF"): 289,737 SF  
Year Completed: 2020  
Project Type: Speculative Industrial  
Employee Parking Spaces: ~207  
Current Occupied Space: 100%

Tenant Mix:

- Nuna
  - Company Type/Use: Warehouse/distribution with a substantial office component.
  - Lease SF: 289,737 SF.
  - % of Overall Project SF: 100%.

© Google Earth



Vista Logistics Park - 32-198 SE 223rd Ave, Gresham, Oregon

Project Square Footage ("SF"): 733,232 SF  
(via three buildings)

Year Completed: 2017

Project Type: Speculative Industrial

Employee Parking Spaces: ~443

Current Occupied Space: 73%

Tenant Mix:

- Imperial Brown, Inc.
  - Company Type/Use: Design and manufacturing of walk-in coolers and freezers. Headquarter office located in same facility.
  - Lease SF: ~113,144 SF (of which ~8,000 SF is office).
  - % of Overall Project SF: ~15%.
- Medline Industries, Inc.
  - Company Type/Use: Warehousing, distribution, and packaging of medical supply products.
  - Lease SF: ~297,501 SF (of which ~5k SF is office).
  - % of Overall Project SF: ~41%.
- Samuel, Son & Co.
  - Company Type/Use: Integrated metal manufacturing, processing, and distribution services.
  - Lease SF: ~125,624 (of which ~5,500 is office).
  - % of Overall Project SF: ~17%.
- Unoccupied at time of property sale
  - Lease SF: 196,963

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Portside Industrial Park - 3665 NW 32nd Avenue, Vancouver, Washington

Project Square Footage ("SF"): 352,560 SF  
(via two buildings)  
Year Completed: 2017  
Project Type: Speculative Industrial  
Employee Parking Spaces: ~264  
Current Occupied Space: 100%

Tenant Mix:

- Express Messenger Systems, Inc., DBA OnTrac.
  - Company Type/Use: Parcel logistics warehousing and distribution.
  - Lease SF: ~162,240 SF (of which ~9,343 SF is office).
  - % of Overall Project SF: ~46%.
- Laclede Chain Manufacturing Company
  - Company Type/Use: Chain manufacturer and distribution/supplier with limited on-site assembly/repair; primarily warehouse/distribution.
  - Lease SF: ~94,281 SF (of which ~3,940k SF is office).
  - % of Overall Project SF: ~27%.
- Sunlight Supply, Inc.
  - Company Type/Use: Warehousing and storage of specialty gardening supplies.
  - Lease SF: ~95,265 (of which ~1,609 is office).
  - % of Overall Project SF: ~27%.

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Interstate Crossroads Distribution Center - 16441 NE Cameron Blvd, Portland, Oregon

Project Square Footage ("SF"): 492,554 SF  
Year Completed: 2015  
Project Type: Speculative Industrial  
Employee Parking Spaces: ~157  
Current Occupied Space: 100%

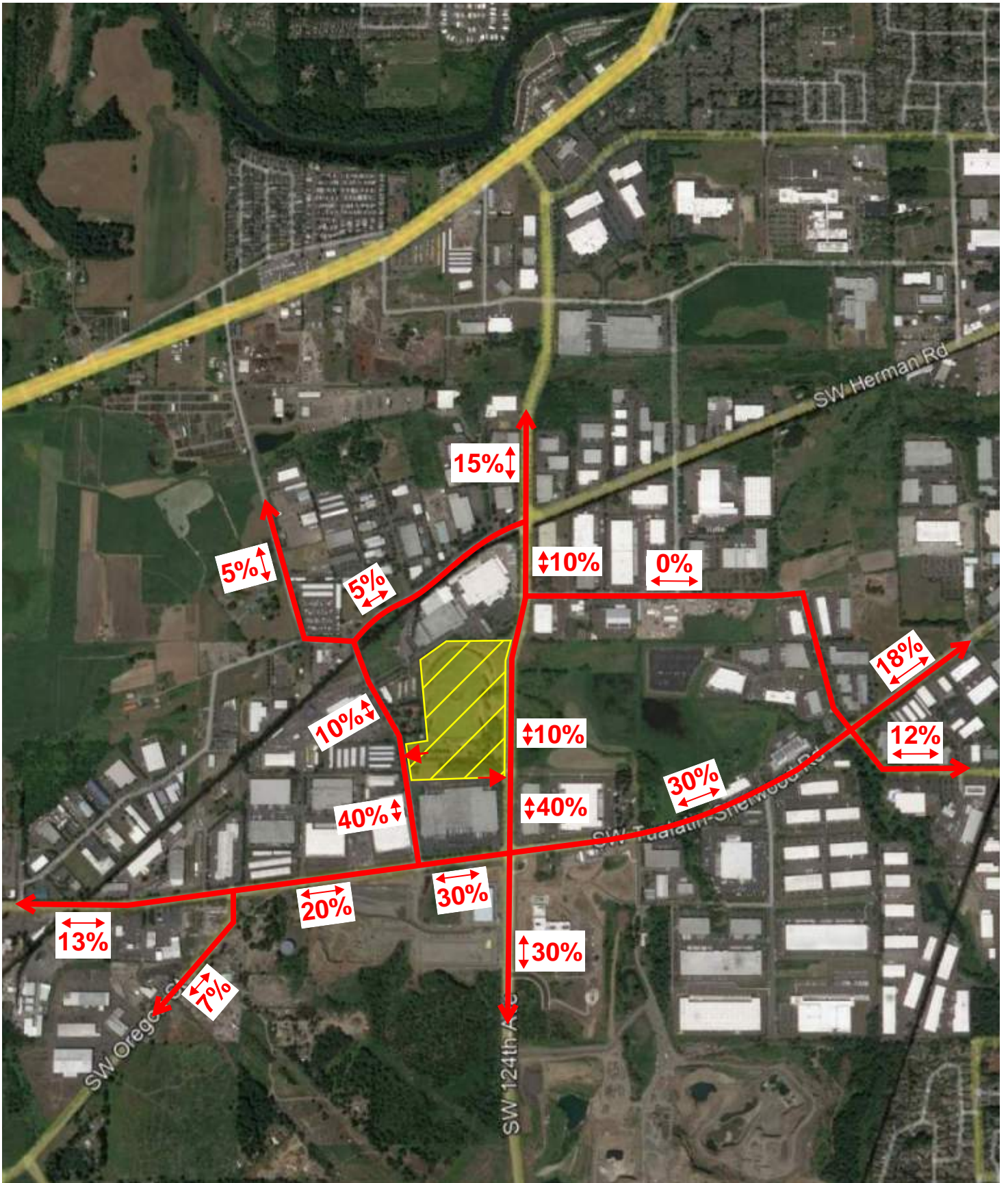
Tenant Mix:

- Keystone Automotive Industries, Inc./LKQ Corporation
  - Company Type/Use: Storage and Distribution of auto and truck parts.
  - Lease SF: 229,141 SF (of which ~10,212 is office)
  - % of Overall Project SF: 47%
- Staples Contract & Commercial, Inc.
  - Company Type/Use: Storage and distribution of office products.
  - Lease SF: 263,413 SF
  - % of Overall Project SF: 53%.

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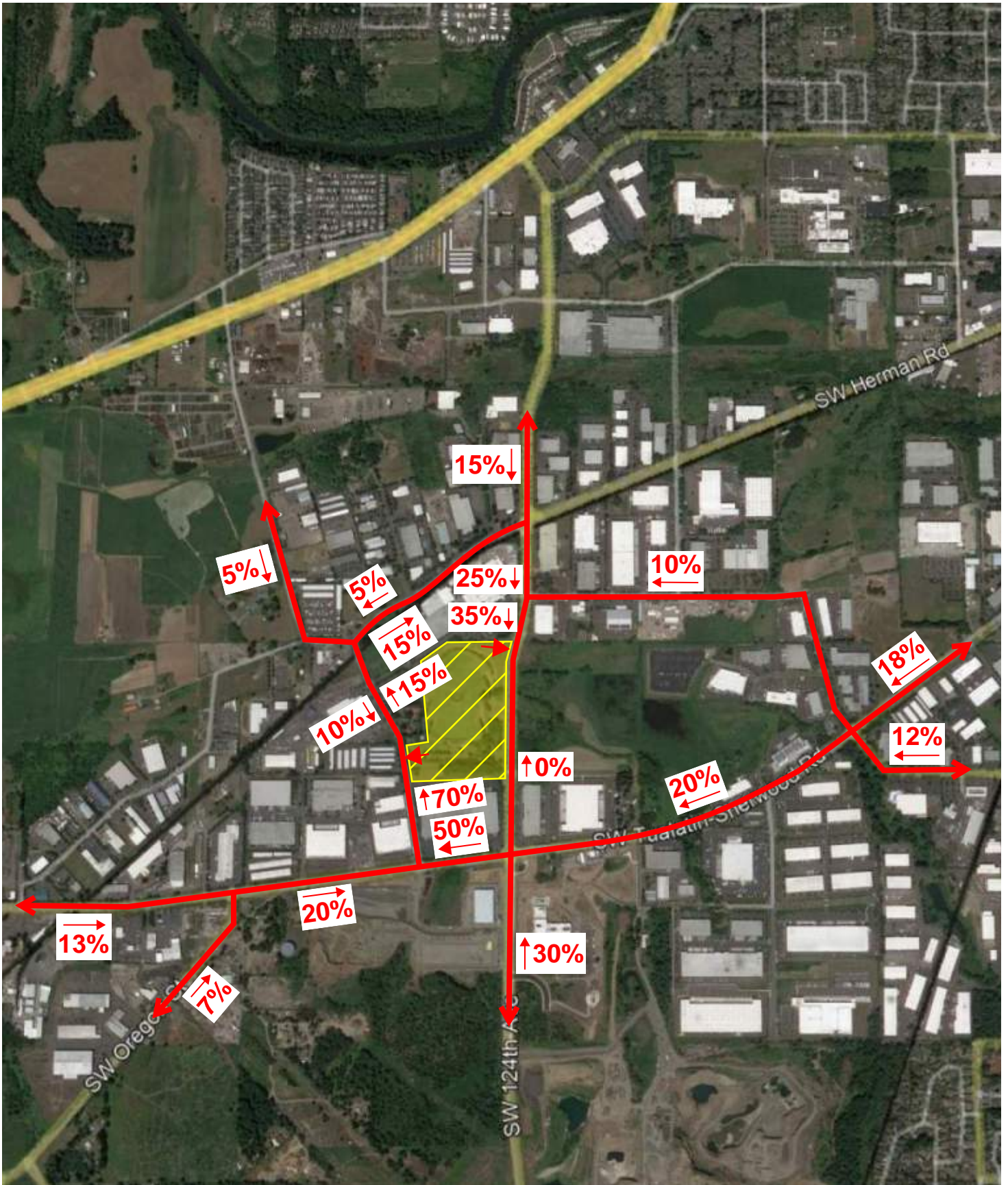






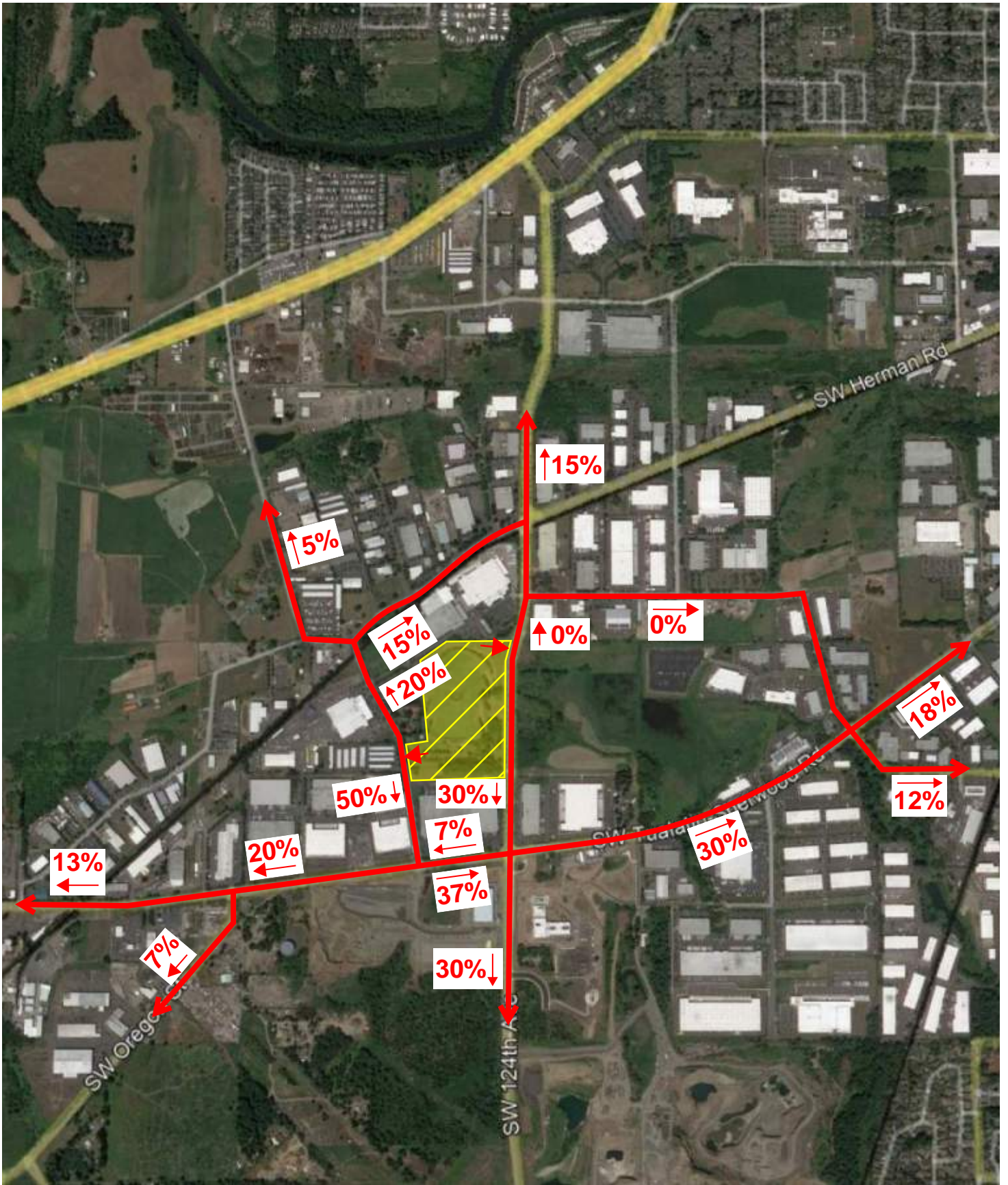
**Tualatin Logistics Park  
Proposed Distribution  
Access Scenario 1**





**Tualatin Logistics Park  
Proposed Distribution  
Access Scenario 2 - Inbound**





**Tualatin Logistics Park  
Proposed Distribution  
Access Scenario 2 - Outbound**

Access Scenario 1 (Southeast at 124th)	Distribution		AM Peak			PM Peak			Daily		
	In	Out	287	34	321	20	227	247	845	845	1,690
SW Tualatin-Sherwood Rd & SW Oregon St	20%	20%	57	7	64	4	45	49	169	169	338
SW Tualatin-Sherwood Rd & SW Cipole Rd	60%	60%	172	20	192	12	136	148	507	507	1,014
SW Tualatin-Sherwood Rd & SW 124th Ave	70%	70%	201	24	225	14	159	173	592	592	1,184
SW Tualatin-Sherwood Rd & SW 120th Ave	30%	30%	86	10	96	6	68	74	254	254	508
SW Tualatin-Sherwood Rd & SW 115th Ave	30%	30%	86	10	96	6	68	74	254	254	508
SW Tualatin-Sherwood Rd & SW Avery St/112th Ave	30%	30%	86	10	96	6	68	74	254	254	508
SW Cipole Rd & SW Herman Rd	10%	10%	29	3	32	2	23	25	85	85	170
SW 124th Ave & SW Myslony Rd	10%	10%	29	3	32	2	23	25	85	85	170
SW 124th Ave & SW Herman Rd	15%	15%	43	5	48	3	34	37	127	127	254

Access Scenario 1 (Southeast at 124th)	Distribution		AM Peak			PM Peak			Daily			2019	2019	%
	In	Out	287	34	321	20	227	247	845	845	1,690	WaCo	OTMS	AADT
SW Tualatin-Sherwood Rd														
West of SW Oregon St	13%	13%	37	4	41	3	30	33	110	110	220		23,746	1%
SW Oregon St to SW Cipole Rd	20%	20%	57	7	64	4	45	49	169	169	338			
SW Cipole Rd to SW 124th Ave	30%	30%	86	10	96	6	68	74	254	254	508		22,407	2%
SW 124th Ave to SW 120th Ave	30%	30%	86	10	96	6	68	74	254	254	508		29,914	2%
SW 120th Ave to SW 115th Ave	30%	30%	86	10	96	6	68	74	254	254	508			
SW 115th Ave to SW Avery/112th Ave	30%	30%	86	10	96	6	68	74	254	254	508			
East of SW Avery/112th Ave	18%	18%	52	6	58	4	41	45	152	152	304			
SW Oregon St														
South of SW Tualatin-Sherwood Rd	7%	7%	20	2	22	1	16	17	59	59	118	9,006		1%
SW Cipole Rd														
SW Tualatin-Sherwood Rd-Site Access	40%	40%	115	14	129	8	91	99	338	338	676	3,464		20%
Site Access-SW Herman Rd	10%	10%	29	3	32	2	23	25	85	85	170		4,564	4%
North of SW Herman Rd	5%	5%	14	2	16	1	11	12	42	42	84			
SW 124th Avenue														
South of SW Tualatin-Sherwood Rd	30%	30%	86	10	96	6	68	74	254	254	508	7,761		7%
SW Tualatin-Sherwood Rd-Site Access	40%	40%	115	14	129	8	91	99	338	338	676			
Site Access-SW Myslony Rd	10%	10%	29	3	32	2	23	25	85	85	170			
SW Myslony Rd-SW Herman Rd	10%	10%	29	3	32	2	23	25	85	85	170		6,073	3%
North of SW Herman Rd	15%	15%	43	5	48	3	34	37	127	127	254			
SW Avery St/112th Ave														
South of SW Tualatin-Sherwood Rd	12%	12%	34	4	38	2	27	29	101	101	202			
North of SW Tualatin-Sherwood Rd	0%	0%	0	0	0	0	0	0	0	0	0			



Access Scenario 2 (Northeast RIRO at 124th)	Distribution		AM Peak			PM Peak			Daily		
	In	Out	287	34	321	20	227	247	845	845	1,690
SW Tualatin-Sherwood Rd & SW Oregon St	20%	20%	57	7	64	4	45	49	169	169	338
SW Tualatin-Sherwood Rd & SW Cipole Rd	70%	57%	201	19	220	14	129	143	592	482	1,074
SW Tualatin-Sherwood Rd & SW 124th Ave	50%	67%	144	23	167	10	152	162	423	566	989
SW Tualatin-Sherwood Rd & SW 120th Ave	20%	30%	57	10	67	4	68	72	169	254	423
SW Tualatin-Sherwood Rd & SW 115th Ave	20%	30%	57	10	67	4	68	72	169	254	423
SW Tualatin-Sherwood Rd & SW Avery St/112th Ave	30%	30%	86	10	96	6	68	74	254	254	508
SW Cipole Rd & SW Herman Rd	25%	20%	72	7	79	5	45	50	211	169	380
SW 124th Ave & SW Myslony Rd	35%	0%	100	0	100	7	0	7	296	0	296
SW 124th Ave & SW Herman Rd	25%	15%	72	5	77	5	34	39	211	127	338

Access Scenario 2 (Northeast RIRO at 124th)	Distribution		AM Peak			PM Peak			Daily			2019	2019	%
	In	Out	287	34	321	20	227	247	845	845	1,690	WaCo	OTMS	AADT
SW Tualatin-Sherwood Rd														
West of SW Oregon St	13%	13%	37	4	41	3	30	33	110	110	220		23,746	1%
SW Oregon St to SW Cipole Rd	20%	20%	57	7	64	4	45	49	169	169	338			
SW Cipole Rd to SW 124th Ave	50%	42%	144	14	158	10	95	105	423	355	778		22,407	3%
SW 124th Ave to SW 120th Ave	20%	30%	57	10	67	4	68	72	169	254	423		29,914	1%
SW 120th Ave to SW 115th Ave	20%	30%	57	10	67	4	68	72	169	254	423			
SW 115th Ave to SW Avery/112th Ave	20%	30%	57	10	67	4	68	72	169	254	423			
East of SW Avery/112th Ave	18%	18%	52	6	58	4	41	45	152	152	304			
SW Oregon St														
South of SW Tualatin-Sherwood Rd	7%	7%	20	2	22	1	16	17	59	59	118	9,006		1%
SW Cipole Rd														
SW Tualatin-Sherwood Rd-Site Access	70%	50%	201	17	218	14	114	128	592	423	1,015	3,464		29%
Site Access-SW Herman Rd	25%	20%	72	7	79	5	45	50	211	169	380		4,564	8%
North of SW Herman Rd	5%	5%	14	2	16	1	11	12	42	42	84			
SW 124th Avenue														
South of SW Tualatin-Sherwood Rd	30%	30%	86	10	96	6	68	74	254	254	508	7,761		7%
SW Tualatin-Sherwood Rd-Site Access	0%	30%	0	10	10	0	68	68	0	254	254			
Site Access-SW Myslony Rd	35%	0%	100	0	100	7	0	7	296	0	296			
SW Myslony Rd-SW Herman Rd	25%	0%	72	0	72	5	0	5	211	0	211		6,073	3%
North of SW Herman Rd	15%	15%	43	5	48	3	34	37	127	127	254			
SW Avery St/112th Ave														
South of SW Tualatin-Sherwood Rd	12%	12%	34	4	38	2	27	29	101	101	202			
North of SW Tualatin-Sherwood Rd	10%	0%	29	0	29	2	0	2	85	0	85			

## Appendix B – Traffic Data

Turning Movement Counts

Speed Data

In-Process Projects





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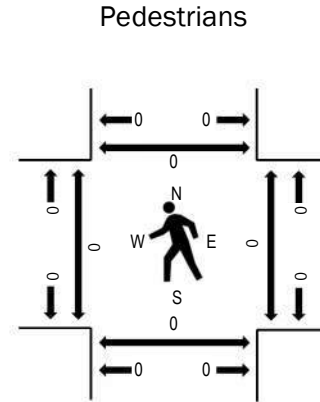
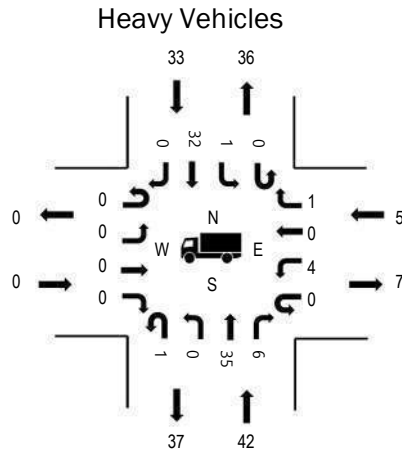
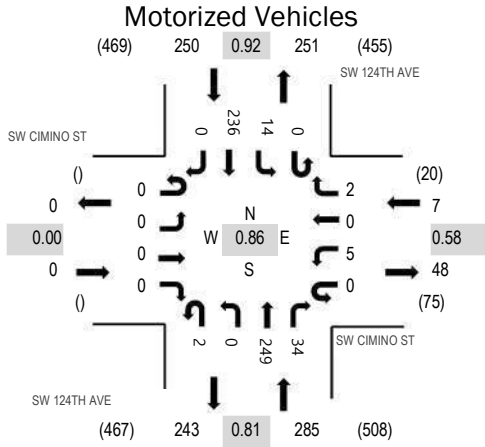
Location: 1 SW 124TH AVE & SW CIMINO ST AM

Date: Tuesday, June 15, 2021

Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	71.4%	0.58
NB	14.7%	0.81
SB	13.2%	0.92
All	14.8%	0.86

Traffic Counts - Motorized Vehicles

Interval Start Time	SW CIMINO ST Eastbound				SW CIMINO ST Westbound				SW 124TH AVE Northbound				SW 124TH AVE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	0	0	0	0	0	0	0	19	1	0	2	17	0	39	542
7:05 AM	0	0	0	0	0	2	0	0	0	0	23	6	0	0	15	0	46	542
7:10 AM	0	0	0	0	0	0	0	0	0	0	14	1	0	1	22	0	38	538
7:15 AM	0	0	0	0	0	0	0	1	0	0	24	4	0	0	25	0	54	540
7:20 AM	0	0	0	0	0	1	0	0	0	0	11	0	0	0	19	0	31	530
7:25 AM	0	0	0	0	0	0	0	0	0	0	22	1	0	1	12	0	36	538
7:30 AM	0	0	0	0	0	0	0	0	2	0	19	5	0	2	22	0	50	542
7:35 AM	0	0	0	0	0	1	0	0	0	0	23	1	0	1	23	0	49	526
7:40 AM	0	0	0	0	0	0	0	0	0	0	19	2	0	0	21	0	42	513
7:45 AM	0	0	0	0	0	1	0	0	0	0	23	4	0	1	18	0	47	507
7:50 AM	0	0	0	0	0	0	0	0	0	0	20	2	0	5	23	0	50	504
7:55 AM	0	0	0	0	0	0	0	1	0	0	32	7	0	1	19	0	60	486
8:00 AM	0	0	0	0	0	0	0	0	0	0	15	3	0	0	21	0	39	455
8:05 AM	0	0	0	0	0	2	0	0	1	0	22	2	0	0	15	0	42	
8:10 AM	0	0	0	0	0	0	0	0	0	0	13	2	0	2	23	0	40	
8:15 AM	0	0	0	0	0	1	0	0	0	0	21	1	0	0	21	0	44	
8:20 AM	0	0	0	0	0	0	0	1	0	0	15	3	0	0	20	0	39	
8:25 AM	0	0	0	0	0	2	0	1	0	0	18	2	0	1	16	0	40	
8:30 AM	0	0	0	0	0	1	0	0	0	0	19	1	0	0	13	0	34	
8:35 AM	0	0	0	0	0	2	0	0	0	0	16	0	0	1	17	0	36	
8:40 AM	0	0	0	0	0	1	0	0	0	0	17	2	0	0	16	0	36	
8:45 AM	0	0	0	0	0	1	0	0	0	0	19	2	0	1	21	0	44	
8:50 AM	0	0	0	0	0	0	0	1	0	0	11	1	0	1	18	0	32	
8:55 AM	0	0	0	0	0	0	0	0	0	0	15	2	0	0	12	0	29	
Count Total	0	0	0	0	0	15	0	5	3	0	450	55	0	20	449	0	997	
Peak Hour	0	0	0	0	0	5	0	2	2	0	249	34	0	14	236	0	542	

Location: 1 SW 124TH AVE & SW CIMINO ST AM

**Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk**

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	2	0	2	4	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	4	2	1	7	7:05 AM	0	0	0	1	1	7:05 AM	0	0	0	0	0
7:10 AM	0	0	0	2	2	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	6	0	1	7	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	0	1	5	6	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	4	0	4	8	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	5	0	6	11	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	0	2	0	3	5	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	5	0	1	6	7:40 AM	0	1	0	0	1	7:40 AM	0	0	0	0	0
7:45 AM	0	4	1	2	7	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	4	0	3	7	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	6	1	3	10	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	3	0	4	7	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	6	2	1	9	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	0	0	1	1	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	2	0	3	5	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	1	0	2	3	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	1	1	2	4	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	2	0	1	3	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	0	2	0	3	5	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	3	0	0	3	8:40 AM	0	0	0	0	0	8:40 AM	0	0	1	0	1
8:45 AM	0	2	0	2	4	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	2	0	3	5	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	4	0	1	5	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	0	70	8	56	134	Count Total	0	1	0	1	2	Count Total	0	0	1	0	1
Peak Hour	0	42	5	33	80	Peak Hour	0	1	0	1	2	Peak Hour	0	0	0	0	0





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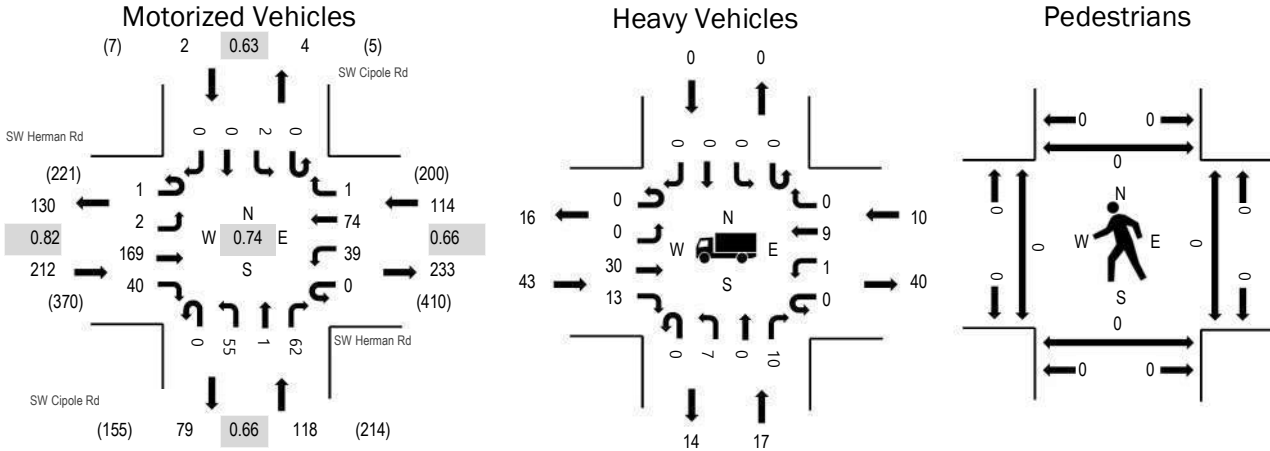
**Location:** 1 SW Cipole Rd & SW Herman Rd AM

**Date:** Thursday, November 18, 2021

**Peak Hour:** 07:00 AM - 08:00 AM

**Peak 15-Minutes:** 07:40 AM - 07:55 AM

**Peak Hour**



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	20.3%	0.82
WB	8.8%	0.66
NB	14.4%	0.66
SB	0.0%	0.63
All	15.7%	0.74

**Traffic Counts - Motorized Vehicles**

Interval Start Time	SW Herman Rd Eastbound				SW Herman Rd Westbound				SW Cipole Rd Northbound				SW Cipole Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	8	5	0	3	5	1	0	9	0	2	0	1	0	0	34	446
7:05 AM	1	0	16	3	0	3	0	0	0	5	0	5	0	0	0	0	33	441
7:10 AM	0	0	8	2	0	3	9	0	0	2	0	3	0	0	0	0	27	440
7:15 AM	0	1	12	7	0	1	3	0	0	3	1	5	0	0	0	0	33	439
7:20 AM	0	0	9	3	0	1	3	0	0	4	0	7	0	0	0	0	27	442
7:25 AM	0	1	15	0	0	2	6	0	0	3	0	2	0	1	0	0	30	439
7:30 AM	0	0	14	2	0	1	6	0	0	3	0	4	0	0	0	0	30	435
7:35 AM	0	0	16	4	0	6	8	0	0	4	0	9	0	0	0	0	47	428
7:40 AM	0	0	15	3	0	5	7	0	0	8	0	11	0	0	0	0	49	422
7:45 AM	0	0	19	3	0	3	10	0	0	4	0	9	0	0	0	0	48	396
7:50 AM	0	0	23	4	0	7	11	0	0	6	0	3	0	0	0	0	54	385
7:55 AM	0	0	14	4	0	4	6	0	0	4	0	2	0	0	0	0	34	350
8:00 AM	0	0	16	2	0	1	3	0	0	1	0	6	0	0	0	0	29	345
8:05 AM	0	0	11	4	0	3	1	0	0	4	0	8	0	1	0	0	32	
8:10 AM	0	0	10	2	0	0	9	0	0	3	0	1	0	1	0	0	26	
8:15 AM	0	0	19	7	0	2	1	1	0	1	0	5	0	0	0	0	36	
8:20 AM	0	0	10	2	0	3	4	0	0	0	0	4	0	1	0	0	24	
8:25 AM	0	0	7	1	0	2	7	0	0	3	0	6	0	0	0	0	26	
8:30 AM	0	0	6	3	0	3	2	0	0	3	0	6	0	0	0	0	23	
8:35 AM	0	0	9	7	0	5	6	0	0	5	0	8	0	0	1	0	41	
8:40 AM	0	0	7	6	0	1	4	0	0	3	0	2	0	0	0	0	23	
8:45 AM	0	0	9	8	0	3	6	0	0	3	0	7	0	1	0	0	37	
8:50 AM	0	0	4	3	0	2	5	0	0	4	0	1	0	0	0	0	19	
8:55 AM	0	0	4	1	0	4	8	0	0	5	0	7	0	0	0	0	29	
Count Total	1	2	281	86	0	68	130	2	0	90	1	123	0	6	1	0	791	
Peak Hour	1	2	169	40	0	39	74	1	0	55	1	62	0	2	0	0	446	

Location: 1 SW Cipole Rd & SW Herman Rd AM

**Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk**

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	5	1	0	0	6	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	4	1	0	0	5	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	4	1	5	0	10	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	7	2	1	0	10	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	2	1	1	0	4	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	3	0	0	0	3	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	2	1	1	0	4	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	6	2	0	0	8	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	2	5	0	0	7	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	2	1	1	0	4	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	4	1	1	0	6	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	2	1	0	0	3	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	1	0	0	1	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	4	0	0	0	4	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	3	0	0	0	3	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	1	1
8:20 AM	1	0	2	0	3	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	1	1	1	0	3	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	1	1	2	0	4	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	5	1	2	0	8	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	4	0	2	0	6	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	5	0	0	0	5	8:45 AM	1	0	0	0	1	8:45 AM	0	0	0	0	0
8:50 AM	1	0	1	0	2	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	2	0	3	0	5	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	70	21	23	0	114	Count Total	1	0	0	0	1	Count Total	0	0	0	1	1
Peak Hour	43	17	10	0	70	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Location: 2 SW Cipole Rd & Tualatin Island Greens AM



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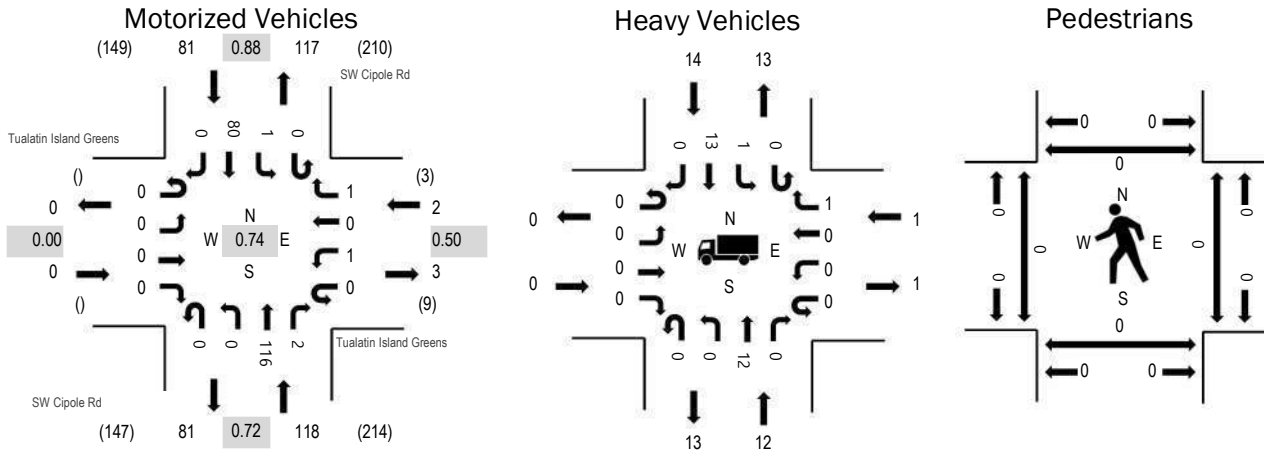
Location: 2 SW Cipole Rd & Tualatin Island Greens AM

Date: Thursday, November 18, 2021

Peak Hour: 07:30 AM - 08:30 AM

Peak 15-Minutes: 07:40 AM - 07:55 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	50.0%	0.50
NB	10.2%	0.72
SB	17.3%	0.88
All	13.4%	0.74

Traffic Counts - Motorized Vehicles

Interval Start Time	Tualatin Island Greens Eastbound				Tualatin Island Greens Westbound				SW Cipole Rd Northbound				SW Cipole Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	0	0	0	0	0	0	0	11	0	0	0	7	0	18	195
7:05 AM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	5	0	14	192
7:10 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	3	0	9	199
7:15 AM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7	0	14	193
7:20 AM	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	11	199
7:25 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	10	199
7:30 AM	0	0	0	0	0	0	0	0	0	0	13	0	0	0	3	0	16	201
7:35 AM	0	0	0	0	0	0	0	0	0	0	11	2	0	0	8	0	21	200
7:40 AM	0	0	0	0	0	0	0	0	0	0	17	0	0	0	8	0	25	198
7:45 AM	0	0	0	0	0	1	0	0	0	0	13	0	0	0	6	0	20	182
7:50 AM	0	0	0	0	0	0	0	0	0	0	12	0	0	0	11	0	23	181
7:55 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	8	0	14	170
8:00 AM	0	0	0	0	0	0	0	0	0	0	10	0	0	0	5	0	15	171
8:05 AM	0	0	0	0	0	0	0	0	0	0	10	0	0	0	11	0	21	
8:10 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	
8:15 AM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	11	0	20	
8:20 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	1	5	0	11	
8:25 AM	0	0	0	0	0	0	0	1	0	0	7	0	0	0	4	0	12	
8:30 AM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	8	0	15	
8:35 AM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	10	0	19	
8:40 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	4	0	9	
8:45 AM	0	0	0	0	0	0	0	0	0	0	10	2	0	0	7	0	19	
8:50 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	0	12	
8:55 AM	0	0	0	0	0	0	0	1	0	0	5	2	0	2	5	0	15	
Count Total	0	0	0	0	0	1	0	2	0	0	208	6	0	3	146	0	366	
Peak Hour	0	0	0	0	0	1	0	1	0	0	116	2	0	1	80	0	201	

Location: 2 SW Cipole Rd & Tualatin Island Greens AM

**Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk**

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	0	3	3	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	1	0	2	3	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	0	0	2	2	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	1	0	3	4	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	1	1	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	2	0	0	2	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	0	1	0	2	3	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	2	0	0	2	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	0	0	1	1	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	2	0	1	3	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	0	0	1	1	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	1	0	1	2	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	0	0	4	4	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	2	0	1	3	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	1	0	2	3	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	1	1	1	3	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	0	0	1	1	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	0	1	0	2	3	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	1	1	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	1	0	0	1	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	0	1	1	2	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	0	17	2	30	49	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	0	12	1	14	27	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



Location: 3 SW 124th Ave & SW Tualatin Sherwood Rd AM



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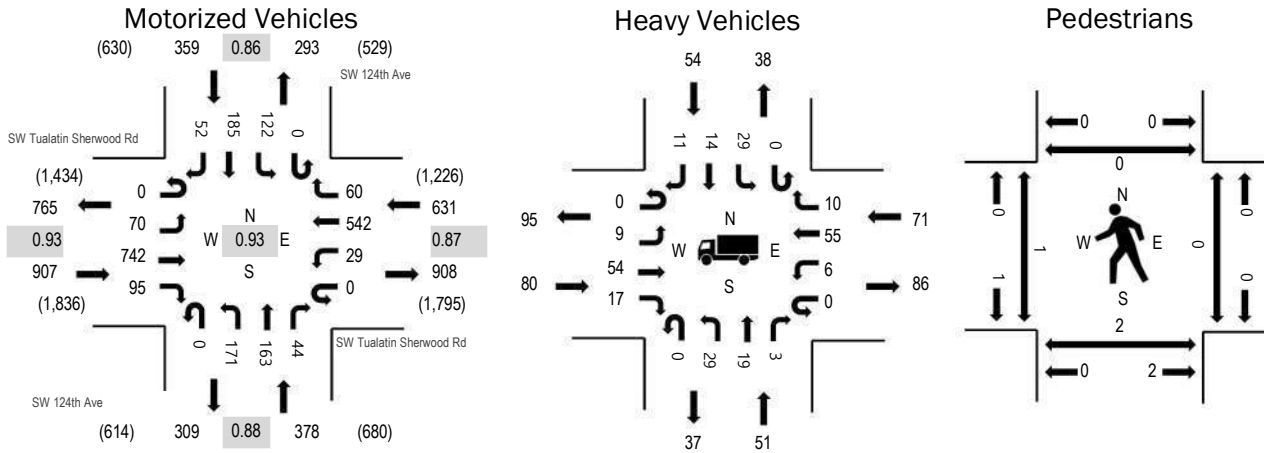
Location: 3 SW 124th Ave & SW Tualatin Sherwood Rd AM

Date: Thursday, November 18, 2021

Peak Hour: 07:35 AM - 08:35 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

**Peak Hour**



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	8.8%	0.93
WB	11.3%	0.87
NB	13.5%	0.88
SB	15.0%	0.86
All	11.3%	0.93

**Traffic Counts - Motorized Vehicles**

Interval Start Time	SW Tualatin Sherwood Rd Eastbound				SW Tualatin Sherwood Rd Westbound				SW 124th Ave Northbound				SW 124th Ave Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	3	65	11	0	3	40	2	0	13	19	3	0	3	14	4	180	2,191
7:05 AM	0	1	63	9	0	2	36	6	0	13	6	4	0	7	5	1	153	2,195
7:10 AM	0	3	61	12	0	6	47	6	0	7	7	3	0	7	15	2	176	2,216
7:15 AM	0	8	75	5	0	2	36	2	0	16	7	6	0	3	6	2	168	2,208
7:20 AM	0	7	78	6	0	0	37	6	0	5	2	2	0	2	7	2	154	2,230
7:25 AM	0	9	55	9	0	6	53	9	0	16	18	5	0	8	7	2	197	2,233
7:30 AM	0	3	62	7	0	4	47	2	0	15	11	8	0	1	14	3	177	2,266
7:35 AM	0	8	67	6	0	4	53	5	0	17	12	3	0	10	12	3	200	2,275
7:40 AM	0	7	75	1	0	2	36	3	0	14	13	5	0	3	9	5	173	2,263
7:45 AM	0	1	69	6	0	2	51	4	0	18	11	7	0	9	11	4	193	2,239
7:50 AM	0	7	62	5	0	1	51	4	0	19	18	4	0	11	18	6	206	2,231
7:55 AM	0	7	66	11	0	1	56	9	0	14	16	3	0	15	7	9	214	2,209
8:00 AM	0	6	63	12	0	2	36	6	0	8	18	4	0	10	16	3	184	2,181
8:05 AM	0	6	59	7	0	2	46	0	0	10	12	6	0	9	14	3	174	
8:10 AM	0	9	55	11	0	1	36	3	0	5	12	0	0	8	24	4	168	
8:15 AM	0	3	63	8	0	4	46	8	0	14	7	2	0	10	21	4	190	
8:20 AM	0	5	52	11	0	2	31	3	0	12	11	3	0	10	16	1	157	
8:25 AM	0	4	66	7	0	2	55	7	0	29	22	4	0	12	18	4	230	
8:30 AM	0	7	45	10	0	6	45	8	0	11	11	3	0	15	19	6	186	
8:35 AM	0	6	66	7	0	0	47	5	0	7	10	4	0	6	28	2	188	
8:40 AM	0	9	41	9	0	4	23	6	0	11	4	2	0	8	31	1	149	
8:45 AM	0	1	62	14	0	3	44	4	0	15	10	3	0	12	12	5	185	
8:50 AM	0	2	69	11	0	2	51	4	0	5	11	4	0	9	13	3	184	
8:55 AM	0	4	67	9	0	1	44	5	0	8	18	4	0	9	11	6	186	
Count Total	0	126	1,506	204	0	62	1,047	117	0	302	286	92	0	197	348	85	4,372	
Peak Hour	0	70	742	95	0	29	542	60	0	171	163	44	0	122	185	52	2,275	

Location: 3 SW 124th Ave & SW Tualatin Sherwood Rd AM

**Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk**

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	13	2	2	2	19	7:00 AM	1	0	0	0	1	7:00 AM	0	1	0	0	1
7:05 AM	8	1	4	6	19	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	10	1	6	4	21	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	5	5	2	3	15	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	7	3	6	2	18	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	5	8	6	1	20	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	1	3	3	2	9	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	1	1
7:35 AM	6	6	4	4	20	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	4	6	3	6	19	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	3	2	10	2	17	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	8	4	7	1	20	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	5	6	8	7	26	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	11	3	3	4	21	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	5	2	4	5	16	8:05 AM	0	0	0	0	0	8:05 AM	0	1	0	0	1
8:10 AM	3	1	5	4	13	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	6	3	8	8	25	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	12	5	1	4	22	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	10	9	11	5	35	8:25 AM	0	0	0	0	0	8:25 AM	1	1	0	0	2
8:30 AM	7	4	7	4	22	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	9	5	7	6	27	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	5	6	2	5	18	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	6	6	7	2	21	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	5	5	5	6	21	8:50 AM	0	0	0	0	0	8:50 AM	0	1	0	0	1
8:55 AM	6	3	9	6	24	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	160	99	130	99	488	Count Total	1	0	0	0	1	Count Total	1	4	0	1	6
Peak Hour	80	51	71	54	256	Peak Hour	0	0	0	0	0	Peak Hour	1	2	0	0	3



Location: 1 SW 124TH AVE & SW CIMINO ST PM

**Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk**

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	1	0	3	4	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	1	1	0	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	1	0	1	2	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1	4:15 PM	0	1	0	0	1	4:15 PM	0	0	0	0	0
4:20 PM	0	4	0	0	4	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	1	0	0	1	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	2	1	2	5	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	1	0	1	2	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	1	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	1	0	1	2	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	2	0	1	3	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	2	2	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	1	1	0	2	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	1	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	2	2	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	1	0	0	1	5:40 PM	0	0	0	1	1	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	0	17	3	15	35	Count Total	0	1	0	1	2	Count Total	0	0	0	0	0
Peak Hour	0	12	2	8	22	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0





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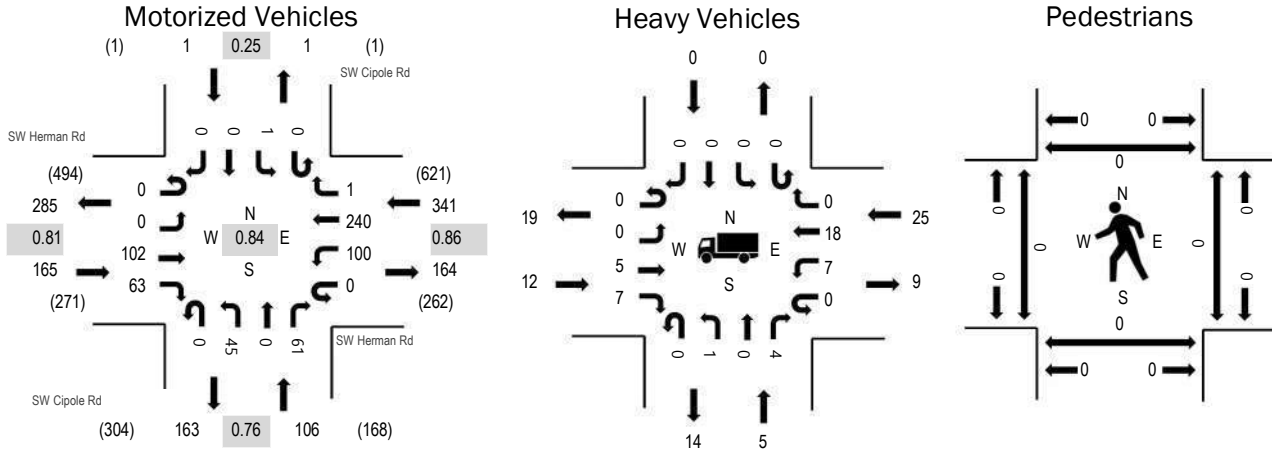
Location: 1 SW Cipole Rd & SW Herman Rd PM

Date: Thursday, November 18, 2021

Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:00 PM - 04:15 PM

**Peak Hour**



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	7.3%	0.81
WB	7.3%	0.86
NB	4.7%	0.76
SB	0.0%	0.25
All	6.9%	0.84

**Traffic Counts - Motorized Vehicles**

Interval Start Time	SW Herman Rd Eastbound				SW Herman Rd Westbound				SW Cipole Rd Northbound				SW Cipole Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	10	5	0	11	21	0	0	5	0	6	0	0	0	0	58	613
4:05 PM	0	0	13	7	0	12	25	0	0	9	0	6	0	0	0	0	72	600
4:10 PM	0	0	9	5	0	10	20	0	0	6	0	2	0	0	0	0	52	588
4:15 PM	0	0	9	3	0	8	18	1	0	0	0	7	0	0	0	0	46	585
4:20 PM	0	0	6	6	0	5	20	0	0	2	0	6	0	0	0	0	45	577
4:25 PM	0	0	6	4	0	11	16	0	0	1	0	1	0	0	0	0	39	572
4:30 PM	0	0	10	6	0	6	25	0	0	6	0	10	0	0	0	0	63	574
4:35 PM	0	0	1	3	0	5	20	0	0	5	0	3	0	0	0	0	37	537
4:40 PM	0	0	11	8	0	5	25	0	0	4	0	7	0	0	0	0	60	535
4:45 PM	0	0	7	4	0	8	24	0	0	1	0	5	0	1	0	0	50	509
4:50 PM	0	0	13	8	0	7	10	0	0	0	0	2	0	0	0	0	40	494
4:55 PM	0	0	7	4	0	12	16	0	0	6	0	6	0	0	0	0	51	475
5:00 PM	0	0	8	4	0	7	14	0	0	7	0	5	0	0	0	0	45	448
5:05 PM	0	0	13	8	0	11	19	0	0	4	0	5	0	0	0	0	60	
5:10 PM	0	0	7	2	0	10	24	0	0	2	0	4	0	0	0	0	49	
5:15 PM	0	0	5	3	0	10	16	0	0	1	0	3	0	0	0	0	38	
5:20 PM	0	0	5	4	0	8	20	0	0	1	0	2	0	0	0	0	40	
5:25 PM	0	0	4	4	0	14	17	0	0	1	0	1	0	0	0	0	41	
5:30 PM	0	0	5	2	0	4	9	0	0	3	0	3	0	0	0	0	26	
5:35 PM	0	0	3	3	0	7	17	0	0	4	0	1	0	0	0	0	35	
5:40 PM	0	0	4	2	0	6	18	0	0	2	0	2	0	0	0	0	34	
5:45 PM	0	0	5	4	0	10	12	0	0	3	0	1	0	0	0	0	35	
5:50 PM	0	0	3	3	0	6	7	0	0	1	0	1	0	0	0	0	21	
5:55 PM	0	0	3	2	0	7	7	0	0	0	0	5	0	0	0	0	24	
Count Total	0	0	167	104	0	200	420	1	0	74	0	94	0	1	0	0	1,061	
Peak Hour	0	0	102	63	0	100	240	1	0	45	0	61	0	1	0	0	613	

Location: 1 SW Cipole Rd & SW Herman Rd PM

**Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk**

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	2	0	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	3	0	3	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	1	0	3	0	4	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	1	2	0	0	3	4:15 PM	1	0	0	0	1	4:15 PM	0	0	0	0	0
4:20 PM	2	1	1	0	4	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	1	3	0	5	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	2	0	3	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	2	0	2	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	1	0	1	4:40 PM	1	0	0	0	1	4:40 PM	0	0	0	0	0
4:45 PM	0	1	3	0	4	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	3	0	1	0	4	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	2	0	4	0	6	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	1	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	2	1	3	0	6	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	3	0	3	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	0	1	0	2	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	1	0	0	0	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	3	0	3	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	1	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	1	0	1	0	2	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	1	0	0	0	1	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	1	0	1	0	2	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	1	0	1	0	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	20	6	40	0	66	Count Total	2	0	0	0	2	Count Total	0	0	0	0	0
Peak Hour	12	5	25	0	42	Peak Hour	2	0	0	0	2	Peak Hour	0	0	0	0	0

Location: 2 SW Cipole Rd & Tualatin Island Greens PM



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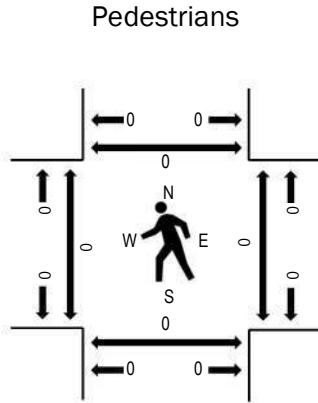
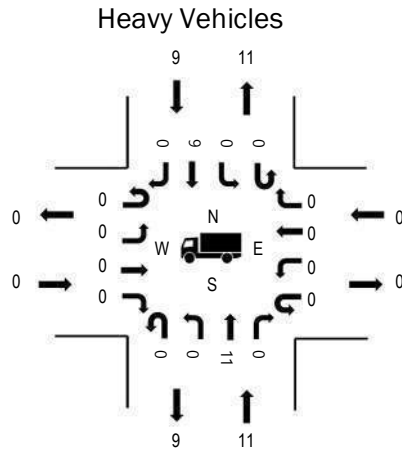
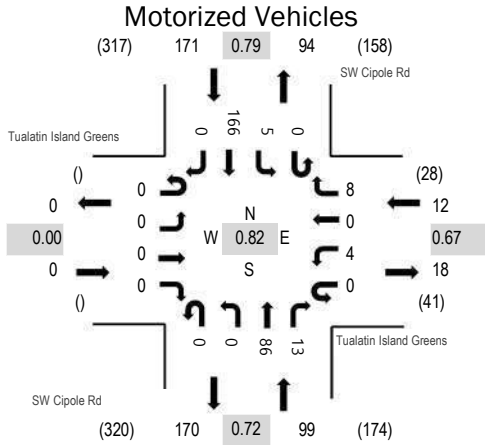
Location: 2 SW Cipole Rd & Tualatin Island Greens PM

Date: Thursday, November 18, 2021

Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:00 PM - 04:15 PM

**Peak Hour**



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	0.0%	0.67
NB	11.1%	0.72
SB	5.3%	0.79
All	7.1%	0.82

**Traffic Counts - Motorized Vehicles**

Interval Start Time	Tualatin Island Greens Eastbound				Tualatin Island Greens Westbound				SW Cipole Rd Northbound				SW Cipole Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	0	0	1	0	1	0	0	13	2	0	0	13	0	30	282
4:05 PM	0	0	0	0	0	0	0	0	0	0	12	1	0	2	19	0	34	281
4:10 PM	0	0	0	0	0	0	0	2	0	0	4	0	0	1	15	0	22	270
4:15 PM	0	0	0	0	0	1	0	0	0	0	8	2	0	0	11	0	22	268
4:20 PM	0	0	0	0	0	0	0	0	0	0	5	2	0	0	12	0	19	267
4:25 PM	0	0	0	0	0	0	0	1	0	0	7	0	0	0	13	0	21	265
4:30 PM	0	0	0	0	0	0	0	0	0	0	11	2	0	1	12	0	26	267
4:35 PM	0	0	0	0	0	1	0	0	0	0	3	1	0	0	9	0	14	260
4:40 PM	0	0	0	0	0	0	0	1	0	0	9	3	0	1	8	0	22	264
4:45 PM	0	0	0	0	0	0	0	2	0	0	3	0	0	0	21	0	26	254
4:50 PM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	17	0	20	246
4:55 PM	0	0	0	0	0	0	0	1	0	0	9	0	0	0	16	0	26	243
5:00 PM	0	0	0	0	0	1	0	0	0	0	16	3	0	1	8	0	29	237
5:05 PM	0	0	0	0	0	0	0	0	0	0	6	2	0	3	12	0	23	
5:10 PM	0	0	0	0	0	1	0	0	0	0	6	1	0	1	11	0	20	
5:15 PM	0	0	0	0	0	2	0	0	0	0	4	2	0	2	11	0	21	
5:20 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	14	0	17	
5:25 PM	0	0	0	0	0	2	0	0	0	0	3	0	0	1	17	0	23	
5:30 PM	0	0	0	0	0	2	0	2	0	0	5	0	0	0	10	0	19	
5:35 PM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	11	0	18	
5:40 PM	0	0	0	0	0	1	0	0	0	0	2	1	0	1	7	0	12	
5:45 PM	0	0	0	0	0	2	0	0	0	0	4	1	0	1	10	0	18	
5:50 PM	0	0	0	0	0	1	0	0	0	0	1	2	0	0	13	0	17	
5:55 PM	0	0	0	0	0	2	0	0	0	0	5	1	0	0	12	0	20	
Count Total	0	0	0	0	0	18	0	10	0	0	148	26	0	15	302	0	519	
Peak Hour	0	0	0	0	0	4	0	8	0	0	86	13	0	5	166	0	282	

Location: 2 SW Cipole Rd & Tualatin Island Greens PM

**Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk**

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	1	1	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	2	2	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	3	0	1	4	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	1	0	2	3	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	2	0	1	3	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	1	0	2	3	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	3	0	0	3	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	1	1	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	1	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	1	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	1	0	2	3	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	1	1	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	2	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	0	12	0	17	29	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	0	11	0	9	20	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



Location: 3 SW 124th Ave & SW Tualatin Sherwood Rd PM



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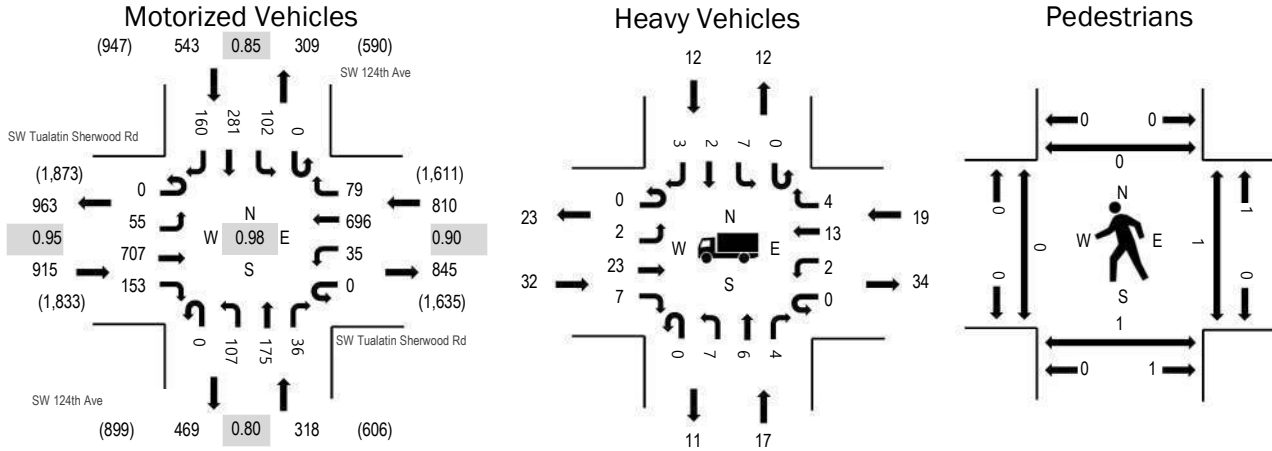
Location: 3 SW 124th Ave & SW Tualatin Sherwood Rd PM

Date: Thursday, November 18, 2021

Peak Hour: 04:25 PM - 05:25 PM

Peak 15-Minutes: 04:45 PM - 05:00 PM

**Peak Hour**



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.5%	0.95
WB	2.3%	0.90
NB	5.3%	0.80
SB	2.2%	0.85
All	3.1%	0.98

**Traffic Counts - Motorized Vehicles**

Interval Start Time	SW Tualatin Sherwood Rd Eastbound				SW Tualatin Sherwood Rd Westbound				SW 124th Ave Northbound				SW 124th Ave Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	4	67	15	0	7	54	8	0	6	29	3	0	4	14	12	223	2,573
4:05 PM	0	4	70	16	0	3	59	13	0	5	16	4	0	4	28	9	231	2,554
4:10 PM	0	4	64	14	0	5	49	8	0	10	29	2	0	6	22	10	223	2,530
4:15 PM	0	8	58	11	0	1	58	4	0	6	16	3	0	5	23	13	206	2,546
4:20 PM	0	3	44	13	0	4	45	6	0	10	9	4	0	7	14	11	170	2,547
4:25 PM	0	2	60	10	0	5	69	6	0	4	12	5	0	5	26	6	210	2,586
4:30 PM	0	4	57	14	0	1	64	9	0	6	13	2	0	7	20	11	208	2,572
4:35 PM	0	1	51	18	0	4	59	9	0	13	13	5	0	14	24	17	228	2,560
4:40 PM	0	2	64	11	0	2	68	4	0	12	16	3	0	5	19	6	212	2,529
4:45 PM	0	4	66	18	0	6	62	3	0	4	5	1	0	7	26	11	213	2,515
4:50 PM	0	5	57	18	0	1	49	5	0	13	12	2	0	14	32	22	230	2,489
4:55 PM	0	2	60	10	0	3	57	8	0	14	20	5	0	9	19	12	219	2,431
5:00 PM	0	7	55	14	0	1	54	5	0	7	19	3	0	7	18	14	204	2,424
5:05 PM	0	8	61	8	0	5	68	8	0	4	11	1	0	4	22	7	207	
5:10 PM	0	8	65	11	0	2	48	6	0	7	21	4	0	9	34	24	239	
5:15 PM	0	2	59	12	0	2	60	8	0	12	19	2	0	11	11	9	207	
5:20 PM	0	10	52	9	0	3	38	8	0	11	14	3	0	10	30	21	209	
5:25 PM	0	3	53	18	0	6	61	4	0	4	10	0	0	3	22	12	196	
5:30 PM	0	6	54	15	0	4	60	5	0	11	7	1	0	7	15	11	196	
5:35 PM	0	2	60	22	0	2	60	7	0	10	6	3	0	5	10	10	197	
5:40 PM	0	4	55	8	0	7	67	3	0	4	12	2	0	3	21	12	198	
5:45 PM	0	1	58	11	0	0	53	4	0	19	11	1	0	7	13	9	187	
5:50 PM	0	4	53	9	0	2	62	2	0	4	6	1	0	7	13	9	172	
5:55 PM	0	3	67	17	0	3	59	6	0	8	14	2	0	3	22	8	212	
Count Total	0	101	1,410	322	0	79	1,383	149	0	204	340	62	0	163	498	286	4,997	
Peak Hour	0	55	707	153	0	35	696	79	0	107	175	36	0	102	281	160	2,586	

Location: 3 SW 124th Ave & SW Tualatin Sherwood Rd PM

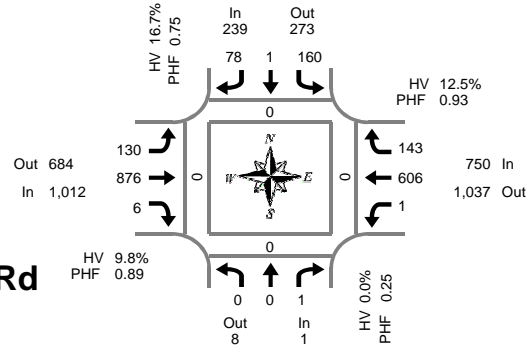
**Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk**

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	2	4	0	2	8	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	6	3	4	2	15	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	2	0	3	2	7	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	2	3	1	1	7	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	2	1	1	2	6	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	5	2	3	0	10	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	4	1	1	1	7	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	4	3	2	1	10	4:35 PM	0	0	0	0	0	4:35 PM	0	1	0	0	1
4:40 PM	4	0	1	1	6	4:40 PM	0	0	0	0	0	4:40 PM	0	0	1	0	1
4:45 PM	1	0	1	1	3	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	2	1	2	2	7	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	1	3	1	6	4:55 PM	0	1	0	0	1	4:55 PM	0	0	0	0	0
5:00 PM	1	3	0	1	5	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	3	2	2	1	8	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	2	0	1	1	4	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	2	1	2	6	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	4	2	2	0	8	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	1	1	5	1	8	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	2	1	2	1	6	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	4	0	1	1	6	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	3	2	1	0	6	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	2	1	3	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	4	0	3	1	8	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	5	1	6	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	60	32	47	27	166	Count Total	0	1	0	0	1	Count Total	0	1	1	0	2
Peak Hour	32	17	19	12	80	Peak Hour	0	1	0	0	1	Peak Hour	0	1	1	0	2

# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Tualatin Sherwood Rd

Tuesday, October 23, 2018

7:00 AM to 9:00 AM

### 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Approach				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	0	0	13	0	4	0	12	91	0	0	0	39	11	0	170	0	0	0	0
7:05 AM	0	0	0	0	20	0	4	0	7	85	0	0	0	48	12	0	176	0	0	0	0
7:10 AM	0	0	0	0	4	0	7	0	10	101	0	0	0	60	13	1	195	0	0	0	0
7:15 AM	0	0	0	0	26	0	8	0	11	77	0	0	0	57	10	0	189	0	1	0	0
7:20 AM	0	0	0	0	14	0	1	0	7	87	0	0	0	55	5	0	169	0	0	0	0
7:25 AM	0	0	0	0	13	0	7	0	9	64	0	1	0	45	12	0	150	0	0	0	0
7:30 AM	0	0	0	0	19	0	7	0	9	61	0	0	0	35	15	0	146	0	0	0	0
7:35 AM	0	0	0	0	17	0	5	0	2	60	0	0	0	46	13	0	143	0	0	0	0
7:40 AM	0	0	0	0	18	0	4	0	5	59	0	0	0	44	13	0	143	0	0	0	0
7:45 AM	0	0	0	0	27	0	6	0	10	42	0	0	0	51	12	0	148	0	0	0	0
7:50 AM	0	0	0	0	8	0	5	0	6	73	0	0	0	52	10	0	154	0	0	0	0
7:55 AM	0	0	0	0	27	0	4	0	11	63	0	0	0	46	15	0	166	0	0	0	0
8:00 AM	0	0	0	0	13	1	9	0	5	78	0	0	0	56	10	1	172	0	0	0	0
8:05 AM	0	0	0	0	20	0	6	0	10	71	0	0	0	49	15	0	171	0	0	0	0
8:10 AM	0	0	0	0	11	0	4	0	15	84	0	0	0	54	14	0	182	0	0	0	0
8:15 AM	0	0	0	0	18	0	9	0	9	74	0	0	0	53	14	0	177	0	0	0	0
8:20 AM	0	0	0	0	3	0	8	0	9	94	0	0	0	52	15	0	181	0	0	0	0
8:25 AM	0	0	0	0	9	0	10	0	9	65	0	0	1	40	10	0	144	0	0	0	0
8:30 AM	0	0	0	0	15	0	4	0	11	70	0	0	0	41	8	0	149	0	0	0	0
8:35 AM	0	0	0	0	13	0	6	0	8	56	2	0	0	52	10	0	147	0	0	0	0
8:40 AM	0	0	1	0	8	0	2	0	12	62	2	0	0	65	9	0	161	0	0	0	0
8:45 AM	0	0	0	0	17	0	10	0	15	67	1	0	0	47	13	0	170	0	0	0	0
8:50 AM	0	0	0	0	6	0	6	0	16	92	1	0	0	51	10	0	182	0	0	0	0
8:55 AM	0	0	0	0	11	0	9	0	13	65	0	0	0	52	10	0	160	0	0	0	0
Total Survey	0	0	1	0	350	1	145	0	231	1,741	6	1	1	1,190	279	2	3,945	0	1	0	0

### 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Approach				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	0	0	37	0	15	0	29	277	0	0	0	147	36	1	541	0	0	0	0
7:15 AM	0	0	0	0	53	0	16	0	27	228	0	1	0	157	27	0	508	0	1	0	0
7:30 AM	0	0	0	0	54	0	16	0	16	180	0	0	0	125	41	0	432	0	0	0	0
7:45 AM	0	0	0	0	62	0	15	0	27	178	0	0	0	149	37	0	468	0	0	0	0
8:00 AM	0	0	0	0	44	1	19	0	30	233	0	0	0	159	39	1	525	0	0	0	0
8:15 AM	0	0	0	0	30	0	27	0	27	233	0	0	1	145	39	0	502	0	0	0	0
8:30 AM	0	0	1	0	36	0	12	0	31	188	4	0	0	158	27	0	457	0	0	0	0
8:45 AM	0	0	0	0	34	0	25	0	44	224	2	0	0	150	33	0	512	0	0	0	0
Total Survey	0	0	1	0	350	1	145	0	231	1,741	6	1	1	1,190	279	2	3,945	0	1	0	0

### Peak Hour Summary

7:55 AM to 8:55 AM

By Approach	Northbound Approach				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1	8	9	0	239	273	512	0	1,012	684	1,696	0	750	1,037	1,787	1	2,002	0	0	0	0
%HV	0.0%				16.7%				9.8%				12.5%				11.6%				
PHF	0.25				0.75				0.89				0.93				0.93				

By Movement	Northbound Approach				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total				
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total					
Volume	0	0	1	1	160	1	78	239	130	876	6	1,012	1	606	143	750	2,002				
%HV	0.0%	0.0%	0.0%	0.0%	15.0%	0.0%	20.5%	16.7%	12.3%	9.0%	66.7%	9.8%	0.0%	11.1%	18.9%	12.5%	11.6%				
PHF	0.00	0.00	0.25	0.25	0.67	0.25	0.72	0.75	0.76	0.87	0.30	0.89	0.25	0.92	0.83	0.93	0.93				

### Rolling Hour Summary

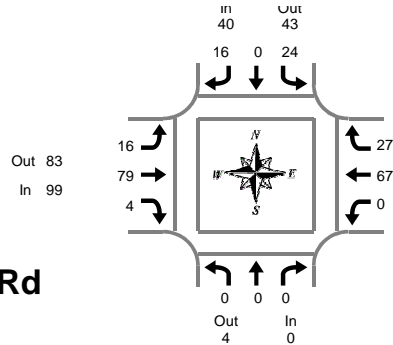
7:00 AM to 9:00 AM

Interval Start Time	Northbound Approach				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	0	0	206	0	62	0	99	863	0	1	0	578	141	1	1,949	0	1	0	0
7:15 AM	0	0	0	0	213	1	66	0	100	819	0	1	0	590	144	1	1,933	0	1	0	0
7:30 AM	0	0	0	0	190	1	77	0	100	824	0	0	1	578	156	1	1,927	0	0	0	0
7:45 AM	0	0	1	0	172	1	73	0	115	832	4	0	1	611	142	1	1,952	0	0	0	0
8:00 AM	0	0	1	0	144	1	83	0	132	878	6	0	1	612	138	1	1,996	0	0	0	0

# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Tualatin Sherwood Rd

Tuesday, October 23, 2018

7:00 AM to 9:00 AM

**Peak Hour Summary**  
7:55 AM to 8:55 AM

### Heavy Vehicle 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Approach				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	3	0	1	4	1	7	0	8	0	2	1	3	15
7:05 AM	0	0	0	0	1	0	0	1	0	13	0	13	0	7	2	9	23
7:10 AM	0	0	0	0	0	0	0	0	0	8	0	8	0	6	1	7	15
7:15 AM	0	0	0	0	2	0	3	5	2	4	0	6	0	8	2	10	21
7:20 AM	0	0	0	0	1	0	1	2	0	5	0	5	0	9	1	10	17
7:25 AM	0	0	0	0	3	0	1	4	0	5	0	5	0	13	1	14	23
7:30 AM	0	0	0	0	1	0	1	2	3	11	0	14	0	9	2	11	27
7:35 AM	0	0	0	0	4	0	0	4	0	2	0	2	0	6	0	6	12
7:40 AM	0	0	0	0	2	0	3	5	0	2	0	2	0	5	2	7	14
7:45 AM	0	0	0	0	2	0	2	4	1	6	0	7	0	3	1	4	15
7:50 AM	0	0	0	0	3	0	1	4	2	6	0	8	0	5	2	7	19
7:55 AM	0	0	0	0	1	0	0	1	3	8	0	11	0	3	1	4	16
8:00 AM	0	0	0	0	3	0	1	4	1	6	0	7	0	7	2	9	20
8:05 AM	0	0	0	0	4	0	3	7	1	6	0	7	0	3	1	4	18
8:10 AM	0	0	0	0	1	0	0	1	2	13	0	15	0	9	2	11	27
8:15 AM	0	0	0	0	2	0	3	5	1	6	0	7	0	3	4	7	19
8:20 AM	0	0	0	0	0	0	1	1	1	10	0	11	0	4	3	7	19
8:25 AM	0	0	0	0	0	0	3	3	1	2	0	3	0	5	4	9	15
8:30 AM	0	0	0	0	3	0	2	5	2	6	0	8	0	6	1	7	20
8:35 AM	0	0	0	0	3	0	2	5	2	5	2	9	0	5	4	9	23
8:40 AM	0	0	0	0	2	0	0	2	0	5	1	6	0	6	2	8	16
8:45 AM	0	0	0	0	4	0	1	5	1	4	1	6	0	5	1	6	17
8:50 AM	0	0	0	0	1	0	0	1	1	8	0	9	0	11	2	13	23
8:55 AM	0	0	0	0	1	0	2	3	2	4	0	6	0	5	2	7	16
Total Survey	0	0	0	0	47	0	31	78	27	152	4	183	0	145	44	189	450

### Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Approach				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	4	0	1	5	1	28	0	29	0	15	4	19	53
7:15 AM	0	0	0	0	6	0	5	11	2	14	0	16	0	30	4	34	61
7:30 AM	0	0	0	0	7	0	4	11	3	15	0	18	0	20	4	24	53
7:45 AM	0	0	0	0	6	0	3	9	6	20	0	26	0	11	4	15	50
8:00 AM	0	0	0	0	8	0	4	12	4	25	0	29	0	19	5	24	65
8:15 AM	0	0	0	0	2	0	7	9	3	18	0	21	0	12	11	23	53
8:30 AM	0	0	0	0	8	0	4	12	4	16	3	23	0	17	7	24	59
8:45 AM	0	0	0	0	6	0	3	9	4	16	1	21	0	21	5	26	56
Total Survey	0	0	0	0	47	0	31	78	27	152	4	183	0	145	44	189	450

### Heavy Vehicle Peak Hour Summary

7:55 AM to 8:55 AM

By Approach	Northbound Approach			Southbound SW 124th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	4	4	40	43	83	99	83	182	94	103	197	233
PHF	0.00			0.77			0.75			0.87			0.90

By Movement	Northbound Approach				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	24	0	16	40	16	79	4	99	0	67	27	94	233
PHF	0.00	0.00	0.00	0.00	0.67	0.00	0.57	0.77	0.80	0.68	0.25	0.75	0.00	0.76	0.61	0.87	0.90

### Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Approach				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	23	0	13	36	12	77	0	89	0	76	16	92	217
7:15 AM	0	0	0	0	27	0	16	43	15	74	0	89	0	80	17	97	229
7:30 AM	0	0	0	0	23	0	18	41	16	78	0	94	0	62	24	86	221
7:45 AM	0	0	0	0	24	0	18	42	17	79	3	99	0	59	27	86	227
8:00 AM	0	0	0	0	24	0	18	42	15	75	4	94	0	69	28	97	233

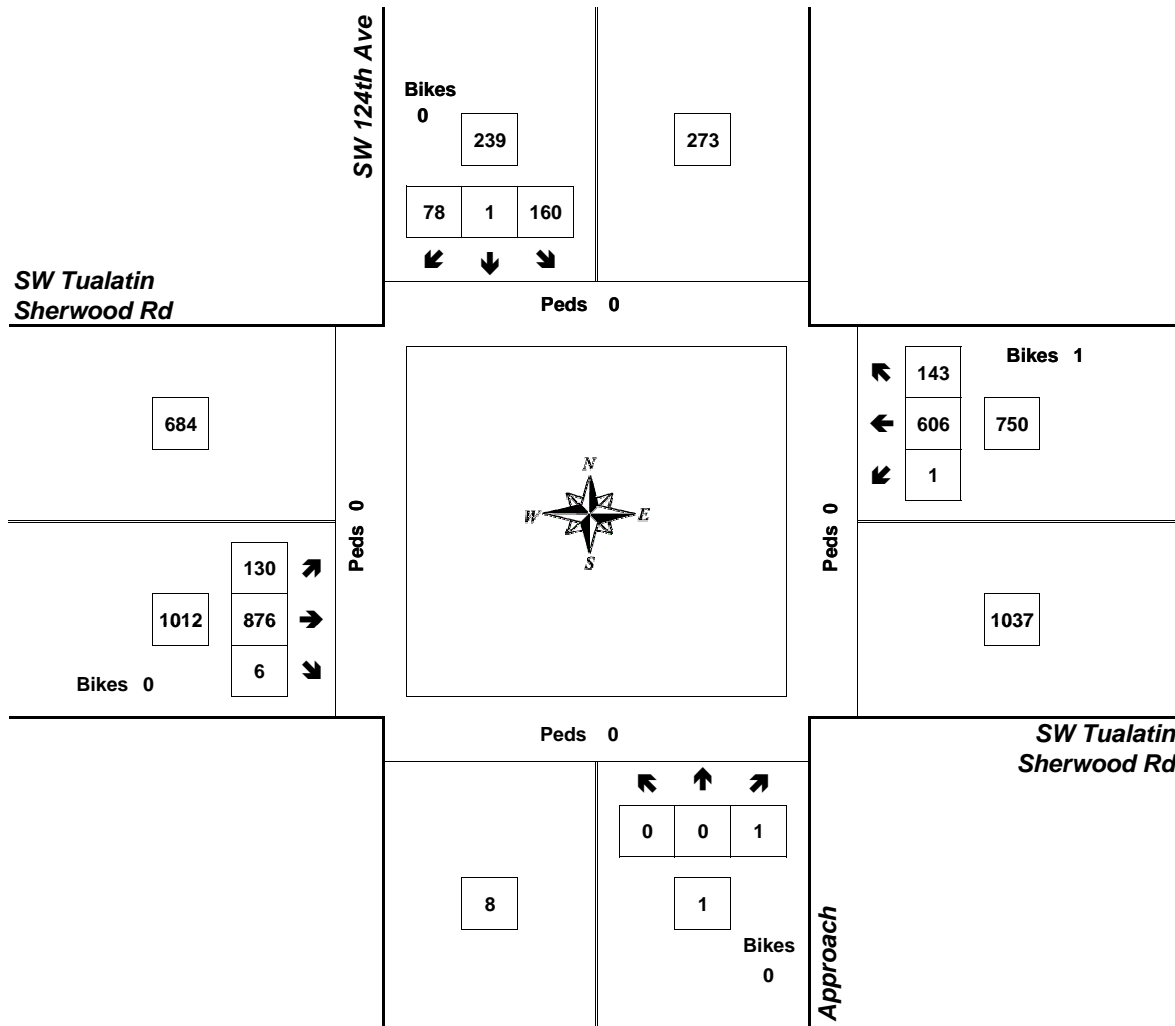
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW 124th Ave & SW Tualatin Sherwood Rd

7:55 AM to 8:55 AM  
Tuesday, October 23, 2018



Approach	PHF	HV%	Volume
EB	0.89	9.8%	1,012
WB	0.93	12.5%	750
NB	0.25	0.0%	1
SB	0.75	16.7%	239
<b>Intersection</b>	<b>0.93</b>	<b>11.6%</b>	<b>2,002</b>

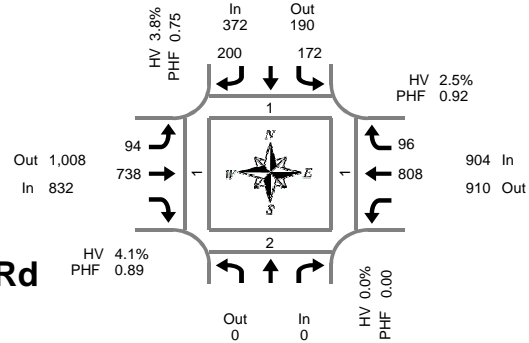
Count Period: 7:00 AM to 9:00 AM



# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Tualatin Sherwood Rd

Tuesday, October 23, 2018

4:00 PM to 6:00 PM

**Peak Hour Summary**  
4:20 PM to 5:20 PM

### 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Approach				Southbound SW 124th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
4:00 PM				0	11	14	0	7	65	2	53	7	0	157	0	0	0	0
4:05 PM				0	24	21	0	5	50	0	74	8	0	182	0	0	0	0
4:10 PM				0	7	10	0	6	65	1	59	12	0	159	0	0	0	0
4:15 PM				0	8	24	0	5	48	1	74	4	0	163	0	0	0	0
4:20 PM				0	10	19	0	11	74	0	76	8	0	198	0	0	0	0
4:25 PM				0	20	18	0	2	57	0	69	6	0	172	0	0	0	0
4:30 PM				0	6	11	0	5	77	2	67	5	0	171	0	0	0	0
4:35 PM				0	18	23	0	14	60	0	72	9	1	196	0	0	0	0
4:40 PM				0	8	15	0	8	69	0	79	13	0	192	0	0	0	0
4:45 PM				0	17	20	0	10	52	0	58	8	0	165	0	0	0	0
4:50 PM				0	6	11	0	2	48	0	82	5	0	154	0	0	0	0
4:55 PM				0	11	13	0	7	58	0	69	8	0	166	0	0	0	0
5:00 PM				0	9	13	0	14	61	0	33	8	1	138	1	2	1	1
5:05 PM				0	25	16	0	7	44	0	57	8	0	157	0	0	0	0
5:10 PM				0	21	14	0	6	87	0	85	10	0	223	0	0	0	0
5:15 PM				0	21	27	0	8	51	0	61	8	0	176	0	0	0	0
5:20 PM				0	11	13	0	8	74	0	81	5	1	192	0	0	0	0
5:25 PM				0	15	18	1	2	62	0	55	6	0	158	0	0	0	0
5:30 PM				0	15	17	1	5	70	0	68	10	0	185	0	0	0	0
5:35 PM				0	10	23	0	3	63	0	70	11	1	180	0	0	0	0
5:40 PM				0	6	20	0	4	65	0	69	6	0	170	0	0	0	0
5:45 PM				0	9	12	0	9	59	0	78	7	0	174	0	0	0	0
5:50 PM				0	9	17	0	9	67	0	72	10	0	184	0	0	0	0
5:55 PM				0	10	7	0	6	64	0	60	7	0	154	0	0	0	0
Total Survey				0	307	396	2	163	1,490	6	1,621	189	4	4,166	1	2	1	1

### 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Approach				Southbound SW 124th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
4:00 PM				0	42	45	0	18	180	3	186	27	0	498	0	0	0	0
4:15 PM				0	38	61	0	18	179	1	219	18	0	533	0	0	0	0
4:30 PM				0	32	49	0	27	206	2	218	27	1	559	0	0	0	0
4:45 PM				0	34	44	0	19	158	0	209	21	0	485	0	0	0	0
5:00 PM				0	55	43	0	27	192	0	175	26	1	518	1	2	1	1
5:15 PM				0	47	58	1	18	187	0	197	19	1	526	0	0	0	0
5:30 PM				0	31	60	1	12	198	0	207	27	1	535	0	0	0	0
5:45 PM				0	28	36	0	24	190	0	210	24	0	512	0	0	0	0
Total Survey				0	307	396	2	163	1,490	6	1,621	189	4	4,166	1	2	1	1

### Peak Hour Summary

4:20 PM to 5:20 PM

By Approach	Northbound Approach				Southbound SW 124th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total	Pedestrians Crosswalk							
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In		Out	Total	Bikes	North	South	East	West	
Volume	0	0	0	0	372	190	562	0	832	1,008	1,840	2	904	910	1,814	2	2,108	1	2	1	1	
%HV	0.0%				3.8%				4.1%				2.5%				3.4%					
PHF	0.00				0.75				0.89				0.92				0.94					

By Movement	Northbound Approach				Southbound SW 124th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total			
	Total	L	R	Total	L	T	Total	T	R	Total							
Volume	0	172	200	372	94	738	832	94	738	832	808	96	904	2,108			
%HV	NA	NA	NA	0.0%	5.2%	NA	2.5%	3.8%	3.2%	4.2%	NA	4.1%	NA	2.0%	7.3%	2.5%	3.4%
PHF		0.00	0.64	0.86	0.75	0.73	0.89	0.89	0.89	0.92	0.80	0.92	0.94				

### Rolling Hour Summary

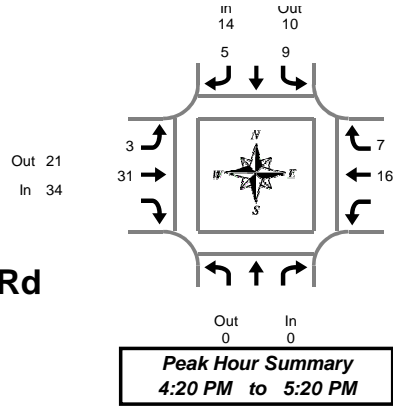
4:00 PM to 6:00 PM

Interval Start Time	Northbound Approach				Southbound SW 124th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes		North	South	East	West
4:00 PM				0	146	199	0	82	723	6	832	93	1	2,075	0	0	0	0
4:15 PM				0	159	197	0	91	735	3	821	92	2	2,095	1	2	1	1
4:30 PM				0	168	194	1	91	743	2	799	93	3	2,088	1	2	1	1
4:45 PM				0	167	205	2	76	735	0	788	93	3	2,064	1	2	1	1
5:00 PM				0	161	197	2	81	767	0	789	96	3	2,091	1	2	1	1

# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Tualatin Sherwood Rd

Tuesday, October 23, 2018

4:00 PM to 6:00 PM

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

Interval Start Time	Northbound Approach			Southbound SW 124th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
4:00 PM	0	2	2	0	2	2	0	3	3	5	0	5	10
4:05 PM	0	2	2	0	2	2	1	2	3	1	0	1	6
4:10 PM	0	1	1	0	1	1	1	1	2	2	0	2	5
4:15 PM	0	0	0	3	3	0	2	2	2	4	0	4	9
4:20 PM	0	0	0	1	1	0	5	5	5	1	1	2	8
4:25 PM	0	3	3	2	5	0	4	4	4	2	0	2	11
4:30 PM	0	0	0	0	0	0	1	1	1	1	1	2	3
4:35 PM	0	1	1	0	1	0	1	1	1	0	0	0	2
4:40 PM	0	0	0	0	0	1	2	3	3	1	2	3	6
4:45 PM	0	2	2	0	2	1	1	2	2	2	1	3	7
4:50 PM	0	0	0	1	1	0	3	3	3	4	0	4	8
4:55 PM	0	0	0	0	0	0	3	3	3	2	0	2	5
5:00 PM	0	1	1	0	1	0	2	2	2	1	1	2	5
5:05 PM	0	2	2	1	3	1	2	3	3	0	1	1	7
5:10 PM	0	0	0	0	0	0	4	4	4	2	0	2	6
5:15 PM	0	0	0	0	0	0	3	3	3	0	0	0	3
5:20 PM	0	1	1	0	1	0	2	2	2	3	1	4	7
5:25 PM	0	1	1	0	1	0	3	3	3	0	0	0	4
5:30 PM	0	0	0	0	0	0	2	2	2	1	1	2	4
5:35 PM	0	0	0	1	1	0	1	1	1	0	0	0	2
5:40 PM	0	1	1	0	1	0	1	1	1	0	1	1	3
5:45 PM	0	0	0	0	0	1	3	4	4	2	0	2	6
5:50 PM	0	0	0	0	0	0	2	2	2	0	0	0	2
5:55 PM	0	0	0	1	1	0	1	1	1	2	1	3	5
Total Survey	0	17	17	10	27	6	54	60	60	36	11	47	134

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

Interval Start Time	Northbound Approach			Southbound SW 124th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
4:00 PM	0	5	5	0	5	2	6	8	8	8	0	8	21
4:15 PM	0	3	3	6	9	0	11	11	11	7	1	8	28
4:30 PM	0	1	1	0	1	1	4	5	5	2	3	5	11
4:45 PM	0	2	2	1	3	1	7	8	8	8	1	9	20
5:00 PM	0	3	3	1	4	1	8	9	9	3	2	5	18
5:15 PM	0	2	2	0	2	0	8	8	8	3	1	4	14
5:30 PM	0	1	1	1	2	0	4	4	4	1	2	3	9
5:45 PM	0	0	0	1	1	1	6	7	7	4	1	5	13
Total Survey	0	17	17	10	27	6	54	60	60	36	11	47	134

### Heavy Vehicle Peak Hour Summary 4:20 PM to 5:20 PM

By Approach	Northbound Approach			Southbound SW 124th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	14	10	24	34	21	55	23	40	63	71
PHF	0.00			0.58			0.85			0.58			0.81

By Movement	Northbound Approach			Southbound SW 124th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
Volume	0	9	9	5	14	19	3	31	34	16	7	23	71
PHF	0.00	0.56		0.42	0.58		0.38	0.78	0.85	0.50	0.58	0.58	0.81

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

Interval Start Time	Northbound Approach			Southbound SW 124th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
4:00 PM	0	11	11	7	18	4	28	32	32	25	5	30	80
4:15 PM	0	9	9	8	17	3	30	33	33	20	7	27	77
4:30 PM	0	8	8	2	10	3	27	30	30	16	7	23	63
4:45 PM	0	8	8	3	11	2	27	29	29	15	6	21	61
5:00 PM	0	6	6	3	9	2	26	28	28	11	6	17	54

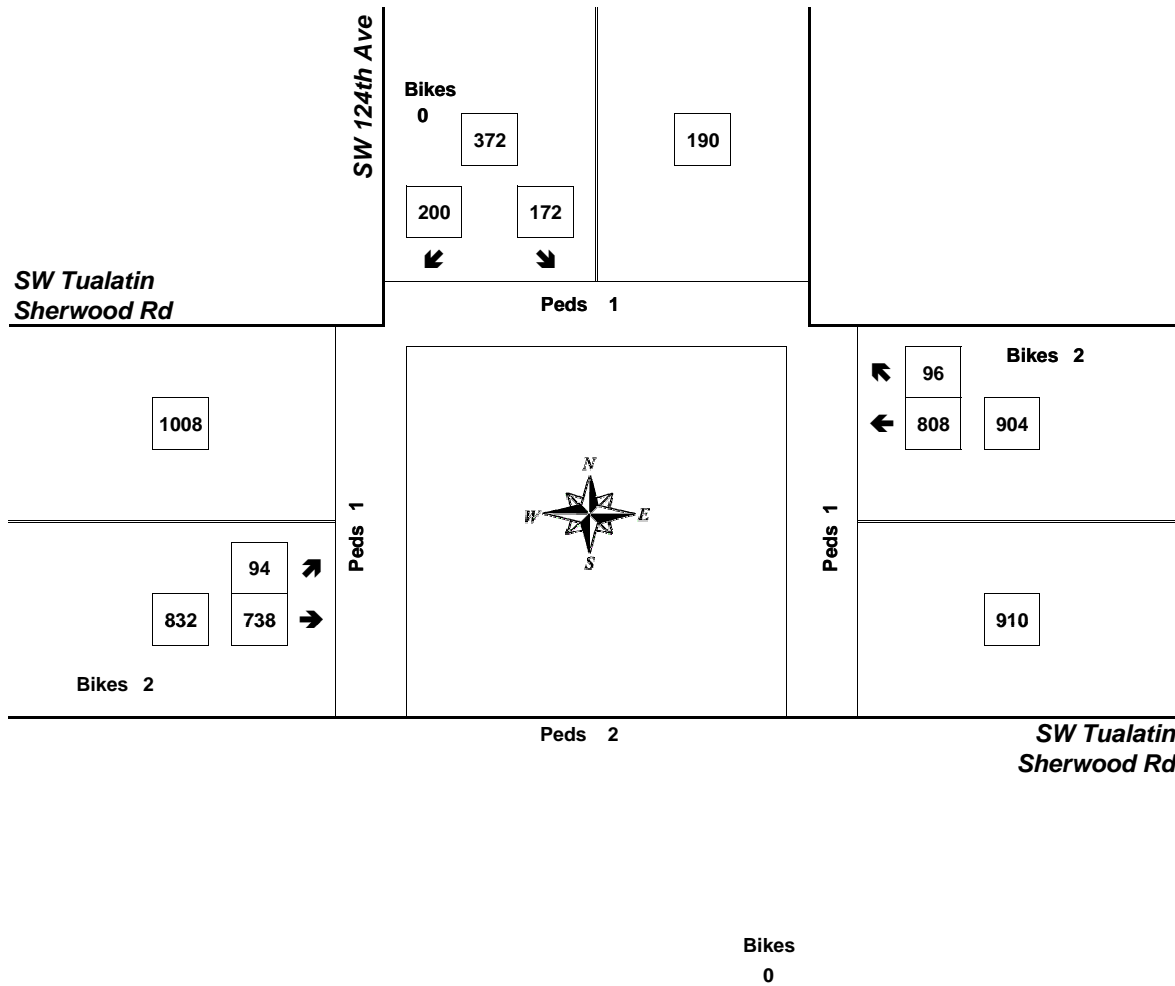
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW 124th Ave & SW Tualatin Sherwood Rd

4:20 PM to 5:20 PM  
Tuesday, October 23, 2018



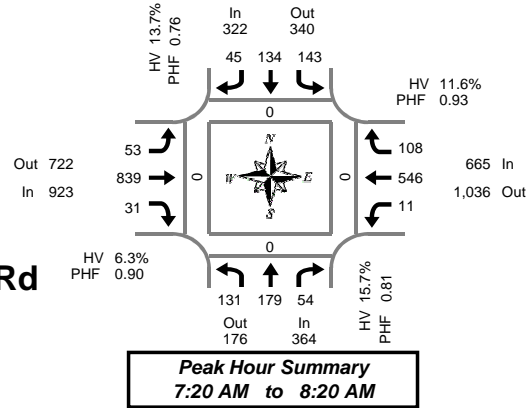
Approach	PHF	HV%	Volume
EB	0.89	4.1%	832
WB	0.92	2.5%	904
NB	0.00	0.0%	0
SB	0.75	3.8%	372
<b>Intersection</b>	<b>0.94</b>	<b>3.4%</b>	<b>2,108</b>

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

# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Tualatin Sherwood Rd

Thursday, February 07, 2019

7:00 AM to 9:00 AM

### 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	5	8	2	0	5	7	4	0	5	87	5	0	0	40	7	0	175	0	0	0	0
7:05 AM	13	12	3	0	19	8	3	0	2	69	5	0	0	31	4	0	169	0	0	0	0
7:10 AM	5	10	5	0	3	5	3	0	9	75	1	0	0	39	4	0	159	0	0	0	0
7:15 AM	6	9	6	0	8	4	4	0	9	77	0	0	0	42	5	0	170	0	0	0	0
7:20 AM	15	11	6	0	8	9	0	0	6	71	3	0	1	38	6	0	174	0	0	0	0
7:25 AM	16	7	3	0	20	11	4	0	3	63	1	0	0	48	7	0	183	0	0	0	0
7:30 AM	6	15	2	0	4	3	3	0	4	85	2	1	0	51	10	0	185	0	0	0	0
7:35 AM	8	16	4	0	18	16	2	0	5	64	4	0	2	48	8	0	195	0	0	0	0
7:40 AM	14	15	7	0	11	20	2	0	4	65	4	0	1	47	6	0	196	0	0	0	0
7:45 AM	8	18	8	0	12	23	1	0	4	65	1	0	1	39	10	0	190	0	0	0	0
7:50 AM	9	19	8	0	13	20	4	0	4	67	1	0	0	48	9	0	202	0	0	0	0
7:55 AM	11	23	1	0	16	11	4	0	3	64	2	0	1	53	8	0	197	0	0	0	0
8:00 AM	18	15	8	0	14	9	10	0	6	62	3	0	2	42	16	0	205	0	0	0	0
8:05 AM	11	14	1	0	9	3	2	0	3	82	2	0	1	44	6	0	178	0	0	0	0
8:10 AM	8	14	4	0	10	5	5	0	6	75	5	0	0	43	11	0	186	0	0	0	0
8:15 AM	7	12	2	0	8	4	8	0	5	76	3	0	2	45	11	0	183	0	0	0	0
8:20 AM	3	5	2	0	14	6	5	0	9	91	2	0	0	29	4	0	170	0	0	0	0
8:25 AM	11	9	2	0	4	5	6	0	5	70	8	0	2	49	6	0	177	0	0	0	0
8:30 AM	15	14	2	0	5	5	4	0	3	59	7	0	1	45	7	0	167	0	0	0	0
8:35 AM	3	11	2	0	8	6	6	0	4	69	6	0	1	47	8	0	171	0	0	0	0
8:40 AM	7	8	3	0	7	7	4	0	12	84	8	0	0	59	4	0	203	0	0	0	0
8:45 AM	2	15	0	0	6	2	2	0	9	74	2	0	3	46	5	0	166	0	0	0	0
8:50 AM	6	10	1	0	7	13	3	0	5	73	3	0	0	51	7	0	179	0	0	0	0
8:55 AM	3	9	1	0	9	8	6	0	9	68	2	0	1	56	5	0	177	0	0	0	0
Total Survey	210	299	83	0	238	210	95	0	134	1,735	80	1	19	1,080	174	0	4,357	0	0	0	0

### 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	23	30	10	0	27	20	10	0	16	231	11	0	0	110	15	0	503	0	0	0	0
7:15 AM	37	27	15	0	36	24	8	0	18	211	4	0	1	128	18	0	527	0	0	0	0
7:30 AM	28	46	13	0	33	39	7	0	13	214	10	1	3	146	24	0	576	0	0	0	0
7:45 AM	28	60	17	0	41	54	9	0	11	196	4	0	2	140	27	0	589	0	0	0	0
8:00 AM	37	43	13	0	33	17	17	0	15	219	10	0	3	129	33	0	569	0	0	0	0
8:15 AM	21	26	6	0	26	15	19	0	19	237	13	0	4	123	21	0	530	0	0	0	0
8:30 AM	25	33	7	0	20	18	14	0	19	212	21	0	2	151	19	0	541	0	0	0	0
8:45 AM	11	34	2	0	22	23	11	0	23	215	7	0	4	153	17	0	522	0	0	0	0
Total Survey	210	299	83	0	238	210	95	0	134	1,735	80	1	19	1,080	174	0	4,357	0	0	0	0

### Peak Hour Summary

7:20 AM to 8:20 AM

By Approach	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	364	176	540	0	322	340	662	0	923	722	1,645	1	665	1,036	1,701	0	2,274	0	0	0	0
%HV	15.7%				13.7%				6.3%				11.6%				10.4%				
PHF	0.81				0.76				0.90				0.93				0.94				

By Movement	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total				
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total					
Volume	131	179	54	364	143	134	45	322	53	839	31	923	11	546	108	665	2,274				
%HV	16.8%	10.6%	29.6%	15.7%	13.3%	14.9%	11.1%	13.7%	7.5%	5.4%	29.0%	6.3%	36.4%	10.4%	14.8%	11.6%	10.4%				
PHF	0.82	0.75	0.59	0.81	0.83	0.53	0.63	0.76	0.88	0.90	0.78	0.90	0.69	0.93	0.82	0.93	0.94				

### Rolling Hour Summary

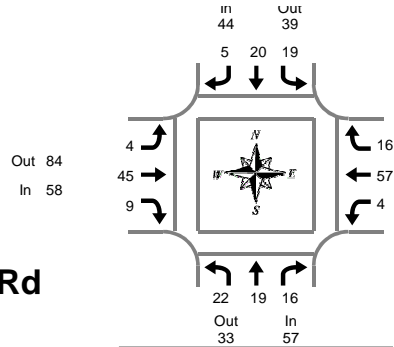
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	116	163	55	0	137	137	34	0	58	852	29	1	6	524	84	0	2,195	0	0	0	0
7:15 AM	130	176	58	0	143	134	41	0	57	840	28	1	9	543	102	0	2,261	0	0	0	0
7:30 AM	114	175	49	0	133	125	52	0	58	866	37	1	12	538	105	0	2,264	0	0	0	0
7:45 AM	111	162	43	0	120	104	59	0	64	864	48	0	11	543	100	0	2,229	0	0	0	0
8:00 AM	94	136	28	0	101	73	61	0	76	883	51	0	13	556	90	0	2,162	0	0	0	0

# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Tualatin Sherwood Rd

Thursday, February 07, 2019

7:00 AM to 9:00 AM

**Peak Hour Summary**  
7:20 AM to 8:20 AM

### Heavy Vehicle 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	1	2	1	1	0	2	1	5	0	6	0	4	0	4	14
7:05 AM	1	1	2	4	1	0	0	1	0	2	0	2	0	2	0	2	9
7:10 AM	1	0	0	1	0	0	1	1	1	8	0	9	0	6	0	6	17
7:15 AM	0	1	2	3	0	1	0	1	0	5	0	5	0	1	3	4	13
7:20 AM	5	0	1	6	0	2	0	2	1	1	1	3	1	4	1	6	17
7:25 AM	0	1	1	2	1	0	1	2	0	7	0	7	0	4	1	5	16
7:30 AM	0	3	2	5	0	2	1	3	1	5	2	8	0	7	2	9	25
7:35 AM	0	4	1	5	3	3	0	6	0	5	2	7	0	4	1	5	23
7:40 AM	3	2	1	6	0	3	1	4	0	2	1	3	0	10	3	13	26
7:45 AM	3	2	1	6	1	2	0	3	1	6	0	7	0	5	0	5	21
7:50 AM	3	0	2	5	1	3	0	4	0	3	0	3	0	0	0	0	12
7:55 AM	1	1	0	2	1	2	0	3	0	5	0	5	0	3	3	6	16
8:00 AM	5	1	4	10	4	2	0	6	0	2	0	2	1	4	2	7	25
8:05 AM	0	0	0	0	2	0	0	2	1	2	0	3	1	7	1	9	14
8:10 AM	2	4	3	9	3	0	1	4	0	3	3	6	0	8	0	8	27
8:15 AM	0	1	0	1	3	1	1	5	0	4	0	4	1	1	2	4	14
8:20 AM	0	1	2	3	2	2	0	4	0	9	0	9	0	3	0	3	19
8:25 AM	0	0	2	2	1	1	1	3	0	4	2	6	1	7	0	8	19
8:30 AM	4	1	0	5	1	1	1	3	0	0	2	2	1	8	0	9	19
8:35 AM	2	0	0	2	3	1	0	4	1	11	1	13	0	3	2	5	24
8:40 AM	0	0	1	1	0	1	2	3	1	3	0	4	0	9	1	10	18
8:45 AM	2	3	0	5	1	1	1	3	0	6	1	7	1	6	0	7	22
8:50 AM	1	0	1	2	3	4	1	8	0	8	0	8	0	8	0	8	26
8:55 AM	0	3	1	4	2	3	0	5	1	8	0	9	0	7	1	8	26
Total Survey	33	30	28	91	34	36	12	82	9	114	15	138	7	121	23	151	462

### Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	2	2	3	7	2	1	1	4	2	15	0	17	0	12	0	12	40
7:15 AM	5	2	4	11	1	3	1	5	1	13	1	15	1	9	5	15	46
7:30 AM	3	9	4	16	3	8	2	13	1	12	5	18	0	21	6	27	74
7:45 AM	7	3	3	13	3	7	0	10	1	14	0	15	0	8	3	11	49
8:00 AM	7	5	7	19	9	2	1	12	1	7	3	11	2	19	3	24	66
8:15 AM	0	2	4	6	6	4	2	12	0	17	2	19	2	11	2	15	52
8:30 AM	6	1	1	8	4	3	3	10	2	14	3	19	1	20	3	24	61
8:45 AM	3	6	2	11	6	8	2	16	1	22	1	24	1	21	1	23	74
Total Survey	33	30	28	91	34	36	12	82	9	114	15	138	7	121	23	151	462

### Heavy Vehicle Peak Hour Summary

7:20 AM to 8:20 AM

By Approach	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	57	33	90	44	39	83	58	84	142	77	80	157	236
PHF	0.75			0.85			0.66			0.71			0.80

By Movement	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	22	19	16	57	19	20	5	44	4	45	9	58	4	57	16	77	236
PHF	0.61	0.53	0.57	0.75	0.53	0.63	0.63	0.85	0.50	0.66	0.45	0.66	0.50	0.68	0.67	0.71	0.80

### Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	17	16	14	47	9	19	4	32	5	54	6	65	1	50	14	65	209
7:15 AM	22	19	18	59	16	20	4	40	4	46	9	59	3	57	17	77	235
7:30 AM	17	19	18	54	21	21	5	47	3	50	10	63	4	59	14	77	241
7:45 AM	20	11	15	46	22	16	6	44	4	52	8	64	5	58	11	74	228
8:00 AM	16	14	14	44	25	17	8	50	4	60	9	73	6	71	9	86	253



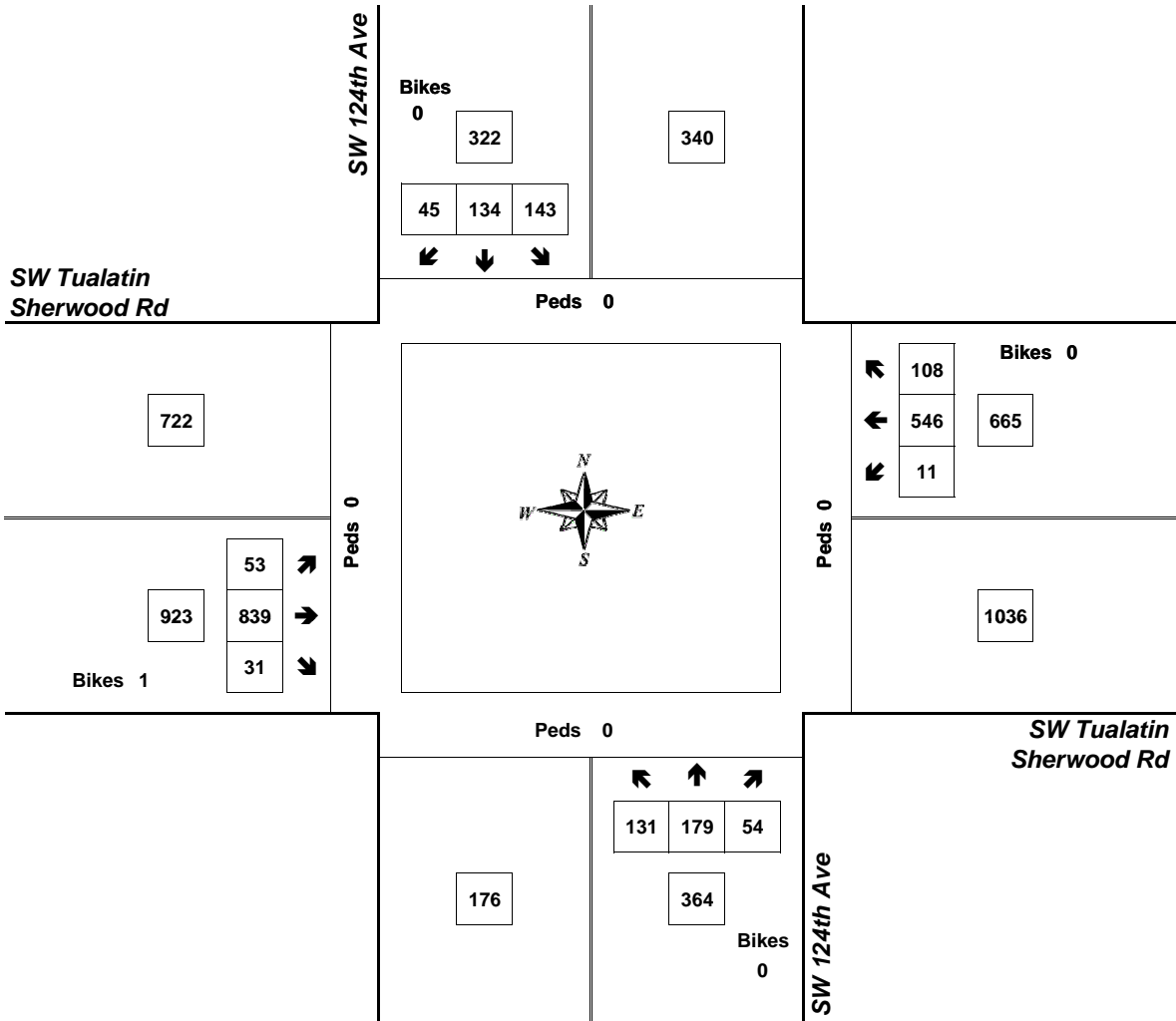
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW 124th Ave & SW Tualatin Sherwood Rd

7:20 AM to 8:20 AM  
Thursday, February 07, 2019



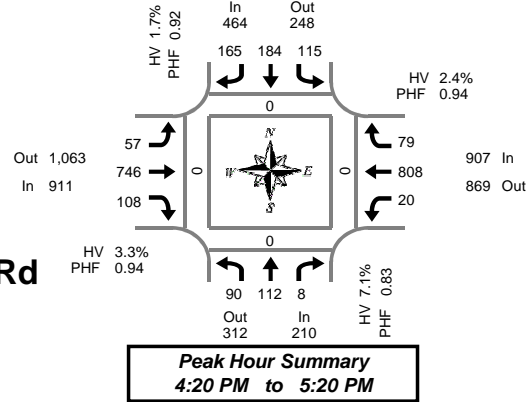
Approach	PHF	HV%	Volume
EB	0.90	6.3%	923
WB	0.93	11.6%	665
NB	0.81	15.7%	364
SB	0.76	13.7%	322
<b>Intersection</b>	<b>0.94</b>	<b>10.4%</b>	<b>2,274</b>

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

# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Tualatin Sherwood Rd

Wednesday, February 06, 2019

4:00 PM to 6:00 PM

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

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	5	4	0	0	13	21	11	0	5	61	6	0	2	72	12	0	212	0	0	0	0
4:05 PM	4	10	2	0	1	20	9	0	6	67	17	0	6	60	7	0	209	0	0	0	0
4:10 PM	11	13	3	0	4	14	14	0	6	58	9	0	5	66	12	0	215	0	0	0	0
4:15 PM	5	10	0	0	2	11	18	0	1	56	8	0	3	74	6	0	194	0	0	0	0
4:20 PM	14	9	0	0	16	19	11	0	5	66	11	0	1	61	7	0	220	0	0	0	0
4:25 PM	7	7	0	0	7	7	9	0	1	55	9	0	2	70	5	0	179	0	0	0	0
4:30 PM	6	11	0	0	7	13	15	0	7	58	10	0	1	76	4	0	208	0	0	0	0
4:35 PM	5	11	0	0	9	17	16	0	6	62	8	0	1	70	13	0	218	0	0	0	0
4:40 PM	6	7	1	0	10	20	13	0	9	51	4	0	2	64	8	0	195	0	0	0	0
4:45 PM	7	7	1	0	13	16	12	0	2	69	12	0	2	70	6	0	217	0	0	0	0
4:50 PM	12	10	3	0	10	11	10	0	5	52	11	0	1	67	5	0	197	0	0	0	0
4:55 PM	8	15	0	0	6	17	17	0	6	61	7	0	0	56	5	0	198	0	0	0	0
5:00 PM	6	5	0	0	9	16	14	0	5	66	10	0	1	71	6	0	209	0	0	0	0
5:05 PM	5	9	1	0	5	14	17	0	3	60	4	0	6	66	5	0	195	0	0	0	0
5:10 PM	9	12	1	0	12	19	14	0	2	78	10	0	1	73	9	0	240	0	0	0	0
5:15 PM	5	9	1	0	11	15	17	0	6	68	12	0	2	64	6	0	216	0	0	0	0
5:20 PM	10	8	0	0	14	16	24	0	2	62	9	1	0	53	3	0	201	0	0	0	0
5:25 PM	6	5	0	0	1	7	14	0	4	60	6	0	2	82	8	0	195	0	0	0	0
5:30 PM	1	10	0	0	4	7	14	0	6	75	7	0	2	81	4	0	211	0	0	0	0
5:35 PM	8	13	0	0	11	10	15	0	3	48	10	0	1	68	12	1	199	0	0	0	0
5:40 PM	11	7	1	0	9	12	14	0	4	63	14	0	1	65	8	0	209	0	0	0	0
5:45 PM	3	4	2	0	4	5	16	0	2	64	4	0	1	97	6	0	208	0	0	0	0
5:50 PM	4	12	1	0	8	7	10	0	1	57	7	0	0	63	3	0	173	0	0	0	0
5:55 PM	3	7	0	0	9	10	5	0	3	69	4	0	2	69	7	0	188	0	0	0	0
Total Survey	161	215	17	0	195	324	329	0	100	1,486	209	1	45	1,658	167	1	4,906	0	0	0	0

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

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	20	27	5	0	18	55	34	0	17	186	32	0	13	198	31	0	636	0	0	0	0
4:15 PM	26	26	0	0	25	37	38	0	7	177	28	0	6	205	18	0	593	0	0	0	0
4:30 PM	17	29	1	0	26	50	44	0	22	171	22	0	4	210	25	0	621	0	0	0	0
4:45 PM	27	32	4	0	29	44	39	0	13	182	30	0	3	193	16	0	612	0	0	0	0
5:00 PM	20	26	2	0	26	49	45	0	10	204	24	0	8	210	20	0	644	0	0	0	0
5:15 PM	21	22	1	0	26	38	55	0	12	190	27	1	4	199	17	0	612	0	0	0	0
5:30 PM	20	30	1	0	24	29	43	0	13	186	31	0	4	214	24	1	619	0	0	0	0
5:45 PM	10	23	3	0	21	22	31	0	6	190	15	0	3	229	16	0	569	0	0	0	0
Total Survey	161	215	17	0	195	324	329	0	100	1,486	209	1	45	1,658	167	1	4,906	0	0	0	0

### Peak Hour Summary 4:20 PM to 5:20 PM

By Approach	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	210	312	522	0	464	248	712	0	911	1,063	1,974	0	907	869	1,776	0	2,492	0	0	0	0
%HV	7.1%				1.7%				3.3%				2.4%				3.0%				
PHF	0.83				0.92				0.94				0.94				0.96				

By Movement	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	90	112	8	210	115	184	165	464	57	746	108	911	20	808	79	907	2,492
%HV	5.6%	8.0%	12.5%	7.1%	3.5%	1.6%	0.6%	1.7%	3.5%	3.1%	4.6%	3.3%	0.0%	2.4%	3.8%	2.4%	3.0%
PHF	0.83	0.88	0.40	0.83	0.87	0.87	0.86	0.92	0.65	0.91	0.90	0.94	0.56	0.94	0.73	0.94	0.96

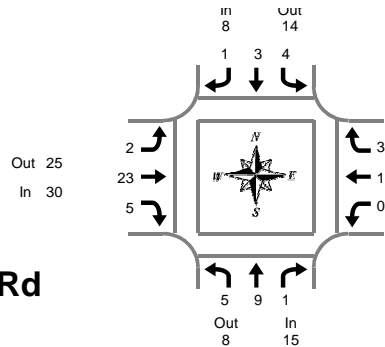
### Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	90	114	10	0	98	186	155	0	59	716	112	0	26	806	90	0	2,462	0	0	0	0
4:15 PM	90	113	7	0	106	180	166	0	52	734	104	0	21	818	79	0	2,470	0	0	0	0
4:30 PM	85	109	8	0	107	181	183	0	57	747	103	1	19	812	78	0	2,489	0	0	0	0
4:45 PM	88	110	8	0	105	160	182	0	48	762	112	1	19	816	77	1	2,487	0	0	0	0
5:00 PM	71	101	7	0	97	138	174	0	41	770	97	1	19	852	77	1	2,444	0	0	0	0

# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Tualatin Sherwood Rd

Wednesday, February 06, 2019

4:00 PM to 6:00 PM

**Peak Hour Summary**  
4:20 PM to 5:20 PM

### Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	1	3	0	4	0	2	1	3	0	0	2	2	9
4:05 PM	0	1	0	1	0	4	0	4	0	5	0	5	0	3	0	3	13
4:10 PM	2	1	1	4	0	0	0	0	0	3	1	4	0	3	1	4	12
4:15 PM	0	2	0	2	0	2	0	2	0	2	2	4	0	1	0	1	9
4:20 PM	0	1	0	1	1	0	0	1	0	3	0	3	0	3	0	3	8
4:25 PM	0	1	0	1	0	1	0	1	0	3	2	5	0	0	0	0	7
4:30 PM	1	1	0	2	1	0	0	1	0	1	1	2	0	2	1	3	8
4:35 PM	0	1	0	1	1	0	0	1	0	1	0	1	0	0	0	0	3
4:40 PM	2	2	0	4	1	1	0	2	1	0	0	1	0	4	0	4	11
4:45 PM	1	0	0	1	0	1	0	1	0	2	0	2	0	0	1	1	5
4:50 PM	0	0	1	1	0	0	0	0	0	1	1	2	0	2	0	2	5
4:55 PM	0	2	0	2	0	0	1	1	0	0	0	0	0	3	0	3	6
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	2	3
5:05 PM	1	0	0	1	0	0	0	0	0	3	0	3	0	2	0	2	6
5:10 PM	0	1	0	1	0	0	0	0	0	3	1	4	0	1	0	1	6
5:15 PM	0	0	0	0	0	0	0	0	0	1	5	6	0	1	0	1	7
5:20 PM	1	1	0	2	0	0	0	0	0	0	1	1	0	1	0	1	4
5:25 PM	0	0	0	0	0	0	0	0	1	3	1	5	0	0	0	0	5
5:30 PM	0	0	0	0	1	0	0	1	0	1	0	1	0	1	0	1	3
5:35 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3
5:40 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3
5:45 PM	0	0	0	0	2	0	0	2	0	3	0	3	0	0	0	0	5
5:50 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	2	0	2	4
5:55 PM	0	0	0	0	1	0	0	1	0	1	0	1	0	2	0	2	4
Total Survey	8	14	2	24	9	12	1	22	3	48	11	62	0	35	6	41	149

### Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	2	2	1	5	1	7	0	8	0	10	2	12	0	6	3	9	34
4:15 PM	0	4	0	4	1	3	0	4	0	8	4	12	0	4	0	4	24
4:30 PM	3	4	0	7	3	1	0	4	1	2	1	4	0	6	1	7	22
4:45 PM	1	2	1	4	0	1	1	2	0	3	1	4	0	5	1	6	16
5:00 PM	1	1	0	2	0	0	0	0	0	7	1	8	0	4	1	5	15
5:15 PM	1	1	0	2	0	0	0	0	2	8	2	12	0	2	0	2	16
5:30 PM	0	0	0	0	1	0	0	1	0	4	0	4	0	4	0	4	9
5:45 PM	0	0	0	0	3	0	0	3	0	6	0	6	0	4	0	4	13
Total Survey	8	14	2	24	9	12	1	22	3	48	11	62	0	35	6	41	149

### Heavy Vehicle Peak Hour Summary

4:20 PM to 5:20 PM

By Approach	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	15	8	23	8	14	22	30	25	55	22	28	50	75
PHF	0.54			0.50			0.58			0.79			0.82

By Movement	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	5	9	1	15	4	3	1	8	2	23	5	30	0	19	3	22	75
PHF	0.42	0.56	0.25	0.54	0.33	0.38	0.25	0.50	0.50	0.52	0.42	0.58	0.00	0.79	0.75	0.79	0.82

### Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	6	12	2	20	5	12	1	18	1	23	8	32	0	21	5	26	96
4:15 PM	5	11	1	17	4	5	1	10	1	20	7	28	0	19	3	22	77
4:30 PM	6	8	1	15	3	2	1	6	3	20	5	28	0	17	3	20	69
4:45 PM	3	4	1	8	1	1	1	3	2	22	4	28	0	15	2	17	56
5:00 PM	2	2	0	4	4	0	0	4	2	25	3	30	0	14	1	15	53

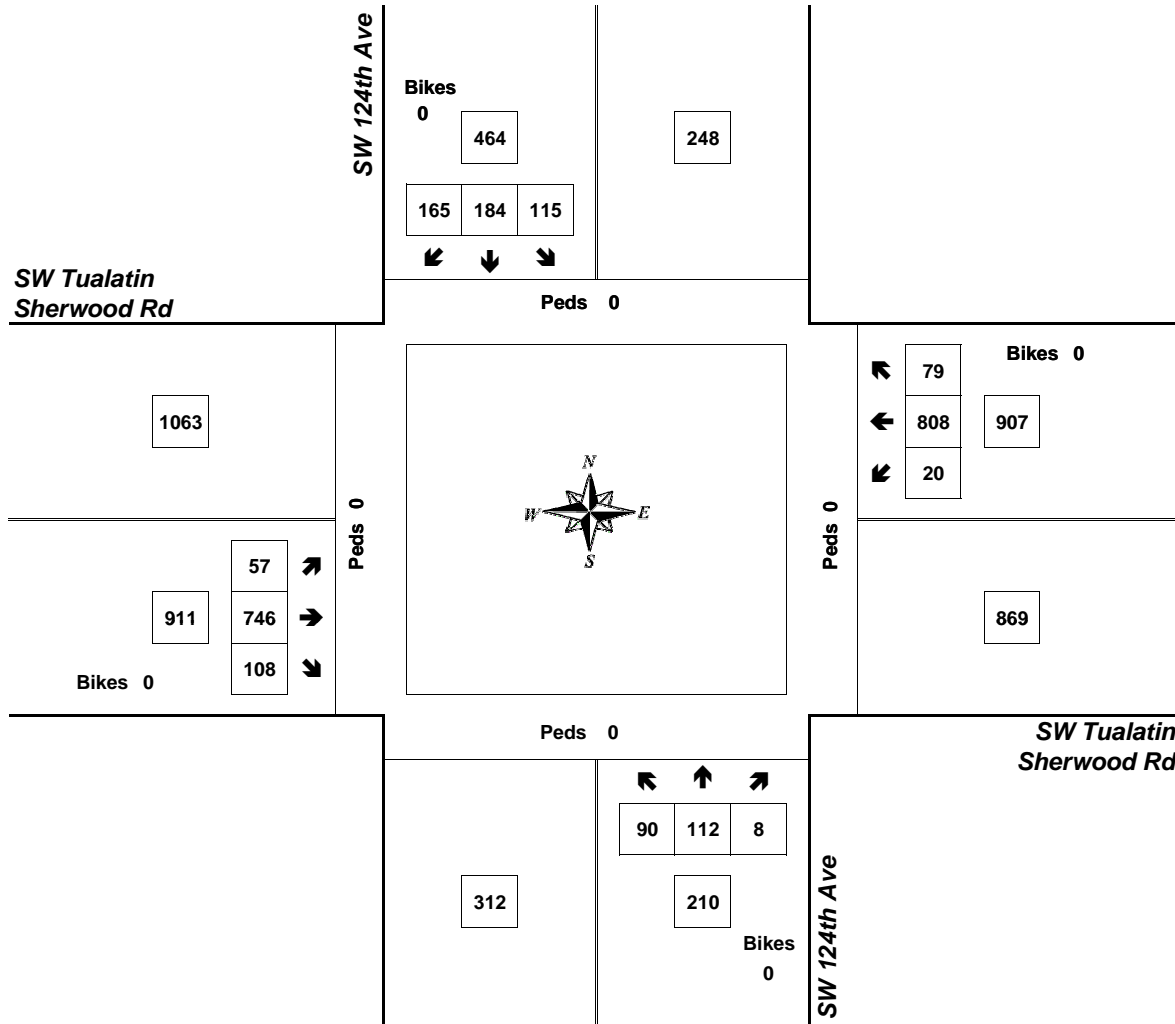
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW 124th Ave & SW Tualatin Sherwood Rd

4:20 PM to 5:20 PM  
Wednesday, February 06, 2019



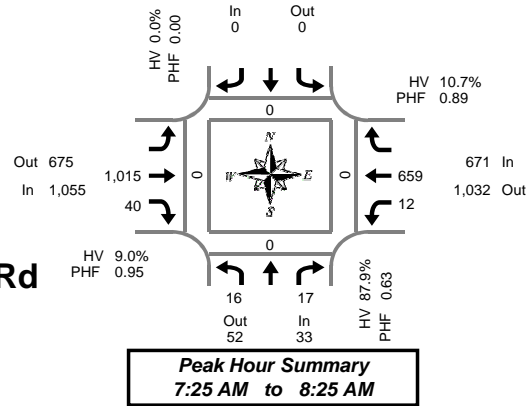
Approach	PHF	HV%	Volume
EB	0.94	3.3%	911
WB	0.94	2.4%	907
NB	0.83	7.1%	210
SB	0.92	1.7%	464
<b>Intersection</b>	<b>0.96</b>	<b>3.0%</b>	<b>2,492</b>

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

# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 120th Ave & SW Tualatin Sherwood Rd

Thursday, February 07, 2019

7:00 AM to 9:00 AM

### 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	0	1	0			0	93	1	0	2	32	0	129	0	0	0	0
7:05 AM	1	1	0			0	87	4	0	3	37	0	133	0	0	0	0
7:10 AM	0	0	0			0	83	1	0	2	48	0	134	0	0	0	0
7:15 AM	2	2	0			0	88	3	0	0	49	0	144	0	0	0	0
7:20 AM	2	1	0			0	83	1	0	2	35	0	124	0	0	0	0
7:25 AM	1	0	0			0	83	2	0	4	76	0	166	0	0	0	0
7:30 AM	4	2	0			0	84	3	0	1	48	0	142	0	0	0	0
7:35 AM	0	2	0			0	85	4	0	0	60	0	151	0	0	0	0
7:40 AM	3	2	0			0	79	1	0	0	51	0	136	0	0	0	0
7:45 AM	3	1	0			0	84	6	0	1	64	0	159	0	0	0	0
7:50 AM	0	2	0			0	83	3	0	0	52	0	140	0	0	0	0
7:55 AM	0	2	0			0	81	2	0	1	58	0	144	0	0	0	0
8:00 AM	1	3	0			0	72	9	0	0	62	0	147	0	0	0	0
8:05 AM	0	1	0			0	94	2	0	1	51	0	149	0	0	0	0
8:10 AM	1	0	0			0	86	3	0	1	46	0	137	0	0	0	0
8:15 AM	3	0	0			0	85	2	0	2	46	0	138	0	0	0	0
8:20 AM	0	2	0			0	99	3	0	1	45	0	150	0	0	0	0
8:25 AM	3	2	0			0	71	3	0	0	44	0	123	0	0	0	0
8:30 AM	1	3	0			0	64	2	0	2	59	0	131	0	0	0	0
8:35 AM	3	0	0			0	75	5	0	1	53	0	137	0	0	0	0
8:40 AM	2	0	0			0	92	2	0	2	64	0	162	0	0	0	0
8:45 AM	1	2	0			0	79	1	0	1	55	0	139	0	0	0	0
8:50 AM	3	1	0			0	75	4	0	5	52	0	140	0	0	0	0
8:55 AM	0	3	0			0	74	5	0	0	58	0	140	0	0	0	0
Total Survey	34	33	0			0	1,979	72	0	32	1,245	0	3,395	0	0	0	0

### 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	1	2	0			0	263	6	0	7	117	0	396	0	0	0	0
7:15 AM	5	3	0			0	254	6	0	6	160	0	434	0	0	0	0
7:30 AM	7	6	0			0	248	8	0	1	159	0	429	0	0	0	0
7:45 AM	3	5	0			0	248	11	0	2	174	0	443	0	0	0	0
8:00 AM	2	4	0			0	252	14	0	2	159	0	433	0	0	0	0
8:15 AM	6	4	0			0	255	8	0	3	135	0	411	0	0	0	0
8:30 AM	6	3	0			0	231	9	0	5	176	0	430	0	0	0	0
8:45 AM	4	6	0			0	228	10	0	6	165	0	419	0	0	0	0
Total Survey	34	33	0			0	1,979	72	0	32	1,245	0	3,395	0	0	0	0

### Peak Hour Summary

7:25 AM to 8:25 AM

By Approach	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total	Pedestrians Crosswalk					
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total		North	South	East	West		
Volume	33	52	85	0	0	0	1,055	675	1,730	0	671	1,032	1,703	0	1,759	0	0	0	0
%HV	87.9%			0.0%			9.0%			10.7%			11.1%						
PHF	0.63			0.00			0.95			0.89			0.96						

By Movement	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total				
	L	R	Total			Total	T	R	Total	L	T	Total					
Volume	16	17	33			0	1,015	40	1,055	12	659	671	1,759				
%HV	93.8%	NA	82.4%	87.9%	NA	NA	NA	0.0%	NA	7.4%	50.0%	9.0%	75.0%	9.6%	NA	10.7%	11.1%
PHF	0.57		0.61	0.63		0.00	0.94	0.71	0.95	0.60	0.90	0.89	0.96				

### Rolling Hour Summary

7:00 AM to 9:00 AM

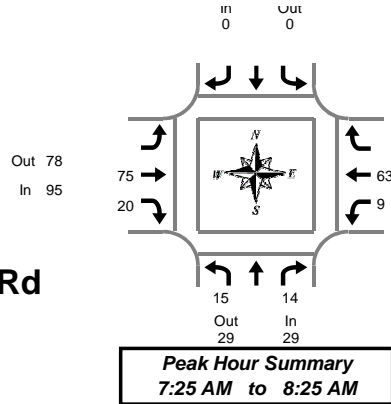
Interval Start Time	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	16	16	0			0	1,013	31	0	16	610	0	1,702	0	0	0	0
7:15 AM	17	18	0			0	1,002	39	0	11	652	0	1,739	0	0	0	0
7:30 AM	18	19	0			0	1,003	41	0	8	627	0	1,716	0	0	0	0
7:45 AM	17	16	0			0	986	42	0	12	644	0	1,717	0	0	0	0
8:00 AM	18	17	0			0	966	41	0	16	635	0	1,693	0	0	0	0



# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 120th Ave & SW Tualatin Sherwood Rd

Thursday, February 07, 2019

7:00 AM to 9:00 AM

### Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	0	0	0			0	9	1	10	1	3	4	14
7:05 AM	1	0	1			0	3	2	5	2	2	4	10
7:10 AM	0	0	0			0	8	1	9	2	6	8	17
7:15 AM	2	2	4			0	5	1	6	0	4	4	14
7:20 AM	2	1	3			0	4	0	4	1	3	4	11
7:25 AM	1	0	1			0	6	2	8	3	7	10	19
7:30 AM	4	2	6			0	6	2	8	1	4	5	19
7:35 AM	0	2	2			0	9	2	11	0	5	5	18
7:40 AM	3	2	5			0	2	0	2	0	9	9	16
7:45 AM	2	1	3			0	8	2	10	1	4	5	18
7:50 AM	0	2	2			0	4	1	5	0	3	3	10
7:55 AM	0	1	1			0	7	0	7	1	10	11	19
8:00 AM	1	1	2			0	5	5	10	0	3	3	15
8:05 AM	0	1	1			0	3	1	4	1	7	8	13
8:10 AM	1	0	1			0	8	2	10	1	6	7	18
8:15 AM	3	0	3			0	7	1	8	0	2	2	13
8:20 AM	0	2	2			0	10	2	12	1	3	4	18
8:25 AM	3	2	5			0	4	3	7	0	4	4	16
8:30 AM	1	1	2			0	0	1	1	2	6	8	11
8:35 AM	2	0	2			0	10	4	14	0	6	6	22
8:40 AM	2	0	2			0	5	0	5	1	4	5	12
8:45 AM	1	2	3			0	7	0	7	1	5	6	16
8:50 AM	3	1	4			0	7	3	10	1	6	7	21
8:55 AM	0	1	1			0	7	3	10	0	5	5	16
Total Survey	32	24	56			0	144	39	183	20	117	137	376

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

Interval Start Time	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	1	0	1			0	20	4	24	5	11	16	41
7:15 AM	5	3	8			0	15	3	18	4	14	18	44
7:30 AM	7	6	13			0	17	4	21	1	18	19	53
7:45 AM	2	4	6			0	19	3	22	2	17	19	47
8:00 AM	2	2	4			0	16	8	24	2	16	18	46
8:15 AM	6	4	10			0	21	6	27	1	9	10	47
8:30 AM	5	1	6			0	15	5	20	3	16	19	45
8:45 AM	4	4	8			0	21	6	27	2	16	18	53
Total Survey	32	24	56			0	144	39	183	20	117	137	376

### Heavy Vehicle Peak Hour Summary 7:25 AM to 8:25 AM

By Approach	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	29	29	58	0	0	0	95	78	173	72	89	161	196
PHF	0.56			0.00			0.79			0.82			0.88

By Movement	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	15	14	29			0	75	20	95	9	63	72	196
PHF	0.54	0.58	0.56			0.00	0.75	0.63	0.79	0.56	0.79	0.82	0.88

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

Interval Start Time	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	15	13	28			0	71	14	85	12	60	72	185
7:15 AM	16	15	31			0	67	18	85	9	65	74	190
7:30 AM	17	16	33			0	73	21	94	6	60	66	193
7:45 AM	15	11	26			0	71	22	93	8	58	66	185
8:00 AM	17	11	28			0	73	25	98	8	57	65	191

# Peak Hour Summary



Clay Carney  
(503) 833-2740

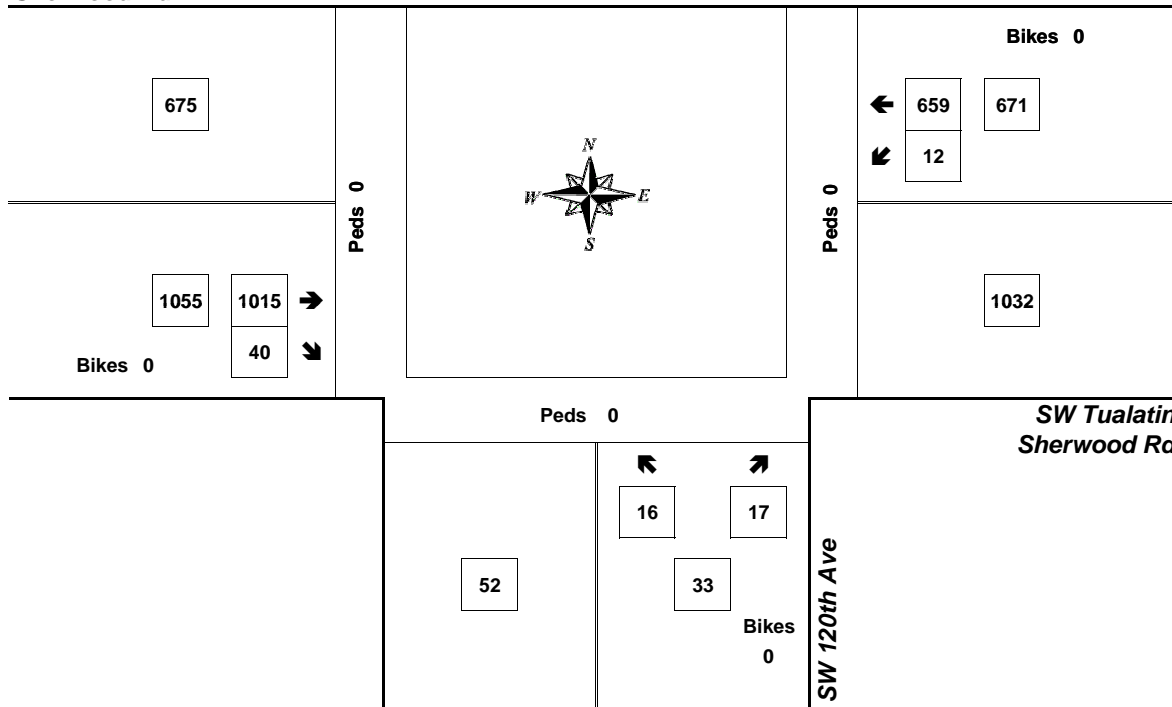
## SW 120th Ave & SW Tualatin Sherwood Rd

7:25 AM to 8:25 AM  
Thursday, February 07, 2019

Bikes  
0

SW Tualatin  
Sherwood Rd

Peds 0



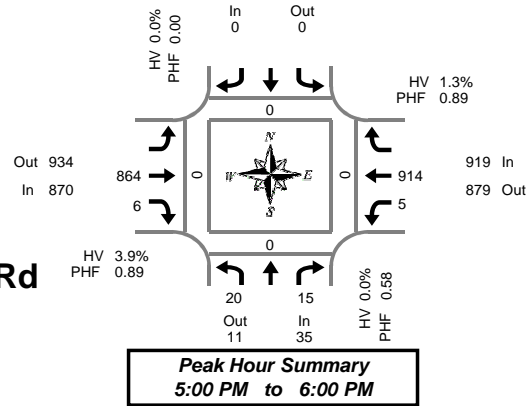
Approach	PHF	HV%	Volume
EB	0.95	9.0%	1,055
WB	0.89	10.7%	671
NB	0.63	87.9%	33
SB	0.00	0.0%	0
<b>Intersection</b>	<b>0.96</b>	<b>11.1%</b>	<b>1,759</b>

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

# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 120th Ave & SW Tualatin Sherwood Rd

Wednesday, February 06, 2019

4:00 PM to 6:00 PM

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

Interval Start Time	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
4:00 PM	4	2	0			0	73	1	0	0	79	0	0	0	0	0	
4:05 PM	3	1	0			0	67	2	0	0	68	0	0	0	0	0	
4:10 PM	2	2	0			0	63	1	0	1	81	0	0	0	0	0	
4:15 PM	1	1	0			0	61	0	0	0	86	0	0	0	0	0	
4:20 PM	1	1	0			0	79	1	0	1	59	0	0	0	0	0	
4:25 PM	2	2	0			0	63	1	0	0	81	0	0	0	0	0	
4:30 PM	2	2	0			0	60	3	0	1	79	0	0	0	0	0	
4:35 PM	1	1	0			0	70	0	0	3	84	0	0	0	0	0	
4:40 PM	1	1	0			0	63	1	0	2	72	0	0	0	0	0	
4:45 PM	1	3	0			0	84	0	0	1	72	0	0	0	0	0	
4:50 PM	0	0	0			0	60	1	0	0	74	0	0	0	0	0	
4:55 PM	1	2	0			0	67	1	0	1	67	0	0	0	0	0	
5:00 PM	4	1	0			0	74	0	0	0	69	0	0	0	0	0	
5:05 PM	1	1	0			0	65	1	0	0	75	0	0	0	0	0	
5:10 PM	1	1	0			0	88	1	1	0	76	0	0	0	0	0	
5:15 PM	5	2	0			0	80	0	0	0	70	0	0	0	0	0	
5:20 PM	0	1	0			0	76	0	0	1	64	0	0	0	0	0	
5:25 PM	0	0	0			0	63	0	0	0	78	0	0	0	0	0	
5:30 PM	6	6	0			0	75	0	0	1	87	0	0	0	0	0	
5:35 PM	1	2	0			0	63	0	0	0	86	0	0	0	0	0	
5:40 PM	0	0	0			0	71	1	0	0	84	1	0	0	0	0	
5:45 PM	0	0	0			0	66	1	0	0	87	0	0	0	0	0	
5:50 PM	1	1	0			0	66	0	0	2	63	0	0	0	0	0	
5:55 PM	1	0	0			0	77	2	0	1	75	2	0	0	0	0	
Total Survey	39	33	0			0	1,674	18	1	15	1,816	3	0	0	0	0	

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

Interval Start Time	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
4:00 PM	9	5	0			0	203	4	0	1	228	0	0	0	0	0	
4:15 PM	4	4	0			0	203	2	0	1	226	0	0	0	0	0	
4:30 PM	4	4	0			0	193	4	0	6	235	0	0	0	0	0	
4:45 PM	2	5	0			0	211	2	0	2	213	0	0	0	0	0	
5:00 PM	6	3	0			0	227	2	1	0	220	0	0	0	0	0	
5:15 PM	5	3	0			0	219	0	0	1	212	0	0	0	0	0	
5:30 PM	7	8	0			0	209	1	0	1	257	1	0	0	0	0	
5:45 PM	2	1	0			0	209	3	0	3	225	2	0	0	0	0	
Total Survey	39	33	0			0	1,674	18	1	15	1,816	3	0	0	0	0	

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

By Approach	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total	Pedestrians Crosswalk					
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total		North	South	East	West		
Volume	35	11	46	0	0	0	870	934	1,804	1	919	879	1,798	3	1,824	0	0	0	0
%HV	0.0%			0.0%			3.9%			1.3%			2.5%						
PHF	0.58			0.00			0.89			0.89			0.94						

By Movement	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total			
	L	R	Total			Total	T	R	Total	L	T	Total				
Volume	20	15	35			0	864	6	870	5	914	919	1,824			
%HV	0.0%	NA	0.0%	0.0%	NA	NA	0.0%	NA	3.9%	0.0%	3.9%	0.0%	1.3%	NA	1.3%	2.5%
PHF	0.71		0.47	0.58		0.00			0.89	0.50	0.89	0.42	0.89	0.89	0.89	0.94

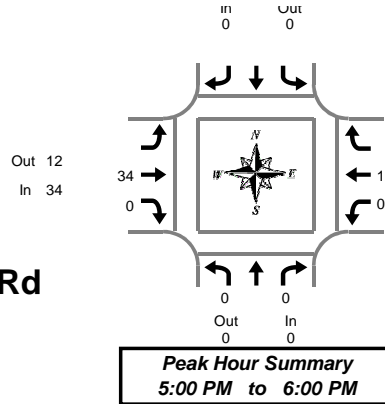
### Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total	Pedestrians Crosswalk					
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West		
4:00 PM	19	18	0			0	810	12	0	10	902	0	0	0	1,771	0	0	0	0
4:15 PM	16	16	0			0	834	10	1	9	894	0	0	0	1,779	0	0	0	0
4:30 PM	17	15	0			0	850	8	1	9	880	0	0	0	1,779	0	0	0	0
4:45 PM	20	19	0			0	866	5	1	4	902	1	0	0	1,816	0	0	0	0
5:00 PM	20	15	0			0	864	6	1	5	914	3	0	0	1,824	0	0	0	0

# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 120th Ave & SW Tualatin Sherwood Rd

Wednesday, February 06, 2019

4:00 PM to 6:00 PM

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

Interval Start Time	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
4:00 PM	0	0	0			0	4	0	4	0	5	5	9
4:05 PM	0	0	0			0	4	0	4	0	1	1	5
4:10 PM	0	0	0			0	2	0	2	0	4	4	6
4:15 PM	0	0	0			0	2	0	2	0	1	1	3
4:20 PM	0	0	0			0	3	1	4	0	3	3	7
4:25 PM	0	0	0			0	3	0	3	0	1	1	4
4:30 PM	0	0	0			0	2	0	2	0	2	2	4
4:35 PM	0	0	0			0	1	0	1	0	2	2	3
4:40 PM	0	0	0			0	1	0	1	0	2	2	3
4:45 PM	0	0	0			0	2	0	2	0	1	1	3
4:50 PM	0	0	0			0	1	0	1	0	5	5	6
4:55 PM	0	0	0			0	1	0	1	0	1	1	2
5:00 PM	0	0	0			0	1	0	1	0	2	2	3
5:05 PM	0	0	0			0	3	0	3	0	1	1	4
5:10 PM	0	0	0			0	2	0	2	0	2	2	4
5:15 PM	0	0	0			0	7	0	7	0	0	0	7
5:20 PM	0	0	0			0	1	0	1	0	1	1	2
5:25 PM	0	0	0			0	3	0	3	0	0	0	3
5:30 PM	0	0	0			0	4	0	4	0	2	2	6
5:35 PM	0	0	0			0	3	0	3	0	1	1	4
5:40 PM	0	0	0			0	1	0	1	0	0	0	1
5:45 PM	0	0	0			0	5	0	5	0	0	0	5
5:50 PM	0	0	0			0	2	0	2	0	2	2	4
5:55 PM	0	0	0			0	2	0	2	0	1	1	3
Total Survey	0	0	0			0	60	1	61	0	40	40	101

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

Interval Start Time	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
4:00 PM	0	0	0			0	10	0	10	0	10	10	20
4:15 PM	0	0	0			0	8	1	9	0	5	5	14
4:30 PM	0	0	0			0	4	0	4	0	6	6	10
4:45 PM	0	0	0			0	4	0	4	0	7	7	11
5:00 PM	0	0	0			0	6	0	6	0	5	5	11
5:15 PM	0	0	0			0	11	0	11	0	1	1	12
5:30 PM	0	0	0			0	8	0	8	0	3	3	11
5:45 PM	0	0	0			0	9	0	9	0	3	3	12
Total Survey	0	0	0			0	60	1	61	0	40	40	101

### Heavy Vehicle Peak Hour Summary 5:00 PM to 6:00 PM

By Approach	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	34	12	46	12	34	46	46
PHF	0.00			0.00			0.71			0.60			0.77

By Movement	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	0	0	0			0	34	0	34	0	12	12	46
PHF	0.00	0.00	0.00			0.00	0.71	0.00	0.71	0.00	0.60	0.60	0.77

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

Interval Start Time	Northbound SW 120th Ave			Southbound SW 120th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
4:00 PM	0	0	0			0	26	1	27	0	28	28	55
4:15 PM	0	0	0			0	22	1	23	0	23	23	46
4:30 PM	0	0	0			0	25	0	25	0	19	19	44
4:45 PM	0	0	0			0	29	0	29	0	16	16	45
5:00 PM	0	0	0			0	34	0	34	0	12	12	46

# Peak Hour Summary



Clay Carney  
(503) 833-2740

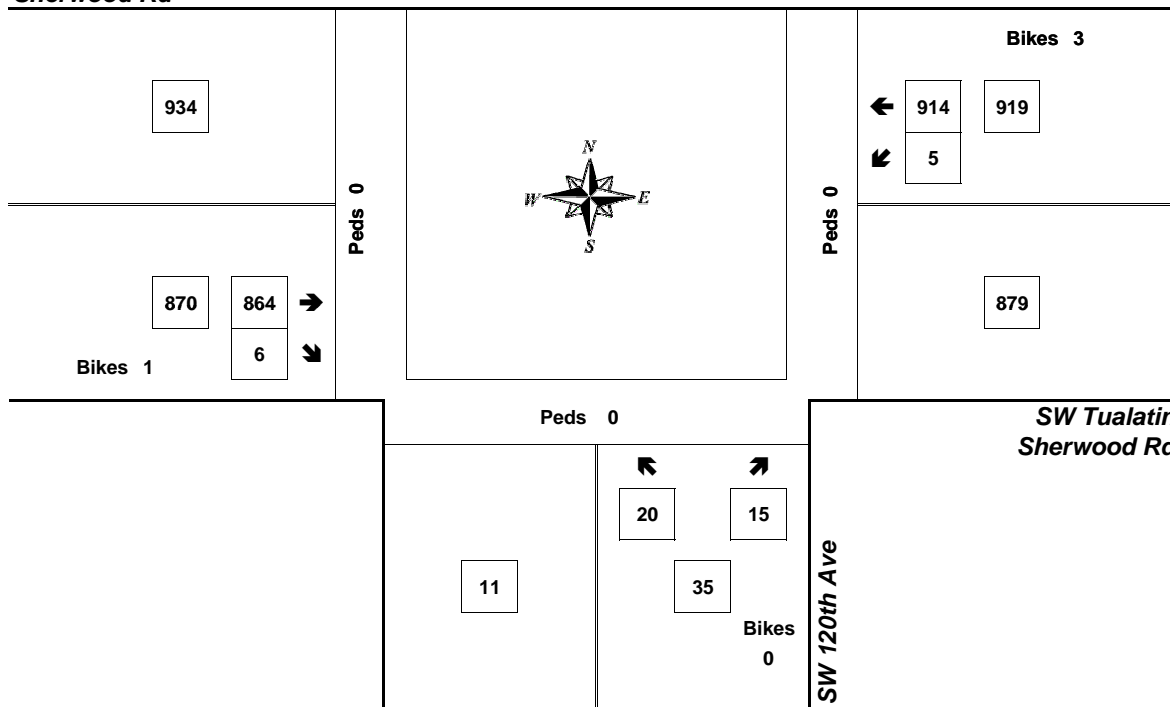
## SW 120th Ave & SW Tualatin Sherwood Rd

5:00 PM to 6:00 PM  
Wednesday, February 06, 2019

Bikes  
0

SW Tualatin  
Sherwood Rd

Peds 0



Approach	PHF	HV%	Volume
EB	0.89	3.9%	870
WB	0.89	1.3%	919
NB	0.58	0.0%	35
SB	0.00	0.0%	0
<b>Intersection</b>	<b>0.94</b>	<b>2.5%</b>	<b>1,824</b>

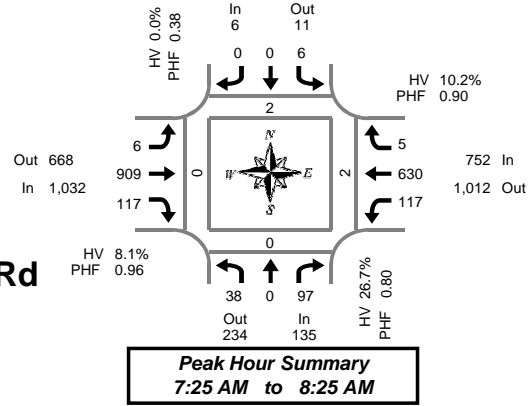
Count Period: 4:00 PM to 6:00 PM



# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 115th Ave & SW Tualatin Sherwood Rd

Thursday, February 07, 2019

7:00 AM to 9:00 AM

### 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	3	0	7	0	0	0	0	0	0	84	9	0	6	31	0	0	140	0	0	0	0
7:05 AM	4	0	11	0	0	0	1	0	1	83	15	0	8	37	1	0	161	0	0	0	0
7:10 AM	2	1	10	0	1	0	0	0	0	69	11	0	6	45	0	0	145	0	0	0	0
7:15 AM	3	0	7	0	2	1	0	0	0	70	7	0	8	51	1	0	150	0	0	0	0
7:20 AM	2	0	5	0	0	0	0	0	0	69	11	1	8	39	0	0	134	0	0	0	0
7:25 AM	3	0	5	0	2	0	0	0	0	75	12	0	14	73	1	0	185	0	0	2	0
7:30 AM	2	0	8	0	2	0	0	0	0	74	14	0	11	42	0	0	153	0	0	0	0
7:35 AM	4	0	9	0	0	0	0	0	0	82	6	0	5	62	0	0	168	0	0	0	0
7:40 AM	2	0	9	0	0	0	0	0	0	85	7	0	10	43	0	0	156	0	0	0	0
7:45 AM	3	0	6	0	0	0	0	0	0	71	11	0	9	63	0	0	163	0	0	0	0
7:50 AM	6	0	13	0	0	0	0	0	0	68	12	0	12	51	1	0	163	0	0	0	0
7:55 AM	3	0	9	0	0	0	0	0	3	68	11	0	13	55	1	0	163	2	0	0	0
8:00 AM	4	0	7	0	0	0	0	0	0	73	11	0	7	57	1	0	160	0	0	0	0
8:05 AM	4	0	4	0	0	0	0	0	1	73	11	0	14	49	0	0	156	0	0	0	0
8:10 AM	4	0	7	0	2	0	0	0	0	79	8	0	7	46	0	0	153	0	0	0	0
8:15 AM	1	0	14	0	0	0	0	0	1	78	6	0	7	44	0	0	151	0	0	0	0
8:20 AM	2	0	6	0	0	0	0	0	1	83	8	0	8	45	1	0	154	0	0	0	0
8:25 AM	3	0	13	0	0	0	0	0	2	70	3	0	8	42	3	0	144	0	0	2	0
8:30 AM	7	0	5	0	0	0	0	0	1	63	1	0	11	61	2	0	151	0	0	0	0
8:35 AM	5	0	5	0	0	0	1	0	0	73	4	0	6	47	0	0	141	0	0	0	0
8:40 AM	3	0	9	0	1	0	0	0	1	90	6	0	3	64	0	0	177	0	0	0	0
8:45 AM	4	0	2	0	0	0	0	0	1	75	2	0	10	49	1	0	144	0	0	0	0
8:50 AM	3	0	4	0	0	0	0	0	1	79	5	0	9	51	4	0	156	0	0	0	0
8:55 AM	4	0	5	0	2	0	1	0	1	59	3	0	5	55	3	0	138	0	0	0	0
Total Survey	81	1	180	0	12	1	3	0	14	1,793	194	1	205	1,202	20	0	3,706	2	0	4	0

### 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	9	1	28	0	1	0	1	0	1	236	35	0	20	113	1	0	446	0	0	0	0
7:15 AM	8	0	17	0	4	1	0	0	0	214	30	1	30	163	2	0	469	0	0	2	0
7:30 AM	8	0	26	0	2	0	0	0	0	241	27	0	26	147	0	0	477	0	0	0	0
7:45 AM	12	0	28	0	0	0	0	0	3	207	34	0	34	169	2	0	489	2	0	0	0
8:00 AM	12	0	18	0	2	0	0	0	1	225	30	0	28	152	1	0	469	0	0	0	0
8:15 AM	6	0	33	0	0	0	0	0	4	231	17	0	23	131	4	0	449	0	0	2	0
8:30 AM	15	0	19	0	1	0	1	0	2	226	11	0	20	172	2	0	469	0	0	0	0
8:45 AM	11	0	11	0	2	0	1	0	3	213	10	0	24	155	8	0	438	0	0	0	0
Total Survey	81	1	180	0	12	1	3	0	14	1,793	194	1	205	1,202	20	0	3,706	2	0	4	0

### Peak Hour Summary

7:25 AM to 8:25 AM

By Approach	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	135	234	369	0	6	11	17	0	1,032	668	1,700	0	752	1,012	1,764	0	1,925	2	0	2	0
%HV	26.7%				0.0%				8.1%				10.2%				10.2%				
PHF	0.80				0.38				0.96				0.90				0.95				

By Movement	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total				
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total					
Volume	38	0	97	135	6	0	0	6	6	909	117	1,032	117	630	5	752	1,925				
%HV	23.7%	0.0%	27.8%	26.7%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	17.1%	8.1%	14.5%	9.5%	0.0%	10.2%	10.2%				
PHF	0.73	0.00	0.84	0.80	0.38	0.00	0.00	0.38	0.38	0.94	0.86	0.96	0.86	0.89	0.42	0.90	0.95				

### Rolling Hour Summary

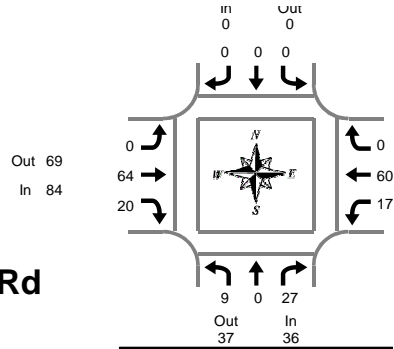
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	37	1	99	0	7	1	1	0	4	898	126	1	110	592	5	0	1,881	2	0	2	0
7:15 AM	40	0	89	0	8	1	0	0	4	887	121	1	118	631	5	0	1,904	2	0	2	0
7:30 AM	38	0	105	0	4	0	0	0	8	904	108	0	111	599	7	0	1,884	2	0	2	0
7:45 AM	45	0	98	0	3	0	1	0	10	889	92	0	105	624	9	0	1,876	2	0	2	0
8:00 AM	44	0	81	0	5	0	2	0	10	895	68	0	95	610	15	0	1,825	0	0	2	0

# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 115th Ave & SW Tualatin Sherwood Rd

Thursday, February 07, 2019

7:00 AM to 9:00 AM

**Peak Hour Summary**  
7:25 AM to 8:25 AM

### Heavy Vehicle 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	0	1	2	0	0	0	0	0	7	2	9	0	3	0	3	14
7:05 AM	0	0	5	5	0	0	0	0	0	4	1	5	1	4	0	5	15
7:10 AM	1	0	2	3	0	0	0	0	0	4	2	6	0	6	0	6	15
7:15 AM	2	0	3	5	0	0	0	0	0	7	1	8	2	2	0	4	17
7:20 AM	0	0	1	1	0	0	0	0	0	3	1	4	0	5	0	5	10
7:25 AM	1	0	3	4	0	0	0	0	0	3	3	6	1	7	0	8	18
7:30 AM	1	0	2	3	0	0	0	0	0	1	5	6	1	4	0	5	14
7:35 AM	1	0	3	4	0	0	0	0	0	12	2	14	1	6	0	7	25
7:40 AM	1	0	3	4	0	0	0	0	0	3	0	3	0	6	0	6	13
7:45 AM	2	0	3	5	0	0	0	0	0	8	0	8	2	1	0	3	16
7:50 AM	2	0	2	4	0	0	0	0	0	4	2	6	2	2	0	4	14
7:55 AM	0	0	2	2	0	0	0	0	0	7	1	8	0	9	0	9	19
8:00 AM	0	0	0	0	0	0	0	0	0	2	2	4	0	7	0	7	11
8:05 AM	0	0	0	0	0	0	0	0	0	4	1	5	0	7	0	7	12
8:10 AM	1	0	3	4	0	0	0	0	0	3	2	5	3	5	0	8	17
8:15 AM	0	0	3	3	0	0	0	0	0	7	1	8	5	2	0	7	18
8:20 AM	0	0	3	3	0	0	0	0	0	10	1	11	2	4	0	6	20
8:25 AM	1	0	4	5	0	0	0	0	0	4	0	4	2	5	0	7	16
8:30 AM	1	0	3	4	0	0	0	0	0	3	1	4	5	10	0	15	23
8:35 AM	3	0	1	4	0	0	0	0	0	8	1	9	1	3	0	4	17
8:40 AM	1	0	2	3	0	0	0	0	0	5	1	6	0	7	0	7	16
8:45 AM	1	0	0	1	0	0	0	0	0	9	0	9	2	5	0	7	17
8:50 AM	0	0	2	2	0	0	0	0	0	8	1	9	3	6	0	9	20
8:55 AM	2	0	3	5	0	0	0	0	0	7	1	8	2	5	0	7	20
Total Survey	22	0	54	76	0	0	0	0	0	133	32	165	35	121	0	156	397

### Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	2	0	8	10	0	0	0	0	0	15	5	20	1	13	0	14	44
7:15 AM	3	0	7	10	0	0	0	0	0	13	5	18	3	14	0	17	45
7:30 AM	3	0	8	11	0	0	0	0	0	16	7	23	2	16	0	18	52
7:45 AM	4	0	7	11	0	0	0	0	0	19	3	22	4	12	0	16	49
8:00 AM	1	0	3	4	0	0	0	0	0	9	5	14	3	19	0	22	40
8:15 AM	1	0	10	11	0	0	0	0	0	21	2	23	9	11	0	20	54
8:30 AM	5	0	6	11	0	0	0	0	0	16	3	19	6	20	0	26	56
8:45 AM	3	0	5	8	0	0	0	0	0	24	2	26	7	16	0	23	57
Total Survey	22	0	54	76	0	0	0	0	0	133	32	165	35	121	0	156	397

### Heavy Vehicle Peak Hour Summary

7:25 AM to 8:25 AM

By Approach	Northbound SW 115th Ave			Southbound SW 115th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	36	37	73	0	0	0	84	69	153	77	91	168	197
PHF	0.69			0.00			0.81			0.84			0.86

By Movement	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	9	0	27	36	0	0	0	0	0	64	20	84	17	60	0	77	197
PHF	0.45	0.00	0.75	0.69	0.00	0.00	0.00	0.00	0.00	0.70	0.50	0.81	0.43	0.65	0.00	0.84	0.86

### Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	12	0	30	42	0	0	0	0	0	63	20	83	10	55	0	65	190
7:15 AM	11	0	25	36	0	0	0	0	0	57	20	77	12	61	0	73	186
7:30 AM	9	0	28	37	0	0	0	0	0	65	17	82	18	58	0	76	195
7:45 AM	11	0	26	37	0	0	0	0	0	65	13	78	22	62	0	84	199
8:00 AM	10	0	24	34	0	0	0	0	0	70	12	82	25	66	0	91	207

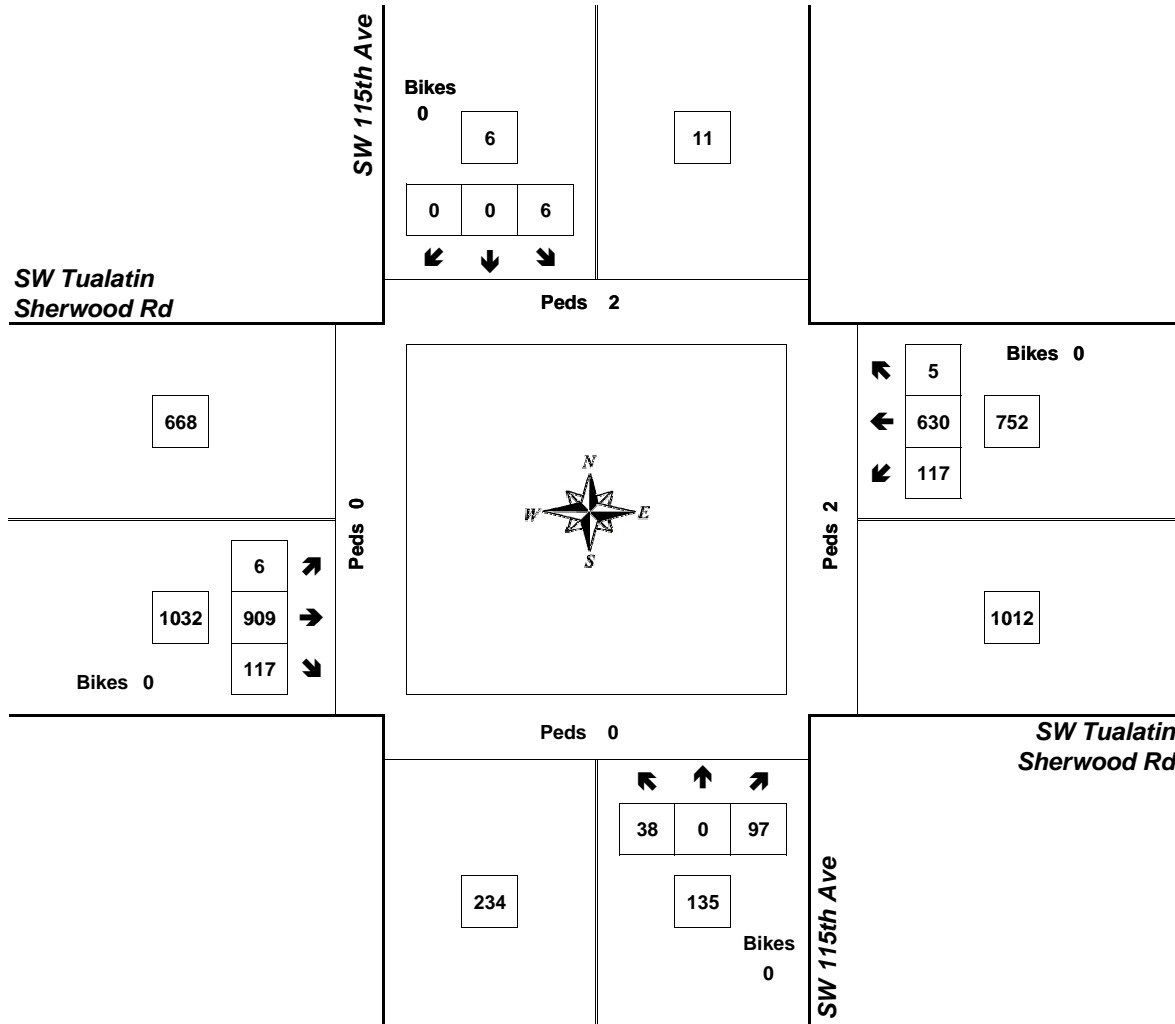
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW 115th Ave & SW Tualatin Sherwood Rd

7:25 AM to 8:25 AM  
Thursday, February 07, 2019



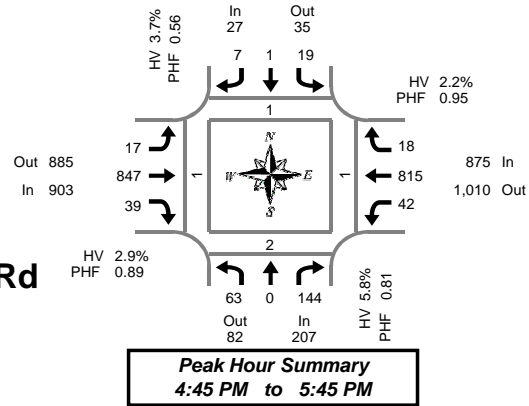
Approach	PHF	HV%	Volume
EB	0.96	8.1%	1,032
WB	0.90	10.2%	752
NB	0.80	26.7%	135
SB	0.38	0.0%	6
<b>Intersection</b>	<b>0.95</b>	<b>10.2%</b>	<b>1,925</b>

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

# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 115th Ave & SW Tualatin Sherwood Rd

Wednesday, February 06, 2019

4:00 PM to 6:00 PM

### 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	3	1	23	0	2	0	0	0	1	64	3	0	2	64	0	0	163	0	0	0	0
4:05 PM	13	0	21	0	1	0	1	0	1	67	3	0	3	63	1	0	174	0	0	0	0
4:10 PM	10	0	19	0	0	0	0	0	0	53	6	0	8	67	1	0	164	0	0	0	0
4:15 PM	5	1	12	0	2	0	2	0	1	62	3	0	0	73	0	0	161	0	0	0	0
4:20 PM	4	0	6	0	0	0	1	0	2	69	5	0	5	56	2	0	150	0	0	0	0
4:25 PM	5	0	13	0	0	0	0	0	0	69	4	0	4	75	1	0	171	0	0	0	0
4:30 PM	13	0	16	0	2	0	2	0	0	51	2	0	3	61	1	0	151	0	0	0	0
4:35 PM	14	0	13	0	0	0	0	0	0	71	5	0	7	80	1	0	191	0	0	0	0
4:40 PM	10	0	7	0	1	0	1	0	2	48	2	0	0	62	1	0	134	0	0	0	0
4:45 PM	2	0	11	0	0	0	0	0	2	83	2	0	3	72	1	0	176	0	0	0	0
4:50 PM	1	0	16	0	0	1	0	0	1	70	7	0	5	66	3	0	170	0	0	0	0
4:55 PM	4	0	7	0	2	0	0	0	1	60	3	0	6	65	1	0	149	0	0	0	0
5:00 PM	10	0	17	0	4	0	0	0	1	67	4	0	3	61	1	0	168	0	0	0	0
5:05 PM	2	0	12	0	0	0	2	0	1	63	3	0	6	77	2	0	168	0	0	1	0
5:10 PM	9	0	14	0	0	0	0	0	1	74	3	0	6	59	0	0	166	0	0	0	0
5:15 PM	4	0	6	0	1	0	0	0	4	90	3	0	3	72	1	0	184	0	1	0	0
5:20 PM	3	0	10	0	3	0	0	0	2	74	3	0	2	57	2	0	156	1	0	0	0
5:25 PM	8	0	8	0	0	0	2	0	0	59	3	0	2	66	2	0	150	0	0	0	0
5:30 PM	8	0	21	0	4	0	0	0	1	66	2	0	4	79	2	0	187	0	0	0	0
5:35 PM	7	0	9	0	3	0	3	0	1	81	2	0	1	67	3	0	177	0	1	0	1
5:40 PM	5	0	13	0	2	0	0	0	2	60	4	0	1	74	0	0	161	0	0	0	0
5:45 PM	5	0	6	0	1	0	0	0	0	73	4	0	3	80	3	0	175	0	0	0	0
5:50 PM	6	0	12	0	1	0	0	0	0	54	1	0	4	65	0	0	143	0	0	0	0
5:55 PM	5	0	9	0	0	0	2	0	1	83	2	0	1	70	0	0	173	0	0	0	0
Total Survey	156	2	301	0	29	1	16	0	25	1,611	79	0	82	1,631	29	0	3,962	1	2	1	1

### 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	26	1	63	0	3	0	1	0	2	184	12	0	13	194	2	0	501	0	0	0	0
4:15 PM	14	1	31	0	2	0	3	0	3	200	12	0	9	204	3	0	482	0	0	0	0
4:30 PM	37	0	36	0	3	0	3	0	2	170	9	0	10	203	3	0	476	0	0	0	0
4:45 PM	7	0	34	0	2	1	0	0	4	213	12	0	14	203	5	0	495	0	0	0	0
5:00 PM	21	0	43	0	4	0	2	0	3	204	10	0	15	197	3	0	502	0	0	1	0
5:15 PM	15	0	24	0	4	0	2	0	6	223	9	0	7	195	5	0	490	1	1	0	0
5:30 PM	20	0	43	0	9	0	3	0	4	207	8	0	6	220	5	0	525	0	1	0	1
5:45 PM	16	0	27	0	2	0	2	0	1	210	7	0	8	215	3	0	491	0	0	0	0
Total Survey	156	2	301	0	29	1	16	0	25	1,611	79	0	82	1,631	29	0	3,962	1	2	1	1

### Peak Hour Summary

4:45 PM to 5:45 PM

By Approach	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	207	82	289	0	27	35	62	0	903	885	1,788	0	875	1,010	1,885	0	2,012	1	2	1	1
%HV	5.8%				3.7%				2.9%				2.2%				2.9%				
PHF	0.81				0.56				0.89				0.95				0.96				

By Movement	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	63	0	144	207	19	1	7	27	17	847	39	903	42	815	18	875	2,012
%HV	3.2%	0.0%	6.9%	5.8%	0.0%	#####	0.0%	3.7%	0.0%	3.0%	2.6%	2.9%	16.7%	1.3%	5.6%	2.2%	2.9%
PHF	0.68	0.00	0.84	0.81	0.53	0.25	0.35	0.56	0.61	0.89	0.70	0.89	0.70	0.93	0.64	0.95	0.96

### Rolling Hour Summary

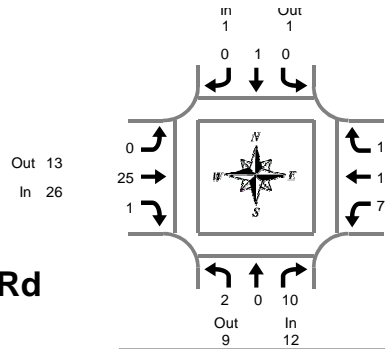
4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	84	2	164	0	10	1	7	0	11	767	45	0	46	804	13	0	1,954	0	0	0	0
4:15 PM	79	1	144	0	11	1	8	0	12	787	43	0	48	807	14	0	1,955	0	0	1	0
4:30 PM	80	0	137	0	13	1	7	0	15	810	40	0	46	798	16	0	1,963	1	1	1	0
4:45 PM	63	0	144	0	19	1	7	0	17	847	39	0	42	815	18	0	2,012	1	2	1	1
5:00 PM	72	0	137	0	19	0	9	0	14	844	34	0	36	827	16	0	2,008	1	2	1	1

# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 115th Ave & SW Tualatin Sherwood Rd

Wednesday, February 06, 2019

4:00 PM to 6:00 PM

**Peak Hour Summary**  
4:45 PM to 5:45 PM

### Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	2	3
4:05 PM	1	0	1	2	0	0	0	0	0	6	0	6	2	1	0	3	11
4:10 PM	0	0	1	1	0	0	0	0	0	2	1	3	2	3	0	5	9
4:15 PM	0	0	2	2	0	0	0	0	0	1	0	1	0	1	0	1	4
4:20 PM	1	0	0	1	0	0	0	0	0	5	1	6	0	2	0	2	9
4:25 PM	1	0	0	1	0	0	0	0	0	4	0	4	1	1	0	2	7
4:30 PM	1	0	2	3	0	0	1	1	0	0	1	1	1	0	0	1	6
4:35 PM	0	0	0	0	0	0	0	0	0	2	1	3	1	3	0	4	7
4:40 PM	2	0	1	3	0	0	0	0	0	1	0	1	0	1	0	1	5
4:45 PM	0	0	1	1	0	0	0	0	0	2	0	2	0	0	1	1	4
4:50 PM	0	0	2	2	0	1	0	1	0	1	1	2	1	2	0	3	8
4:55 PM	1	0	0	1	0	0	0	0	0	1	0	1	1	2	0	3	5
5:00 PM	0	0	2	2	0	0	0	0	0	1	0	1	0	2	0	2	5
5:05 PM	0	0	0	0	0	0	0	0	0	3	0	3	2	1	0	3	6
5:10 PM	1	0	0	1	0	0	0	0	0	3	0	3	0	1	0	1	5
5:15 PM	0	0	0	0	0	0	0	0	0	4	0	4	1	0	0	1	5
5:20 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	2	3
5:25 PM	0	0	1	1	0	0	0	0	0	3	0	3	1	0	0	1	5
5:30 PM	0	0	1	1	0	0	0	0	0	3	0	3	0	1	0	1	5
5:35 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3
5:40 PM	0	0	2	2	0	0	0	0	0	2	0	2	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	4	1	5	1	0	0	1	6
5:50 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	2	0	3	4
5:55 PM	0	0	1	1	0	0	0	0	0	2	1	3	0	1	0	1	5
Total Survey	8	0	18	26	0	1	1	2	0	54	7	61	16	28	1	45	134

### Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	0	2	3	0	0	0	0	0	9	1	10	4	6	0	10	23
4:15 PM	2	0	2	4	0	0	0	0	0	10	1	11	1	4	0	5	20
4:30 PM	3	0	3	6	0	0	1	1	0	3	2	5	2	4	0	6	18
4:45 PM	1	0	3	4	0	1	0	1	0	4	1	5	2	4	1	7	17
5:00 PM	1	0	2	3	0	0	0	0	0	7	0	7	2	4	0	6	16
5:15 PM	0	0	2	2	0	0	0	0	0	7	0	7	3	1	0	4	13
5:30 PM	0	0	3	3	0	0	0	0	0	7	0	7	0	2	0	2	12
5:45 PM	0	0	1	1	0	0	0	0	0	7	2	9	2	3	0	5	15
Total Survey	8	0	18	26	0	1	1	2	0	54	7	61	16	28	1	45	134

### Heavy Vehicle Peak Hour Summary

4:45 PM to 5:45 PM

By Approach	Northbound SW 115th Ave			Southbound SW 115th Ave			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	12	9	21	1	1	2	26	13	39	19	35	54	58
PHF	0.60			0.25			0.65			0.59			0.81

By Movement	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	0	10	12	0	1	0	1	0	25	1	26	7	11	1	19	58
PHF	0.50	0.00	0.63	0.60	0.00	0.25	0.00	0.25	0.00	0.63	0.25	0.65	0.58	0.46	0.25	0.59	0.81

### Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 115th Ave				Southbound SW 115th Ave				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	7	0	10	17	0	1	1	2	0	26	5	31	9	18	1	28	78
4:15 PM	7	0	10	17	0	1	1	2	0	24	4	28	7	16	1	24	71
4:30 PM	5	0	10	15	0	1	1	2	0	21	3	24	9	13	1	23	64
4:45 PM	2	0	10	12	0	1	0	1	0	25	1	26	7	11	1	19	58
5:00 PM	1	0	8	9	0	0	0	0	0	28	2	30	7	10	0	17	56



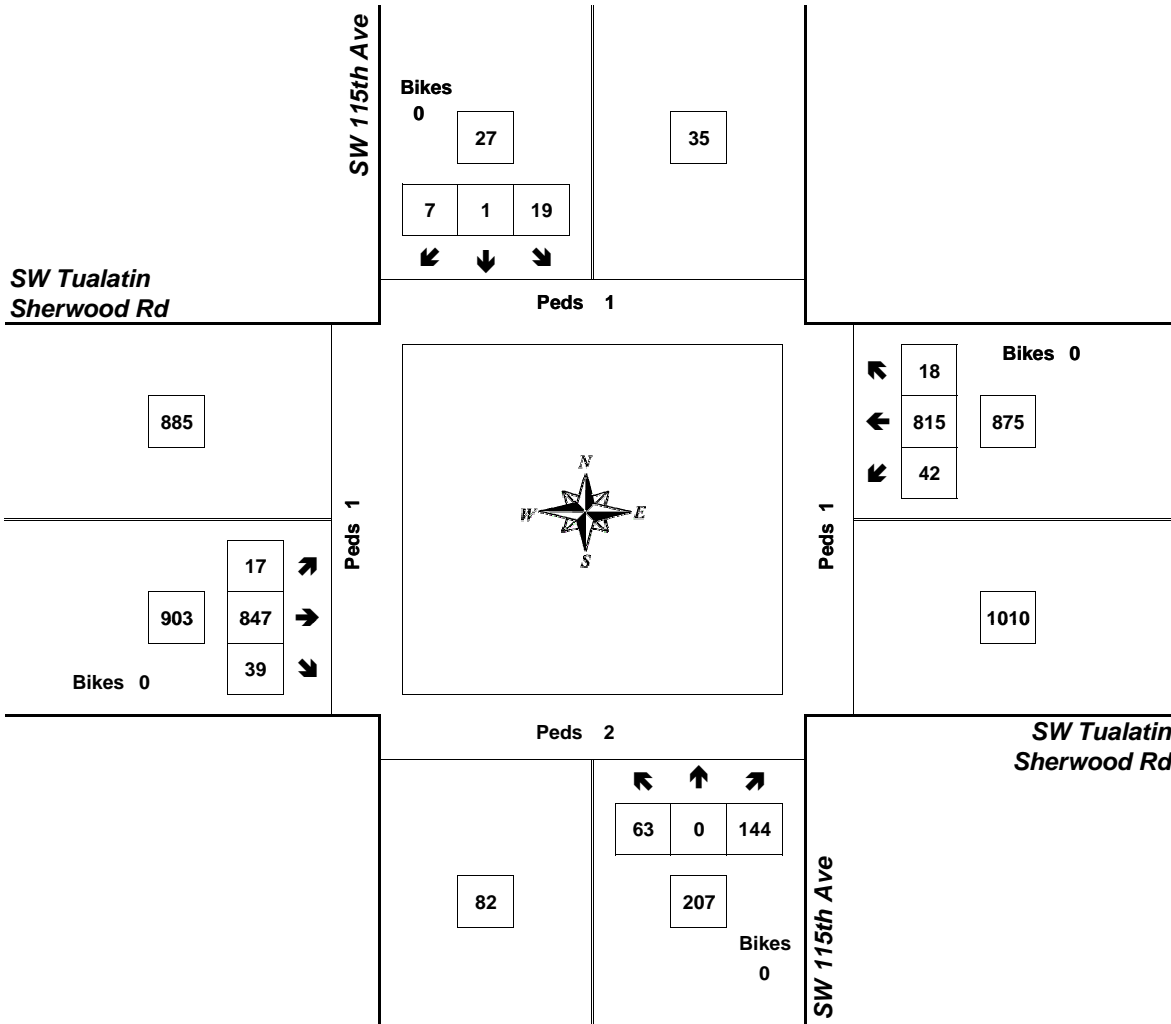
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW 115th Ave & SW Tualatin Sherwood Rd

4:45 PM to 5:45 PM  
Wednesday, February 06, 2019



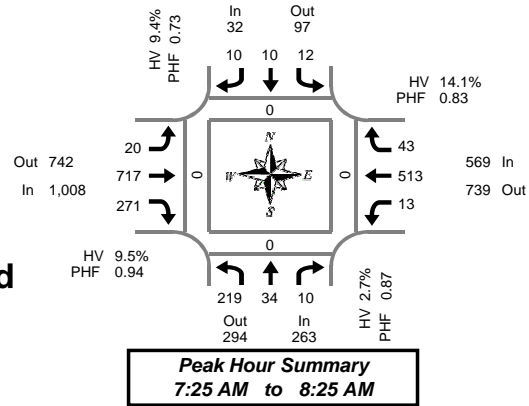
Approach	PHF	HV%	Volume
EB	0.89	2.9%	903
WB	0.95	2.2%	875
NB	0.81	5.8%	207
SB	0.56	3.7%	27
<b>Intersection</b>	<b>0.96</b>	<b>2.9%</b>	<b>2,012</b>

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

# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW Avery St & SW Tualatin Sherwood Rd

Thursday, February 07, 2019

7:00 AM to 9:00 AM

### 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk				
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West	
7:00 AM	10	4	0	0	0	0	2	0	2	75	14	0	0	26	4	0	0	137	0	0	0	0
7:05 AM	12	6	0	0	0	0	0	0	1	67	20	0	1	37	4	0	0	148	0	0	0	0
7:10 AM	12	4	2	0	0	0	0	0	2	56	26	0	0	36	1	0	0	139	0	0	0	0
7:15 AM	22	3	0	0	3	0	1	0	6	59	13	0	1	34	3	0	0	145	0	0	0	0
7:20 AM	19	2	1	0	1	1	0	0	4	60	12	0	0	21	9	0	0	130	0	0	0	0
7:25 AM	14	2	0	0	0	2	2	0	2	57	19	0	2	68	11	0	0	179	0	0	0	0
7:30 AM	21	6	1	0	0	1	1	0	1	61	26	0	1	25	2	0	0	146	0	0	0	0
7:35 AM	15	0	1	0	1	0	0	0	0	64	26	0	2	52	3	0	0	164	0	0	0	0
7:40 AM	20	3	1	0	1	2	1	0	2	59	30	0	1	35	3	0	0	158	0	0	0	0
7:45 AM	21	2	2	0	3	1	1	0	0	46	29	0	0	58	2	1	0	165	0	0	0	0
7:50 AM	17	7	1	0	0	1	1	0	4	63	18	0	2	43	4	0	0	161	0	0	0	0
7:55 AM	21	4	1	0	0	1	2	0	1	61	18	0	1	58	3	0	0	171	0	0	0	0
8:00 AM	22	1	1	0	1	1	1	0	4	56	23	0	1	29	3	0	0	143	0	0	0	0
8:05 AM	19	3	1	0	0	0	0	0	0	55	22	0	2	40	4	0	0	146	0	0	0	0
8:10 AM	17	1	1	0	0	0	0	0	1	59	26	0	0	39	3	0	0	147	0	0	0	0
8:15 AM	16	3	0	0	2	1	1	0	3	69	16	0	1	28	2	0	0	142	0	0	0	0
8:20 AM	16	2	0	0	4	0	0	0	2	67	18	0	0	38	3	0	0	150	0	0	0	0
8:25 AM	11	0	1	0	0	1	1	0	1	75	18	0	3	44	4	0	0	159	0	0	0	0
8:30 AM	9	0	0	0	3	0	0	0	1	66	6	0	0	52	2	0	0	139	0	0	0	0
8:35 AM	14	0	1	0	3	0	0	0	0	59	18	0	1	51	4	0	0	151	0	0	0	0
8:40 AM	13	1	0	0	1	0	0	0	0	86	18	0	2	41	0	0	0	162	0	0	0	0
8:45 AM	13	0	3	0	0	0	0	0	0	59	17	0	0	49	6	0	0	147	0	0	0	0
8:50 AM	19	3	0	0	0	1	0	0	1	60	18	0	1	44	3	0	0	150	0	0	0	0
8:55 AM	16	2	0	0	0	1	0	0	0	46	18	0	1	50	6	0	0	140	0	0	0	0
Total Survey	389	59	18	0	23	14	14	0	38	1,485	469	0	23	998	89	1	0	3,619	0	0	0	0

### 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk				
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West	
7:00 AM	34	14	2	0	0	0	2	0	5	198	60	0	1	99	9	0	0	424	0	0	0	0
7:15 AM	55	7	1	0	4	3	3	0	12	176	44	0	3	123	23	0	0	454	0	0	0	0
7:30 AM	56	9	3	0	2	3	2	0	3	184	82	0	4	112	8	0	0	468	0	0	0	0
7:45 AM	59	13	4	0	3	3	4	0	5	170	65	0	3	159	9	1	0	497	0	0	0	0
8:00 AM	58	5	3	0	1	1	1	0	5	170	71	0	3	108	10	0	0	436	0	0	0	0
8:15 AM	43	5	1	0	6	2	2	0	6	211	52	0	4	110	9	0	0	451	0	0	0	0
8:30 AM	36	1	1	0	7	0	0	0	1	211	42	0	3	144	6	0	0	452	0	0	0	0
8:45 AM	48	5	3	0	0	2	0	0	1	165	53	0	2	143	15	0	0	437	0	0	0	0
Total Survey	389	59	18	0	23	14	14	0	38	1,485	469	0	23	998	89	1	0	3,619	0	0	0	0

### Peak Hour Summary

7:25 AM to 8:25 AM

By Approach	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	263	294	557	0	32	97	129	0	1,008	742	1,750	0	569	739	1,308	1	1,872	0	0	0	0
%HV	2.7%				9.4%				9.5%				14.1%				9.9%				
PHF	0.87				0.73				0.94				0.83				0.94				

By Movement	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	219	34	10	263	12	10	10	32	20	717	271	1,008	13	513	43	569	1,872
%HV	2.7%	0.0%	10.0%	2.7%	25.0%	0.0%	0.0%	9.4%	5.0%	12.0%	3.3%	9.5%	38.5%	13.6%	11.6%	14.1%	9.9%
PHF	0.88	0.65	0.63	0.87	0.50	0.63	0.63	0.73	0.56	0.92	0.80	0.94	0.65	0.81	0.67	0.83	0.94

### Rolling Hour Summary

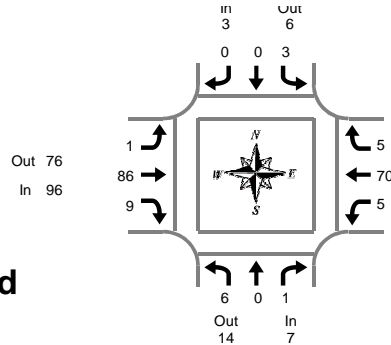
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk				
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West	
7:00 AM	204	43	10	0	9	9	11	0	25	728	251	0	11	493	49	1	0	1,843	0	0	0	0
7:15 AM	228	34	11	0	10	10	10	0	25	700	262	0	13	502	50	1	0	1,855	0	0	0	0
7:30 AM	216	32	11	0	12	9	9	0	19	735	270	0	14	489	36	1	0	1,852	0	0	0	0
7:45 AM	196	24	9	0	17	6	7	0	17	762	230	0	13	521	34	1	0	1,836	0	0	0	0
8:00 AM	185	16	8	0	14	5	3	0	13	757	218	0	12	505	40	0	0	1,776	0	0	0	0

# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



**Peak Hour Summary**  
7:25 AM to 8:25 AM

## SW Avery St & SW Tualatin Sherwood Rd

Thursday, February 07, 2019

7:00 AM to 9:00 AM

### Heavy Vehicle 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	7	1	8	0	4	0	4	12
7:05 AM	0	0	0	0	0	0	0	0	0	10	0	10	0	5	0	5	15
7:10 AM	0	0	0	0	0	0	0	0	0	4	0	4	0	5	0	5	9
7:15 AM	0	0	0	0	1	0	0	1	0	11	0	11	0	4	0	4	16
7:20 AM	4	0	0	4	0	0	0	0	0	3	0	3	0	2	1	3	10
7:25 AM	0	0	0	0	0	0	0	0	0	7	1	8	1	9	1	11	19
7:30 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	4	0	4	7
7:35 AM	1	0	0	1	1	0	0	1	0	10	2	12	1	7	1	9	23
7:40 AM	1	0	0	1	0	0	0	0	0	8	1	9	0	6	0	6	16
7:45 AM	0	0	0	0	0	0	0	0	0	7	0	7	0	3	0	3	10
7:50 AM	0	0	0	0	0	0	0	0	1	7	1	9	2	5	0	7	16
7:55 AM	0	0	0	0	0	0	0	0	0	11	0	11	0	7	0	7	18
8:00 AM	1	0	1	2	1	0	0	1	0	3	0	3	0	7	0	7	13
8:05 AM	2	0	0	2	0	0	0	0	0	4	0	4	0	6	1	7	13
8:10 AM	0	0	0	0	0	0	0	0	0	7	1	8	0	8	0	8	16
8:15 AM	0	0	0	0	1	0	0	1	0	6	2	8	1	4	1	6	15
8:20 AM	1	0	0	1	0	0	0	0	0	13	1	14	0	4	1	5	20
8:25 AM	3	0	0	3	0	0	0	0	0	6	2	8	0	8	0	8	19
8:30 AM	0	0	0	0	0	0	0	0	0	8	0	8	0	9	0	9	17
8:35 AM	0	0	1	1	1	0	0	1	0	8	1	9	0	4	1	5	16
8:40 AM	0	0	0	0	0	0	0	0	0	6	0	6	0	7	0	7	13
8:45 AM	1	0	0	1	0	0	0	0	0	7	1	8	0	9	1	10	19
8:50 AM	0	0	0	0	0	1	0	1	0	7	2	9	0	6	1	7	17
8:55 AM	0	0	0	0	0	0	0	0	0	7	1	8	0	7	0	7	15
Total Survey	14	0	2	16	5	1	0	6	1	170	17	188	5	140	9	154	364

### Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	21	1	22	0	14	0	14	36
7:15 AM	4	0	0	4	1	0	0	1	0	21	1	22	1	15	2	18	45
7:30 AM	2	0	0	2	1	0	0	1	0	21	3	24	1	17	1	19	46
7:45 AM	0	0	0	0	0	0	0	0	1	25	1	27	2	15	0	17	44
8:00 AM	3	0	1	4	1	0	0	1	0	14	1	15	0	21	1	22	42
8:15 AM	4	0	0	4	1	0	0	1	0	25	5	30	1	16	2	19	54
8:30 AM	0	0	1	1	1	0	0	1	0	22	1	23	0	20	1	21	46
8:45 AM	1	0	0	1	0	1	0	1	0	21	4	25	0	22	2	24	51
Total Survey	14	0	2	16	5	1	0	6	1	170	17	188	5	140	9	154	364

### Heavy Vehicle Peak Hour Summary

7:25 AM to 8:25 AM

By Approach	Northbound SW Avery St			Southbound SW Avery St			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	14	21	3	6	9	96	76	172	80	90	170	186
PHF	0.44			0.75			0.80			0.83			0.91

By Movement	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	6	0	1	7	3	0	0	3	1	86	9	96	5	70	5	80	186
PHF	0.50	0.00	0.25	0.44	0.75	0.00	0.00	0.75	0.25	0.83	0.56	0.80	0.63	0.83	0.63	0.83	0.91

### Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	6	0	0	6	2	0	0	2	1	88	6	95	4	61	3	68	171
7:15 AM	9	0	1	10	3	0	0	3	1	81	6	88	4	68	4	76	177
7:30 AM	9	0	1	10	3	0	0	3	1	85	10	96	4	69	4	77	186
7:45 AM	7	0	2	9	3	0	0	3	1	86	8	95	3	72	4	79	186
8:00 AM	8	0	2	10	3	1	0	4	0	82	11	93	1	79	6	86	193

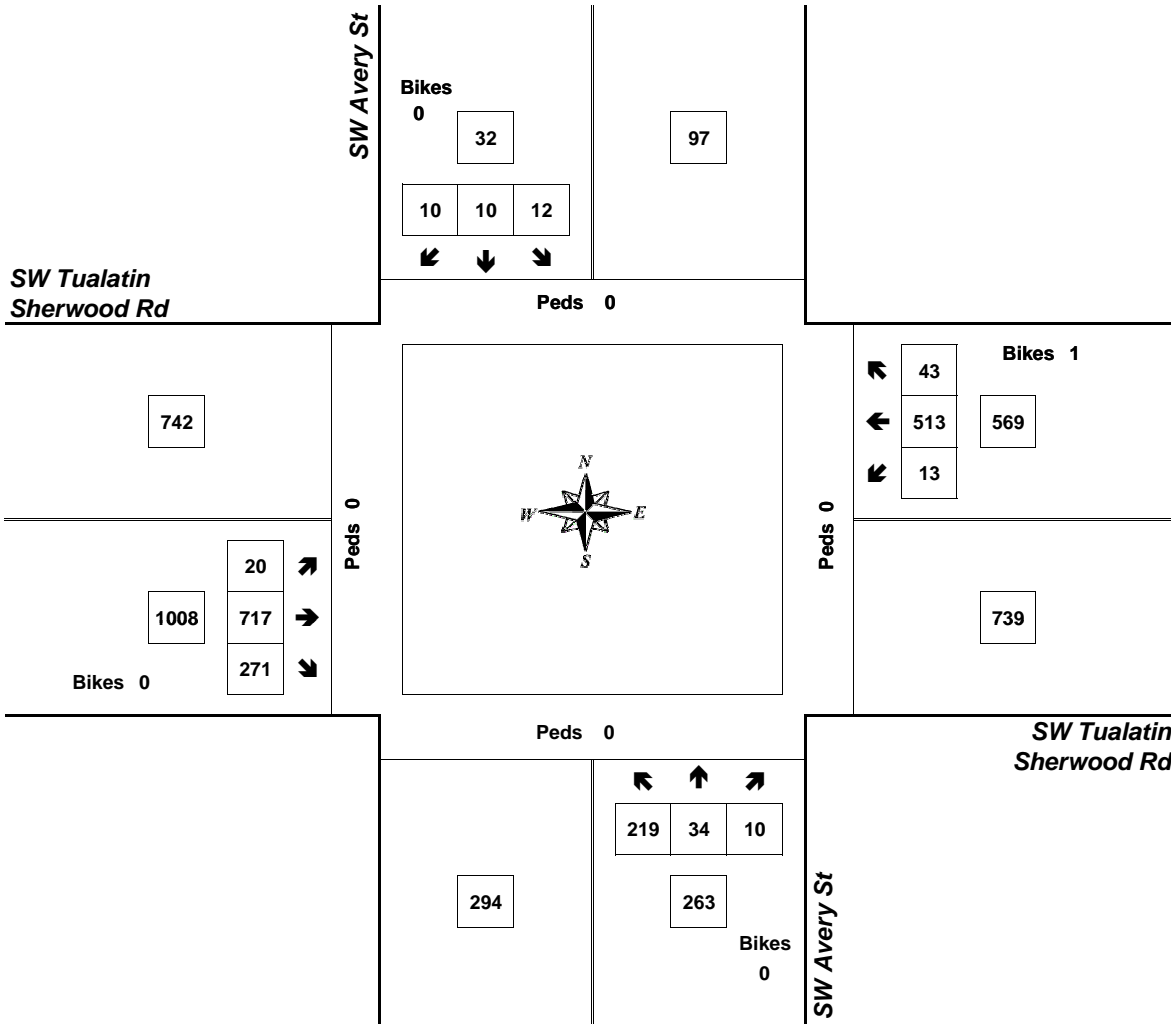
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW Avery St & SW Tualatin Sherwood Rd

7:25 AM to 8:25 AM  
Thursday, February 07, 2019



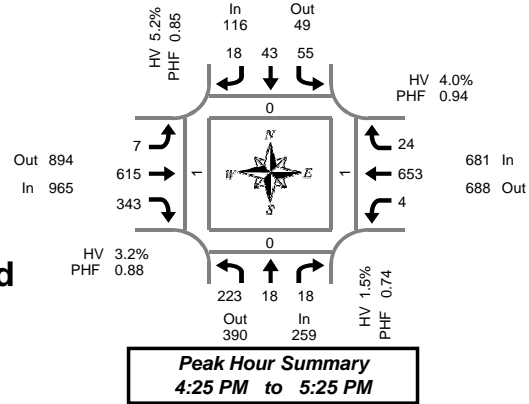
Approach	PHF	HV%	Volume
EB	0.94	9.5%	1,008
WB	0.83	14.1%	569
NB	0.87	2.7%	263
SB	0.73	9.4%	32
<b>Intersection</b>	<b>0.94</b>	<b>9.9%</b>	<b>1,872</b>

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

# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW Avery St & SW Tualatin Sherwood Rd

Wednesday, February 06, 2019

4:00 PM to 6:00 PM

### 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	25	0	2	0	8	4	3	0	0	53	25	0	0	46	4	0	170	0	0	0	0
4:05 PM	13	2	1	0	1	2	1	0	3	66	23	0	0	47	5	0	164	0	0	1	0
4:10 PM	22	1	2	0	7	0	0	0	1	51	26	1	0	54	1	0	165	0	0	0	0
4:15 PM	10	1	0	0	4	3	3	0	2	52	24	1	0	67	1	0	167	0	0	0	0
4:20 PM	16	1	0	0	5	0	1	0	0	49	21	0	0	52	2	0	147	0	0	0	0
4:25 PM	11	3	3	0	7	3	3	0	0	51	26	0	0	59	1	0	167	0	0	0	0
4:30 PM	25	2	2	0	4	2	1	0	0	41	28	0	0	55	0	0	160	0	0	0	0
4:35 PM	26	2	3	0	6	7	1	0	0	57	22	0	0	61	2	0	187	0	0	0	0
4:40 PM	24	1	3	0	4	4	3	0	1	39	21	0	1	51	2	0	154	0	0	0	0
4:45 PM	14	1	1	0	1	2	0	0	2	62	25	0	1	54	2	0	165	0	0	1	0
4:50 PM	20	2	0	0	6	6	0	0	1	56	29	0	0	56	4	0	180	0	0	0	0
4:55 PM	12	2	1	0	2	1	1	0	1	44	23	0	0	64	1	0	152	0	0	0	0
5:00 PM	25	2	0	0	9	4	2	0	0	51	33	0	1	41	4	0	172	0	0	0	0
5:05 PM	18	0	2	0	3	2	2	0	1	54	24	0	0	52	4	0	162	0	0	0	1
5:10 PM	25	3	3	0	2	2	2	0	0	57	35	0	0	50	1	0	180	0	0	0	0
5:15 PM	10	0	0	0	4	6	3	0	1	53	39	0	0	62	3	0	181	0	0	0	0
5:20 PM	13	0	0	0	7	4	0	0	0	50	38	0	1	48	0	0	161	0	0	0	0
5:25 PM	8	2	1	0	5	4	0	0	1	44	26	0	1	63	2	0	157	0	0	0	0
5:30 PM	19	1	2	0	5	0	1	0	3	47	33	0	0	50	1	0	162	0	0	0	1
5:35 PM	11	4	1	0	4	0	1	0	3	68	30	0	0	61	1	0	184	0	0	0	0
5:40 PM	24	3	1	0	5	0	0	0	0	40	25	0	0	58	3	0	159	0	0	0	0
5:45 PM	14	3	0	0	2	0	2	0	1	63	22	0	0	56	0	0	163	0	0	0	0
5:50 PM	18	1	1	0	2	1	1	0	2	53	18	0	1	61	1	0	160	0	0	0	0
5:55 PM	14	1	0	0	4	1	1	0	6	59	22	0	0	56	4	0	168	0	0	0	0
Total Survey	417	38	29	0	107	58	32	0	29	1,260	638	2	6	1,324	49	0	3,987	0	0	2	2

### 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	60	3	5	0	16	6	4	0	4	170	74	1	0	147	10	0	499	0	0	1	0
4:15 PM	37	5	3	0	16	6	7	0	2	152	71	1	0	178	4	0	481	0	0	0	0
4:30 PM	75	5	8	0	14	13	5	0	1	137	71	0	1	167	4	0	501	0	0	0	0
4:45 PM	46	5	2	0	9	9	1	0	4	162	77	0	1	174	7	0	497	0	0	1	0
5:00 PM	68	5	5	0	14	8	6	0	1	162	92	0	1	143	9	0	514	0	0	0	1
5:15 PM	31	2	1	0	16	14	3	0	2	147	103	0	2	173	5	0	499	0	0	0	0
5:30 PM	54	8	4	0	14	0	2	0	6	155	88	0	0	169	5	0	505	0	0	0	1
5:45 PM	46	5	1	0	8	2	4	0	9	175	62	0	1	173	5	0	491	0	0	0	0
Total Survey	417	38	29	0	107	58	32	0	29	1,260	638	2	6	1,324	49	0	3,987	0	0	2	2

### Peak Hour Summary

4:25 PM to 5:25 PM

By Approach	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	259	390	649	0	116	49	165	0	965	894	1,859	0	681	688	1,369	0	2,021	0	0	1	1
%HV	1.5%				5.2%				3.2%				4.0%				3.4%				
PHF	0.74				0.85				0.88				0.94				0.97				

By Movement	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total				
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total					
Volume	223	18	18	259	55	43	18	116	7	615	343	965	4	653	24	681	2,021				
%HV	0.0%	11.1%	11.1%	1.5%	7.3%	4.7%	0.0%	5.2%	14.3%	3.9%	1.7%	3.2%	50.0%	3.5%	8.3%	4.0%	3.4%				
PHF	0.74	0.64	0.56	0.74	0.81	0.83	0.64	0.85	0.44	0.94	0.77	0.88	0.50	0.93	0.67	0.94	0.97				

### Rolling Hour Summary

4:00 PM to 6:00 PM

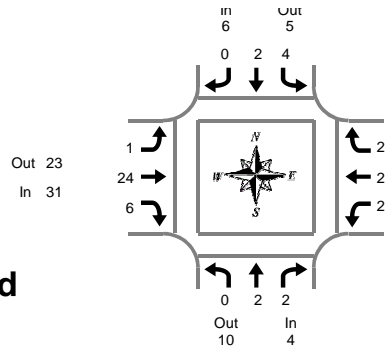
Interval Start Time	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	218	18	18	0	55	34	17	0	11	621	293	2	2	666	25	0	1,978	0	0	2	0
4:15 PM	226	20	18	0	53	36	19	0	8	613	311	1	3	662	24	0	1,993	0	0	1	1
4:30 PM	220	17	16	0	53	44	15	0	8	608	343	0	5	657	25	0	2,011	0	0	1	1
4:45 PM	199	20	12	0	53	31	12	0	13	626	360	0	4	659	26	0	2,015	0	0	1	2
5:00 PM	199	20	11	0	52	24	15	0	18	639	345	0	4	658	24	0	2,009	0	0	0	2



# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



**Peak Hour Summary**  
4:25 PM to 5:25 PM

## SW Avery St & SW Tualatin Sherwood Rd

Wednesday, February 06, 2019

4:00 PM to 6:00 PM

### Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
4:00 PM	0	0	0	0	0	0	0	1	1	0	1	1	2	0	2	0	2	5
4:05 PM	0	0	0	0	0	0	0	0	0	0	7	0	7	0	4	0	4	11
4:10 PM	1	0	0	1	1	0	0	1	1	2	0	3	0	4	0	4	9	
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	3	0	3	5
4:20 PM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	2
4:25 PM	0	1	0	1	1	0	0	0	0	0	2	1	3	0	1	0	1	5
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	1	3	0	1	0	1	4
4:35 PM	0	0	0	0	2	0	0	2	2	0	1	0	1	0	4	0	4	7
4:40 PM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	1	1	3
4:45 PM	0	0	1	1	0	1	0	1	1	0	3	0	3	1	1	0	2	7
4:50 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	5	0	5	7
4:55 PM	0	0	0	0	0	0	0	0	0	1	1	1	3	0	4	0	4	7
5:00 PM	0	1	0	1	0	0	0	0	0	0	1	1	2	1	1	1	3	6
5:05 PM	0	0	1	1	0	0	0	0	0	0	4	0	4	0	1	0	1	6
5:10 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3
5:15 PM	0	0	0	0	1	1	0	2	2	0	4	1	5	0	2	0	2	9
5:20 PM	0	0	0	0	1	0	0	1	1	0	1	0	1	0	2	0	2	4
5:25 PM	0	0	0	0	0	0	0	0	0	0	4	1	5	0	1	0	1	6
5:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	1	0	1	4
5:35 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	1	0	1	4
5:40 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	5	1	6	0	1	0	1	7
5:50 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1	2	1	4	5
5:55 PM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	1	2	3	6
Total Survey	1	2	2	5	5	2	1	8	2	58	10	70	3	44	5	52	135	

### Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	0	0	1	1	0	1	2	1	10	1	12	0	10	0	10	25
4:15 PM	0	1	0	1	0	0	0	0	0	5	2	7	0	4	0	4	12
4:30 PM	0	0	0	0	2	0	0	2	2	4	2	6	0	5	1	6	14
4:45 PM	0	0	1	1	0	1	0	1	1	6	1	8	1	10	0	11	21
5:00 PM	0	1	1	2	0	0	0	0	0	7	1	8	1	3	1	5	15
5:15 PM	0	0	0	0	2	1	0	3	3	9	2	11	0	5	0	5	19
5:30 PM	0	0	0	0	0	0	0	0	0	8	0	8	0	3	0	3	11
5:45 PM	0	0	0	0	0	0	0	0	0	9	1	10	1	4	3	8	18
Total Survey	1	2	2	5	5	2	1	8	2	58	10	70	3	44	5	52	135

### Heavy Vehicle Peak Hour Summary

4:25 PM to 5:25 PM

By Approach	Northbound SW Avery St			Southbound SW Avery St			Eastbound SW Tualatin Sherwood Rd			Westbound SW Tualatin Sherwood Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	4	10	14	6	5	11	31	23	54	27	30	57	68
PHF	0.50			0.50			0.70			0.56			0.81

By Movement	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	2	2	4	4	2	0	6	1	24	6	31	2	23	2	27	68
PHF	0.00	0.50	0.50	0.50	0.50	0.50	0.00	0.50	0.25	0.60	0.75	0.70	0.50	0.58	0.50	0.56	0.81

### Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW Avery St				Southbound SW Avery St				Eastbound SW Tualatin Sherwood Rd				Westbound SW Tualatin Sherwood Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	1	1	3	3	1	1	5	2	25	6	33	1	29	1	31	72
4:15 PM	0	2	2	4	2	1	0	3	1	22	6	29	2	22	2	26	62
4:30 PM	0	1	2	3	4	2	0	6	1	26	6	33	2	23	2	27	69
4:45 PM	0	1	2	3	2	2	0	4	1	30	4	35	2	21	1	24	66
5:00 PM	0	1	1	2	2	1	0	3	0	33	4	37	2	15	4	21	63

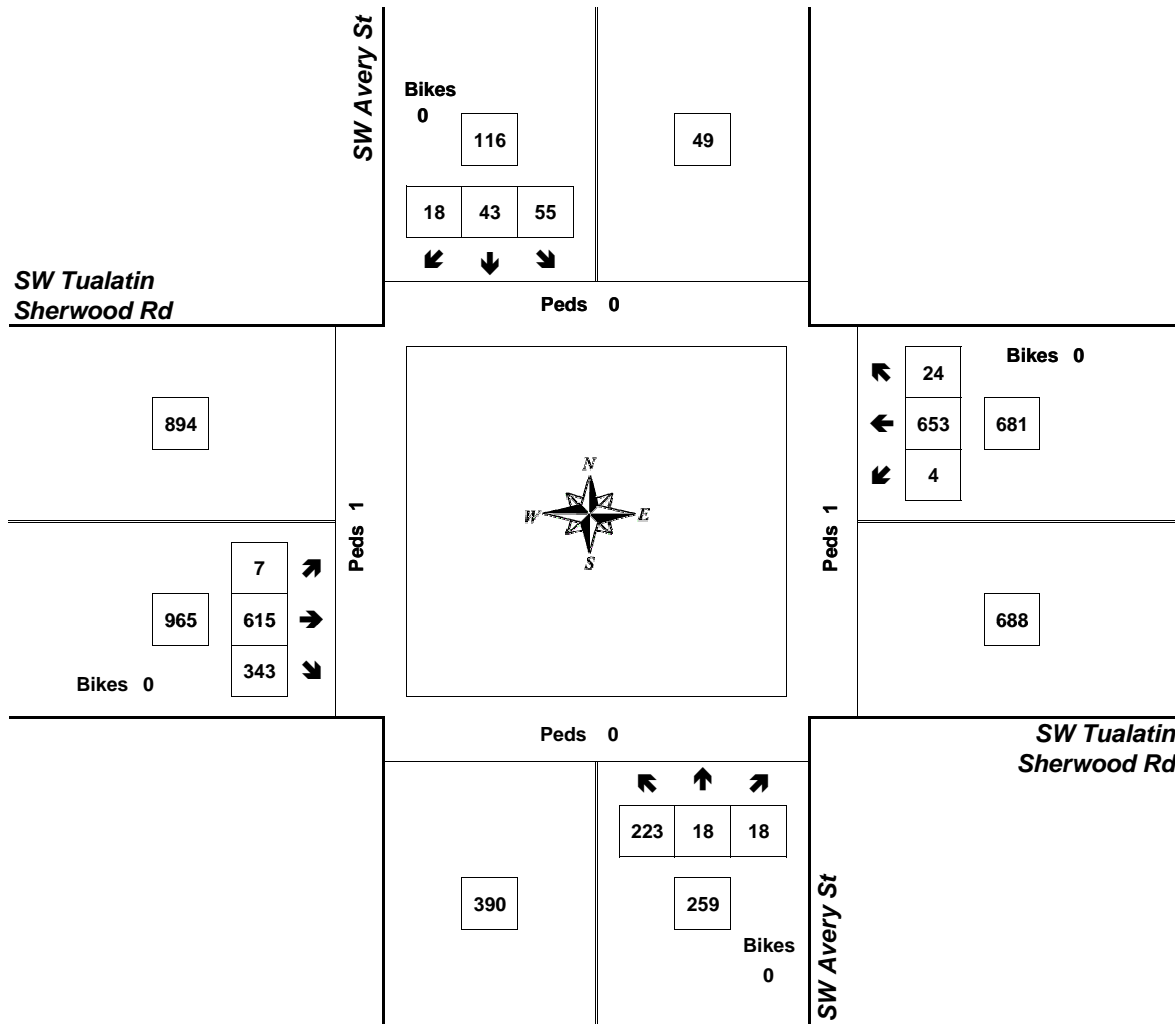
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW Avery St & SW Tualatin Sherwood Rd

4:25 PM to 5:25 PM  
Wednesday, February 06, 2019



Approach	PHF	HV%	Volume
EB	0.88	3.2%	965
WB	0.94	4.0%	681
NB	0.74	1.5%	259
SB	0.85	5.2%	116
<b>Intersection</b>	<b>0.97</b>	<b>3.4%</b>	<b>2,021</b>

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

# Total Vehicle Summary

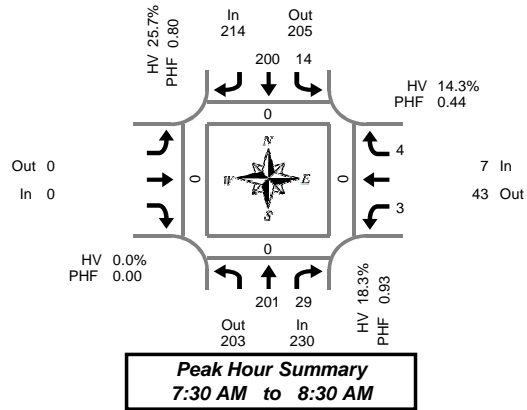


Clay Carney  
(503) 833-2740

## SW 124th Ave & SW Cimino St

Thursday, July 13, 2017

7:00 AM to 9:00 AM



### 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Interval Total	Pedestrians Crosswalk				
	T	R	Bikes	L	T	Bikes			Bikes	L		R		Bikes	North	South	East	West
7:00 AM	19	2	0	1	18	0			0	0	0	0	0	40	0	0	0	0
7:05 AM	11	2	0	0	18	0			0	0	0	0	0	31	0	0	0	0
7:10 AM	12	1	0	2	11	0			0	0	0	0	0	26	1	0	0	0
7:15 AM	14	3	0	0	8	0			0	0	1	0	0	26	0	0	0	0
7:20 AM	25	4	0	3	10	0			0	0	2	0	0	44	0	0	0	0
7:25 AM	14	2	1	0	6	0			0	0	0	0	0	22	0	0	0	0
7:30 AM	17	4	0	2	11	0			0	0	0	0	0	34	0	0	0	0
7:35 AM	13	3	0	1	17	0			0	0	0	0	0	34	0	0	0	0
7:40 AM	16	2	0	1	18	0			0	0	0	0	0	37	0	0	0	0
7:45 AM	17	1	0	2	28	0			0	0	0	0	0	48	0	0	0	0
7:50 AM	19	2	0	0	14	0			0	0	1	0	0	36	0	0	0	0
7:55 AM	19	3	0	1	10	0			0	0	1	0	0	34	0	0	0	0
8:00 AM	13	3	0	1	19	0			0	0	0	0	0	36	0	0	0	0
8:05 AM	14	4	1	4	19	0			0	1	0	0	0	42	0	0	0	0
8:10 AM	16	2	0	0	13	0			0	0	0	0	0	31	0	0	0	0
8:15 AM	17	1	0	1	18	0			0	1	1	0	0	39	0	0	0	0
8:20 AM	21	1	0	1	15	0			0	1	0	0	0	39	0	0	0	0
8:25 AM	19	3	0	0	18	0			0	0	1	0	0	41	0	0	0	0
8:30 AM	4	1	0	0	11	0			0	0	0	0	0	16	0	0	0	0
8:35 AM	12	2	0	0	9	0			0	2	1	0	0	26	0	0	0	0
8:40 AM	21	0	0	1	19	0			0	0	0	0	0	41	0	0	0	0
8:45 AM	8	0	0	1	21	0			0	0	0	0	0	30	0	0	0	0
8:50 AM	20	3	0	0	15	0			0	0	1	0	0	39	0	0	0	0
8:55 AM	11	2	0	3	15	0			0	0	0	0	0	31	0	0	0	0
Total Survey	372	51	2	25	361	0			0	5	9	0	0	823	1	0	0	0

### 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Interval Total	Pedestrians Crosswalk				
	T	R	Bikes	L	T	Bikes			Bikes	L		R		Bikes	North	South	East	West
7:00 AM	42	5	0	3	47	0			0	0	0	0	0	97	1	0	0	0
7:15 AM	53	9	1	3	24	0			0	0	3	0	0	92	0	0	0	0
7:30 AM	46	9	0	4	46	0			0	0	0	0	0	105	0	0	0	0
7:45 AM	55	6	0	3	52	0			0	0	2	0	0	118	0	0	0	0
8:00 AM	43	9	1	5	51	0			0	1	0	0	0	109	0	0	0	0
8:15 AM	57	5	0	2	51	0			0	2	2	0	0	119	0	0	0	0
8:30 AM	37	3	0	1	39	0			0	2	1	0	0	83	0	0	0	0
8:45 AM	39	5	0	4	51	0			0	0	1	0	0	100	0	0	0	0
Total Survey	372	51	2	25	361	0			0	5	9	0	0	823	1	0	0	0

### Peak Hour Summary

7:30 AM to 8:30 AM

By Approach	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Cimino St				Westbound SW Cimino St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	230	203	433	1	214	205	419	0	0	0	0	0	7	43	50	0	451	0	0	0	0
%HV	18.3%				25.7%				0.0%				14.3%				21.7%				
PHF	0.93				0.80				0.00				0.44				0.93				

By Movement	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Total				
	T	R	Total	L	T	Total			Total	L		R		Total			
Volume	201	29	230	14	200	214			0	3		4	7	451			
%HV	NA	19.9%	6.9%	18.3%	0.0%	27.5%	NA	25.7%	NA	NA	NA	0.0%	0.0%	NA	25.0%	14.3%	21.7%
PHF	0.88	0.73	0.93	0.58	0.79	0.80			0.00	0.38		0.50	0.44	0.93			

### Rolling Hour Summary

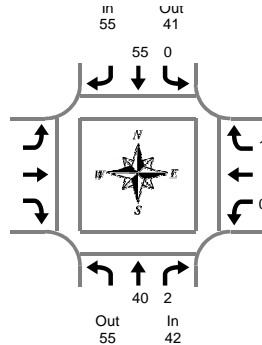
7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Interval Total	Pedestrians Crosswalk				
	T	R	Bikes	L	T	Bikes			Bikes	L		R		Bikes	North	South	East	West
7:00 AM	196	29	1	13	169	0			0	0	5	0	0	412	1	0	0	0
7:15 AM	197	33	2	15	173	0			0	1	5	0	0	424	0	0	0	0
7:30 AM	201	29	1	14	200	0			0	3	4	0	0	451	0	0	0	0
7:45 AM	192	23	1	11	193	0			0	5	5	0	0	429	0	0	0	0
8:00 AM	176	22	1	12	192	0			0	5	4	0	0	411	0	0	0	0

# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



Out 0  
In 0

## SW 124th Ave & SW Cimino St

Thursday, July 13, 2017

7:00 AM to 9:00 AM

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

### Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Interval Total
	T	R	Total	L	T	Total			Total	L	R	Total	
7:00 AM	2	0	2	0	2	2			0	0	0	0	4
7:05 AM	2	0	2	0	5	5			0	0	0	0	7
7:10 AM	2	0	2	0	3	3			0	0	0	0	5
7:15 AM	4	0	4	0	3	3			0	0	0	0	7
7:20 AM	3	0	3	0	1	1			0	0	0	0	4
7:25 AM	1	0	1	0	2	2			0	0	0	0	3
7:30 AM	2	0	2	0	4	4			0	0	0	0	6
7:35 AM	4	0	4	0	3	3			0	0	0	0	7
7:40 AM	3	0	3	0	5	5			0	0	0	0	8
7:45 AM	3	0	3	0	8	8			0	0	0	0	11
7:50 AM	2	1	3	0	3	3			0	0	0	0	6
7:55 AM	2	0	2	0	3	3			0	0	1	1	6
8:00 AM	2	0	2	0	9	9			0	0	0	0	11
8:05 AM	4	0	4	0	5	5			0	0	0	0	9
8:10 AM	8	0	8	0	6	6			0	0	0	0	14
8:15 AM	4	0	4	0	2	2			0	0	0	0	6
8:20 AM	4	0	4	0	3	3			0	0	0	0	7
8:25 AM	2	1	3	0	4	4			0	0	0	0	7
8:30 AM	1	0	1	0	1	1			0	0	0	0	2
8:35 AM	1	0	1	0	2	2			0	0	0	0	3
8:40 AM	2	0	2	0	6	6			0	0	0	0	8
8:45 AM	1	0	1	0	4	4			0	0	0	0	5
8:50 AM	0	0	0	0	1	1			0	0	0	0	1
8:55 AM	4	0	4	0	2	2			0	0	0	0	6
Total Survey	63	2	65	0	87	87			0	0	1	1	153

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

Interval Start Time	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Interval Total
	T	R	Total	L	T	Total			Total	L	R	Total	
7:00 AM	6	0	6	0	10	10			0	0	0	0	16
7:15 AM	8	0	8	0	6	6			0	0	0	0	14
7:30 AM	9	0	9	0	12	12			0	0	0	0	21
7:45 AM	7	1	8	0	14	14			0	0	1	1	23
8:00 AM	14	0	14	0	20	20			0	0	0	0	34
8:15 AM	10	1	11	0	9	9			0	0	0	0	20
8:30 AM	4	0	4	0	9	9			0	0	0	0	13
8:45 AM	5	0	5	0	7	7			0	0	0	0	12
Total Survey	63	2	65	0	87	87			0	0	1	1	153

### Heavy Vehicle Peak Hour Summary 7:30 AM to 8:30 AM

By Approach	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	42	55	97	55	41	96	0	0	0	1	2	3	98
PHF	0.66			0.69			0.00			0.25			0.72

By Movement	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Total
	T	R	Total	L	T	Total			Total	L	R	Total	
Volume	40	2	42	0	55	55			0	0	1	1	98
PHF	0.63	0.50	0.66	0.00	0.69	0.69			0.00	0.00	0.25	0.25	0.72

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

Interval Start Time	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Interval Total
	T	R	Total	L	T	Total			Total	L	R	Total	
7:00 AM	30	1	31	0	42	42			0	0	1	1	74
7:15 AM	38	1	39	0	52	52			0	0	1	1	92
7:30 AM	40	2	42	0	55	55			0	0	1	1	98
7:45 AM	35	2	37	0	52	52			0	0	1	1	90
8:00 AM	33	1	34	0	45	45			0	0	0	0	79

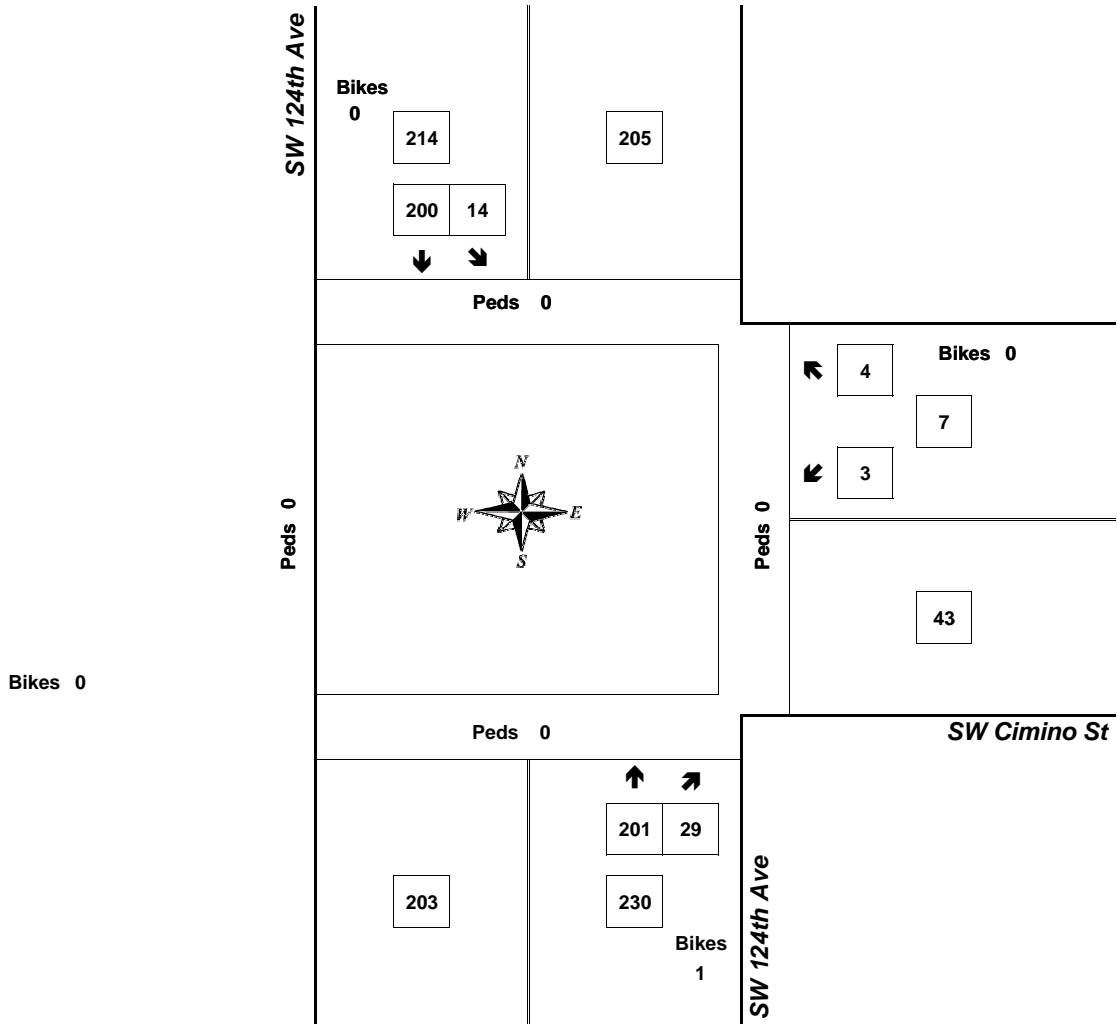
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW 124th Ave & SW Cimino St

7:30 AM to 8:30 AM  
Thursday, July 13, 2017



Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.44	14.3%	7
NB	0.93	18.3%	230
SB	0.80	25.7%	214
<b>Intersection</b>	<b>0.93</b>	<b>21.7%</b>	<b>451</b>

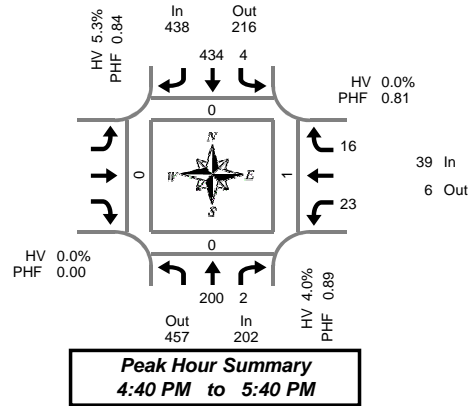
Count Period: 7:00 AM to 9:00 AM



# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Cimino St

Wednesday, July 12, 2017

4:00 PM to 6:00 PM

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

Interval Start Time	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes			Bikes	L	R	Bikes		North	South	East	West
4:00 PM	14	1	0	0	32	0			0	1	1	0	49	0	0	0	0
4:05 PM	22	0	0	0	26	0			0	7	3	0	58	0	0	0	0
4:10 PM	18	0	0	0	31	0			0	3	1	0	53	0	0	1	0
4:15 PM	16	2	0	0	23	0			0	1	3	0	45	0	0	1	0
4:20 PM	13	0	0	0	17	0			0	0	0	0	30	0	0	0	0
4:25 PM	9	0	0	0	28	0			0	3	1	0	41	0	0	0	0
4:30 PM	15	0	0	0	27	0			0	5	1	0	48	0	0	0	0
4:35 PM	12	0	0	0	28	0			0	2	2	0	44	0	0	0	0
4:40 PM	20	0	0	1	32	0			0	2	1	0	56	0	0	0	0
4:45 PM	21	0	0	0	35	0			0	1	2	0	59	0	0	0	0
4:50 PM	11	0	0	0	29	0			0	2	0	0	42	0	0	0	0
4:55 PM	14	0	0	1	34	1			0	2	2	0	53	0	0	0	0
5:00 PM	18	1	0	0	40	0			0	2	1	0	62	0	0	0	0
5:05 PM	14	1	0	0	48	1			0	1	3	0	67	0	0	0	0
5:10 PM	14	0	0	2	40	0			0	5	0	0	61	0	0	0	0
5:15 PM	20	0	0	0	31	0			0	1	2	0	54	0	0	0	0
5:20 PM	20	0	0	0	45	0			0	3	1	0	69	0	0	0	0
5:25 PM	17	0	0	0	33	0			0	0	1	0	51	0	0	0	0
5:30 PM	17	0	0	0	35	2			0	3	1	0	56	0	0	0	0
5:35 PM	14	0	0	0	32	0			0	1	2	0	49	0	0	1	0
5:40 PM	13	0	0	0	26	2			0	0	1	0	40	0	0	0	0
5:45 PM	18	0	0	0	37	0			0	2	1	0	58	0	0	0	0
5:50 PM	10	0	0	1	19	0			0	2	1	0	33	0	0	0	0
5:55 PM	16	0	0	0	22	0			0	0	0	0	38	0	0	0	0
Total Survey	376	5	0	5	750	6			0	49	31	0	1,216	0	0	3	0

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

Interval Start Time	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes			Bikes	L	R	Bikes		North	South	East	West
4:00 PM	54	1	0	0	89	0			0	11	5	0	160	0	0	1	0
4:15 PM	38	2	0	0	68	0			0	4	4	0	116	0	0	1	0
4:30 PM	47	0	0	1	87	0			0	9	4	0	148	0	0	0	0
4:45 PM	46	0	0	1	98	1			0	5	4	0	154	0	0	0	0
5:00 PM	46	2	0	2	128	1			0	8	4	0	190	0	0	0	0
5:15 PM	57	0	0	0	109	0			0	4	4	0	174	0	0	0	0
5:30 PM	44	0	0	0	93	4			0	4	4	0	145	0	0	1	0
5:45 PM	44	0	0	1	78	0			0	4	2	0	129	0	0	0	0
Total Survey	376	5	0	5	750	6			0	49	31	0	1,216	0	0	3	0

### Peak Hour Summary 4:40 PM to 5:40 PM

By Approach	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Total	Pedestrians Crosswalk			
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total		North	South	East	West
Volume	202	457	659	0	438	216	654	4	0	0	0	0	39	6	45	0	679
%HV	4.0%			5.3%			0.0%			0.0%			4.6%				
PHF	0.89			0.84			0.00			0.81			0.89				

By Movement	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Total
	T	R	Total	L	T	Total			Total	L	R	Total	
Volume	200	2	202	4	434	438			0	23	16	39	679
%HV	NA	4.0%	0.0%	4.0%	0.0%	5.3%	NA	5.3%	NA	NA	NA	0.0%	4.6%
PHF	0.88	0.25	0.89	0.50	0.85	0.84			0.00	0.64	0.67	0.81	0.89

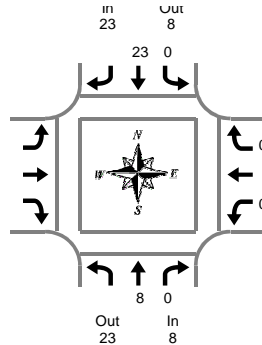
### Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes			Bikes	L	R	Bikes		North	South	East	West
4:00 PM	185	3	0	2	342	1			0	29	17	0	578	0	0	2	0
4:15 PM	177	4	0	4	381	2			0	26	16	0	608	0	0	1	0
4:30 PM	196	2	0	4	422	2			0	26	16	0	666	0	0	0	0
4:45 PM	193	2	0	3	428	6			0	21	16	0	663	0	0	1	0
5:00 PM	191	2	0	3	408	5			0	20	14	0	638	0	0	1	0

# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Cimino St

Wednesday, July 12, 2017

4:00 PM to 6:00 PM

**Peak Hour Summary**  
4:40 PM to 5:40 PM

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

Interval Start Time	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Interval Total
	T	R	Total	L	T	Total			Total	L	R	Total	
4:00 PM	2	0	2	0	2	2			0	0	0	0	4
4:05 PM	0	0	0	0	2	2			0	0	0	0	2
4:10 PM	1	0	1	0	0	0			0	0	0	0	1
4:15 PM	1	0	1	0	2	2			0	0	0	0	3
4:20 PM	0	0	0	0	5	5			0	0	0	0	5
4:25 PM	0	0	0	0	2	2			0	0	0	0	2
4:30 PM	1	0	1	0	1	1			0	0	0	0	2
4:35 PM	1	0	1	0	1	1			0	0	0	0	2
4:40 PM	1	0	1	0	0	0			0	0	0	0	1
4:45 PM	0	0	0	0	2	2			0	0	0	0	2
4:50 PM	1	0	1	0	2	2			0	0	0	0	3
4:55 PM	0	0	0	0	4	4			0	0	0	0	4
5:00 PM	1	0	1	0	1	1			0	0	0	0	2
5:05 PM	0	0	0	0	1	1			0	0	0	0	1
5:10 PM	0	0	0	0	3	3			0	0	0	0	3
5:15 PM	0	0	0	0	2	2			0	0	0	0	2
5:20 PM	1	0	1	0	3	3			0	0	0	0	4
5:25 PM	0	0	0	0	3	3			0	0	0	0	3
5:30 PM	3	0	3	0	1	1			0	0	0	0	4
5:35 PM	1	0	1	0	1	1			0	0	0	0	2
5:40 PM	0	0	0	0	1	1			0	0	0	0	1
5:45 PM	1	0	1	0	2	2			0	0	0	0	3
5:50 PM	0	0	0	0	0	0			0	0	0	0	0
5:55 PM	2	0	2	0	0	0			0	0	0	0	2
Total Survey	17	0	17	0	41	41			0	0	0	0	58

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

Interval Start Time	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Interval Total
	T	R	Total	L	T	Total			Total	L	R	Total	
4:00 PM	3	0	3	0	4	4			0	0	0	0	7
4:15 PM	1	0	1	0	9	9			0	0	0	0	10
4:30 PM	3	0	3	0	2	2			0	0	0	0	5
4:45 PM	1	0	1	0	8	8			0	0	0	0	9
5:00 PM	1	0	1	0	5	5			0	0	0	0	6
5:15 PM	1	0	1	0	8	8			0	0	0	0	9
5:30 PM	4	0	4	0	3	3			0	0	0	0	7
5:45 PM	3	0	3	0	2	2			0	0	0	0	5
Total Survey	17	0	17	0	41	41			0	0	0	0	58

### Heavy Vehicle Peak Hour Summary 4:40 PM to 5:40 PM

By Approach	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	8	23	31	23	8	31	0	0	0	0	0	0	31
PHF	0.50			0.72			0.00			0.00			0.70

By Movement	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Total
	T	R	Total	L	T	Total			Total	L	R	Total	
Volume	8	0	8	0	23	23			0	0	0	0	31
PHF	0.50	0.00	0.50	0.00	0.72	0.72			0.00	0.00	0.00	0.00	0.70

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

Interval Start Time	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Cimino St			Westbound SW Cimino St			Interval Total
	T	R	Total	L	T	Total			Total	L	R	Total	
4:00 PM	8	0	8	0	23	23			0	0	0	0	31
4:15 PM	6	0	6	0	24	24			0	0	0	0	30
4:30 PM	6	0	6	0	23	23			0	0	0	0	29
4:45 PM	7	0	7	0	24	24			0	0	0	0	31
5:00 PM	9	0	9	0	18	18			0	0	0	0	27

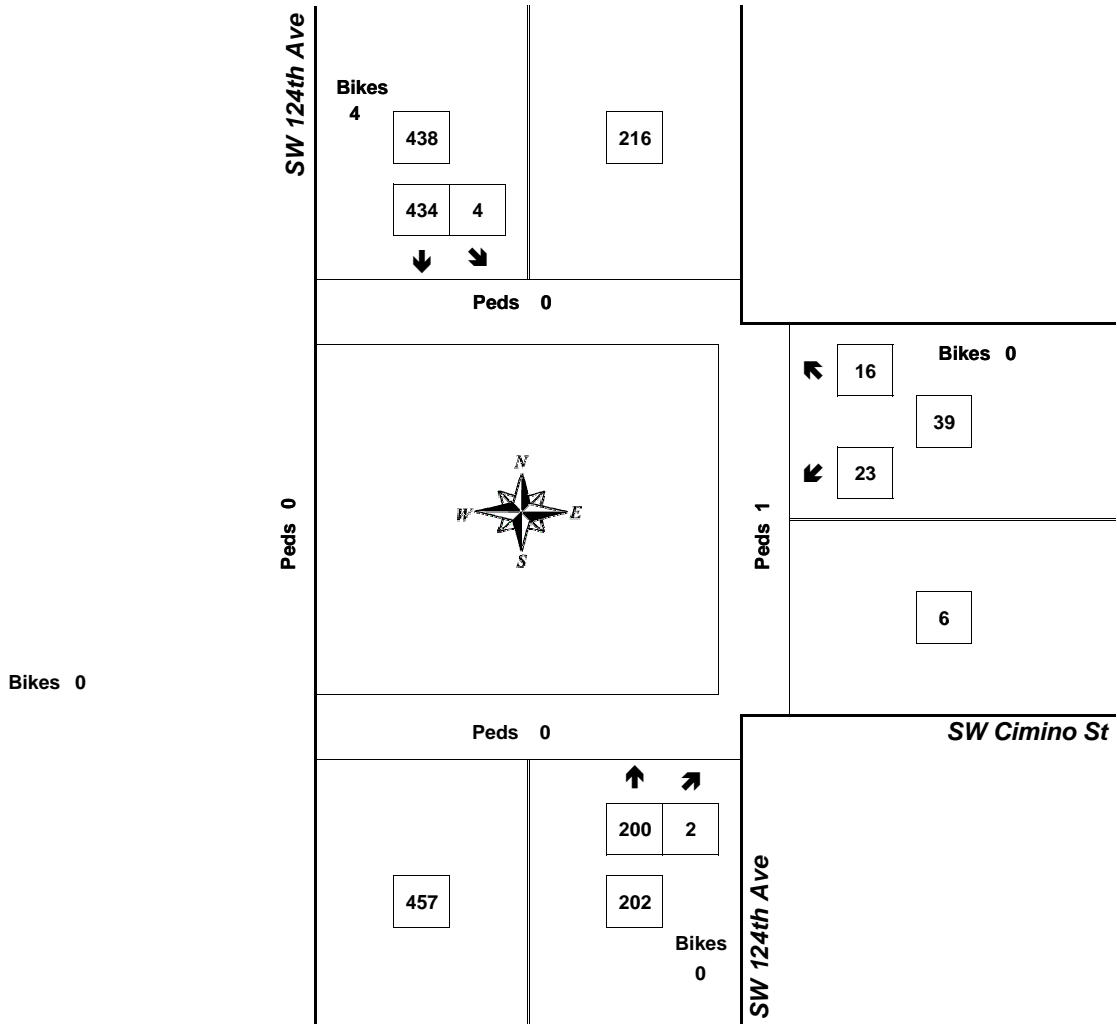
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW 124th Ave & SW Cimino St

4:40 PM to 5:40 PM  
Wednesday, July 12, 2017

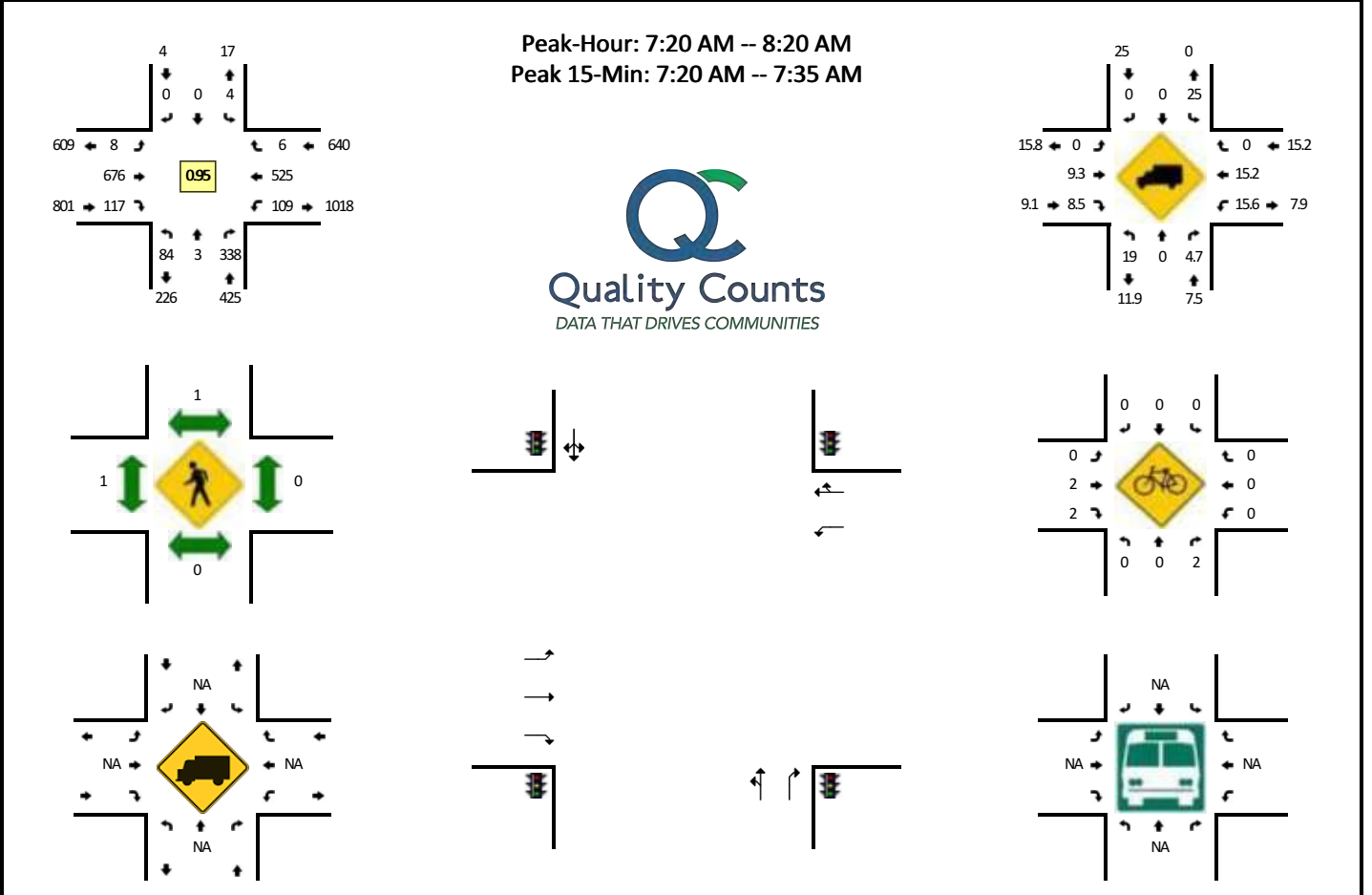


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.81	0.0%	39
NB	0.89	4.0%	202
SB	0.84	5.3%	438
<b>Intersection</b>	<b>0.89</b>	<b>4.6%</b>	<b>679</b>

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

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

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

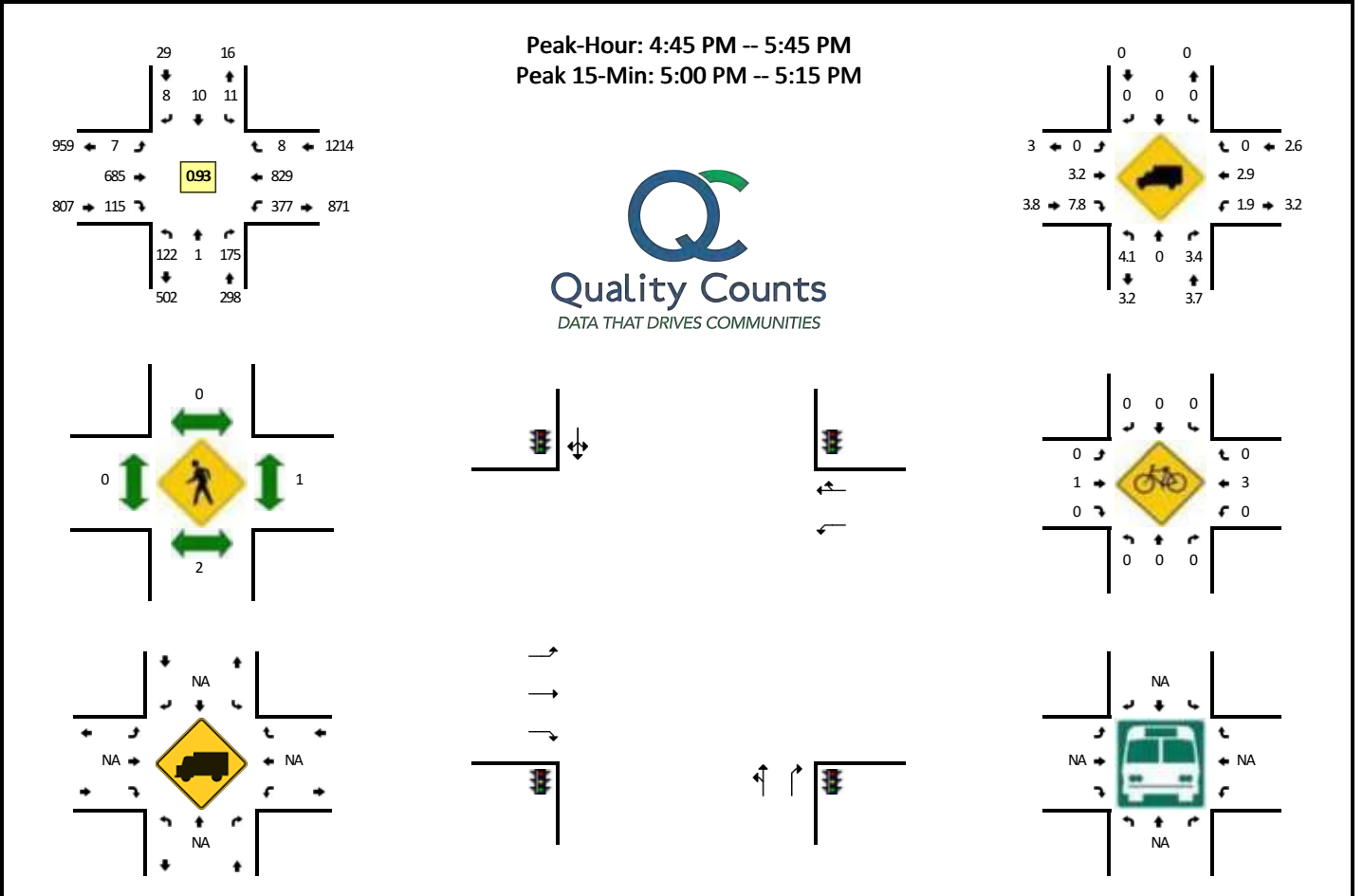


5-Min Count Period Beginning At	Oregon St (Northbound)				Oregon St (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	0	35	0	0	0	0	0	0	73	9	0	9	37	0	0	167	
7:05 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:

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

**QC JOB #:** 14898002  
**DATE:** Wed, Feb 13 2019



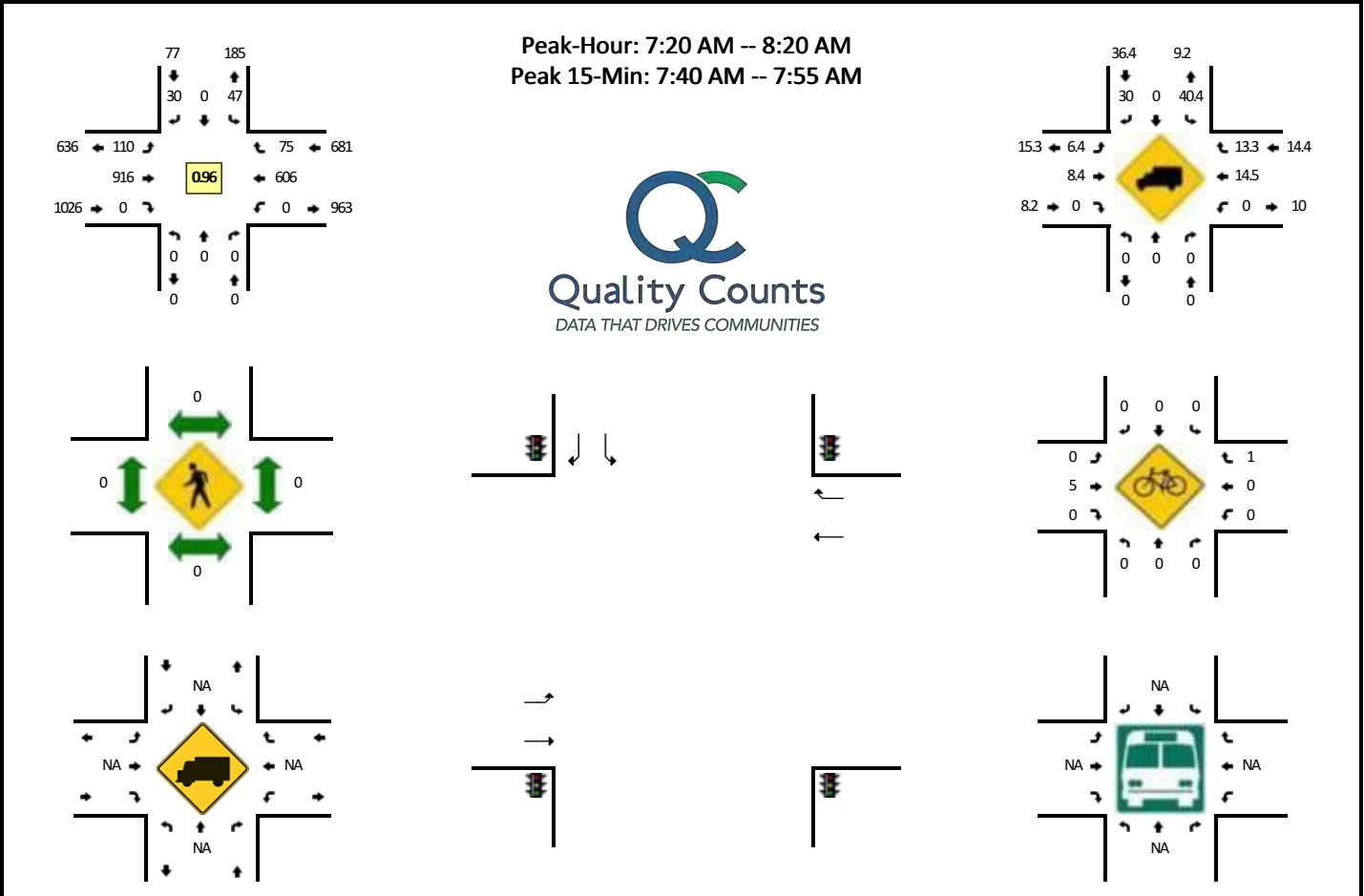
5-Min Count Period Beginning At	Oregon St (Northbound)				Oregon St (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	5	0	11	0	0	0	1	0	0	0	62	11	0	25	70	0	0	185	
4:05 PM	12	0	15	0	0	1	0	0	0	0	58	11	0	20	55	0	0	172	
4:10 PM	12	0	22	0	3	1	0	0	0	0	49	8	0	29	65	0	0	189	
4:15 PM	6	0	7	0	2	0	0	0	0	1	64	7	0	24	63	0	0	174	
4:20 PM	9	0	14	0	1	0	0	0	0	0	42	13	0	29	68	0	0	176	
4:25 PM	6	1	9	0	0	1	2	0	0	0	43	11	0	26	62	2	0	163	
4:30 PM	6	0	7	0	1	0	0	0	0	0	57	9	0	33	78	0	0	191	
4:35 PM	11	0	12	0	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	0	1	46	9	0	36	77	0	0	191	
4:45 PM	12	0	20	0	1	0	0	0	0	0	46	11	0	25	64	1	0	180	
4:50 PM	13	0	8	0	1	0	0	0	0	0	54	12	0	31	70	0	0	189	
4:55 PM	13	0	14	0	1	1	0	0	0	0	58	7	0	29	61	0	0	184	2169
5:00 PM	5	0	12	0	4	2	0	0	0	0	64	12	0	28	67	0	0	194	2178
5:05 PM	10	0	23	0	0	1	1	0	0	0	74	17	0	27	62	2	0	217	2223
5:10 PM	10	0	22	0	3	4	2	0	0	1	68	9	0	28	74	1	0	222	2256
5:15 PM	10	0	19	0	0	0	1	0	0	1	58	7	0	32	59	0	0	187	2269
5:20 PM	8	0	11	0	0	0	1	0	0	0	52	9	0	37	79	1	0	198	2291
5:25 PM	9	0	8	0	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	0	1	50	12	0	35	66	3	0	197	2318
5:35 PM	16	0	11	0	0	0	1	0	0	1	54	7	0	34	69	0	0	193	2336
5:40 PM	6	0	12	0	0	0	1	0	0	2	57	3	0	40	82	0	0	203	2348
5:45 PM	5	0	13	0	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	0	45	4	0	27	64	1	0	166	2314
5:55 PM	7	0	14	0	1	0	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	0	0	40	20	0	4	8	0	0	84		
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Bicycles	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1		
Railroad																			
Stopped Buses																			

Comments:



**LOCATION:** Cipole Rd -- Tualatin-Sherwood Rd  
**CITY/STATE:** Washington, OR

**QC JOB #:** 14898005  
**DATE:** Wed, Feb 13 2019

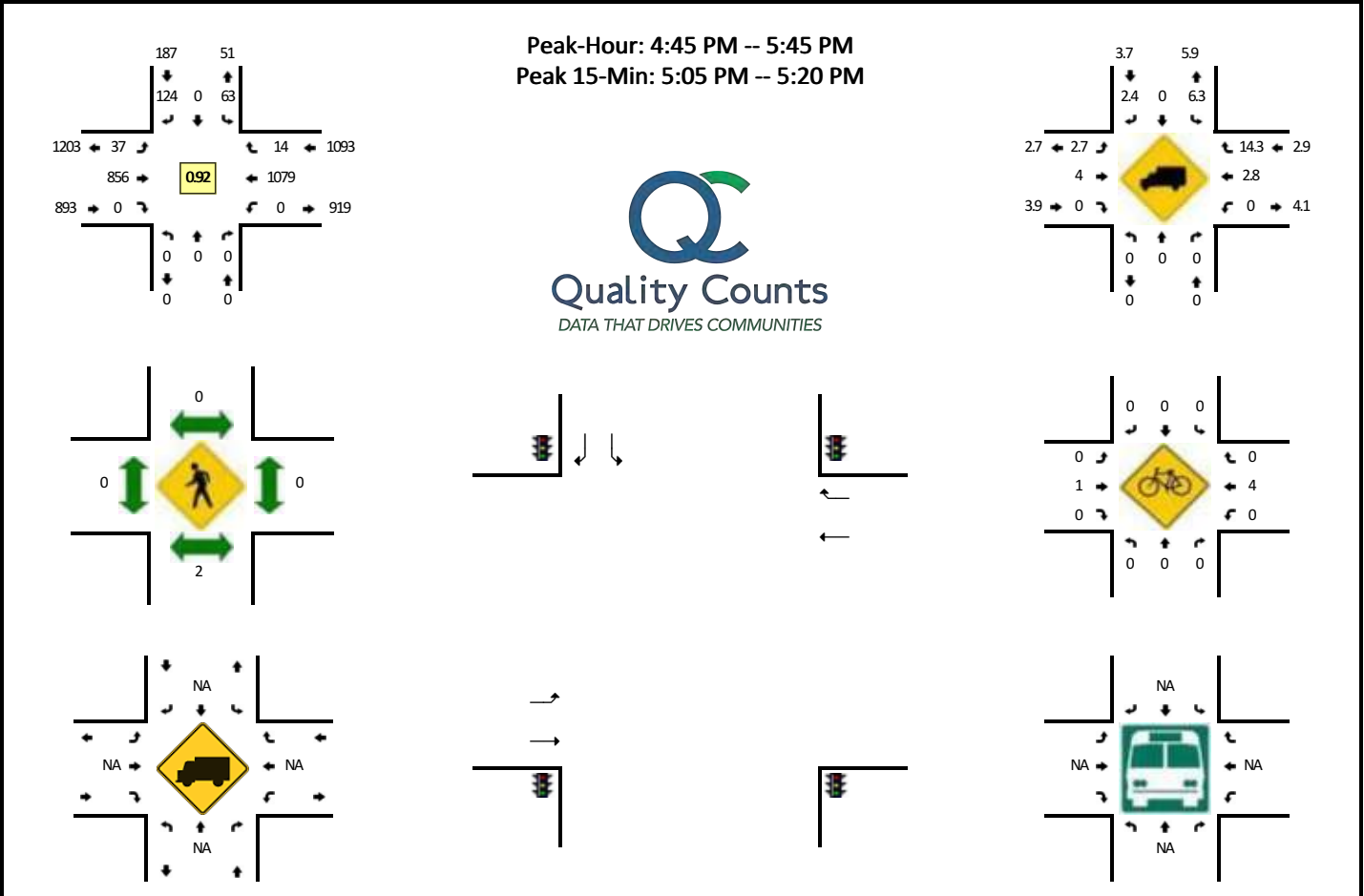


5-Min Count Period Beginning At	Cipole Rd (Northbound)				Cipole Rd (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	3	0	2	0	8	91	0	0	0	39	13	0	156	
7:05 AM	0	0	0	0	7	0	4	0	8	73	0	0	0	45	4	0	141	
7:10 AM	0	0	0	0	3	0	1	0	2	85	0	0	0	44	10	0	145	
7:15 AM	0	0	0	0	3	0	3	0	9	83	0	0	0	43	9	0	150	
7:20 AM	0	0	0	0	6	0	5	0	8	86	0	0	0	47	5	0	157	
7:25 AM	0	0	0	0	5	0	0	0	5	75	0	0	0	59	5	0	149	
7:30 AM	0	0	0	0	4	0	2	0	10	79	0	0	0	45	6	0	146	
7:35 AM	0	0	0	0	7	0	1	0	10	67	0	0	0	36	10	0	131	
7:40 AM	0	0	0	0	2	0	2	0	11	82	0	0	0	50	11	0	158	
7:45 AM	0	0	0	0	4	0	4	0	10	68	0	0	0	59	4	0	149	
7:50 AM	0	0	0	0	4	0	2	0	7	79	0	0	0	56	9	0	157	
7:55 AM	0	0	0	0	5	0	3	0	11	65	0	0	0	53	5	0	142	1781
8:00 AM	0	0	0	0	2	0	1	0	12	84	0	0	0	59	7	0	165	1790
8:05 AM	0	0	0	0	3	0	5	0	7	78	0	0	0	41	3	0	137	1786
8:10 AM	0	0	0	0	1	0	3	0	8	79	0	0	0	49	5	0	145	1786
8:15 AM	0	0	0	0	4	0	2	0	11	74	0	0	0	52	5	0	148	1784
8:20 AM	0	0	0	0	1	0	3	0	7	88	0	0	0	43	7	0	149	1776
8:25 AM	0	0	0	0	1	0	9	0	6	73	0	0	0	49	1	0	139	1766
8:30 AM	0	0	0	0	3	0	4	0	8	69	0	0	0	47	9	0	140	1760
8:35 AM	0	0	0	0	3	0	1	0	4	72	0	0	0	62	3	0	145	1774
8:40 AM	0	0	0	0	4	0	3	0	4	71	0	0	0	54	8	0	144	1760
8:45 AM	0	0	0	0	4	0	5	0	6	84	0	0	0	45	11	0	155	1766
8:50 AM	0	0	0	0	3	0	1	0	4	77	0	0	0	56	0	0	141	1750
8:55 AM	0	0	0	0	3	0	2	0	4	63	0	0	0	43	2	0	117	1725
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	0	0	0	0	40	0	32	0	112	916	0	0	0	660	96	0	1856	
Heavy Trucks	0	0	0	0	16	0	8	0	12	60	0	0	0	44	12	0	152	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

*Comments:*

**LOCATION:** Cipole Rd -- Tualatin-Sherwood Rd  
**CITY/STATE:** Washington, OR

**QC JOB #:** 14898006  
**DATE:** Wed, Feb 13 2019

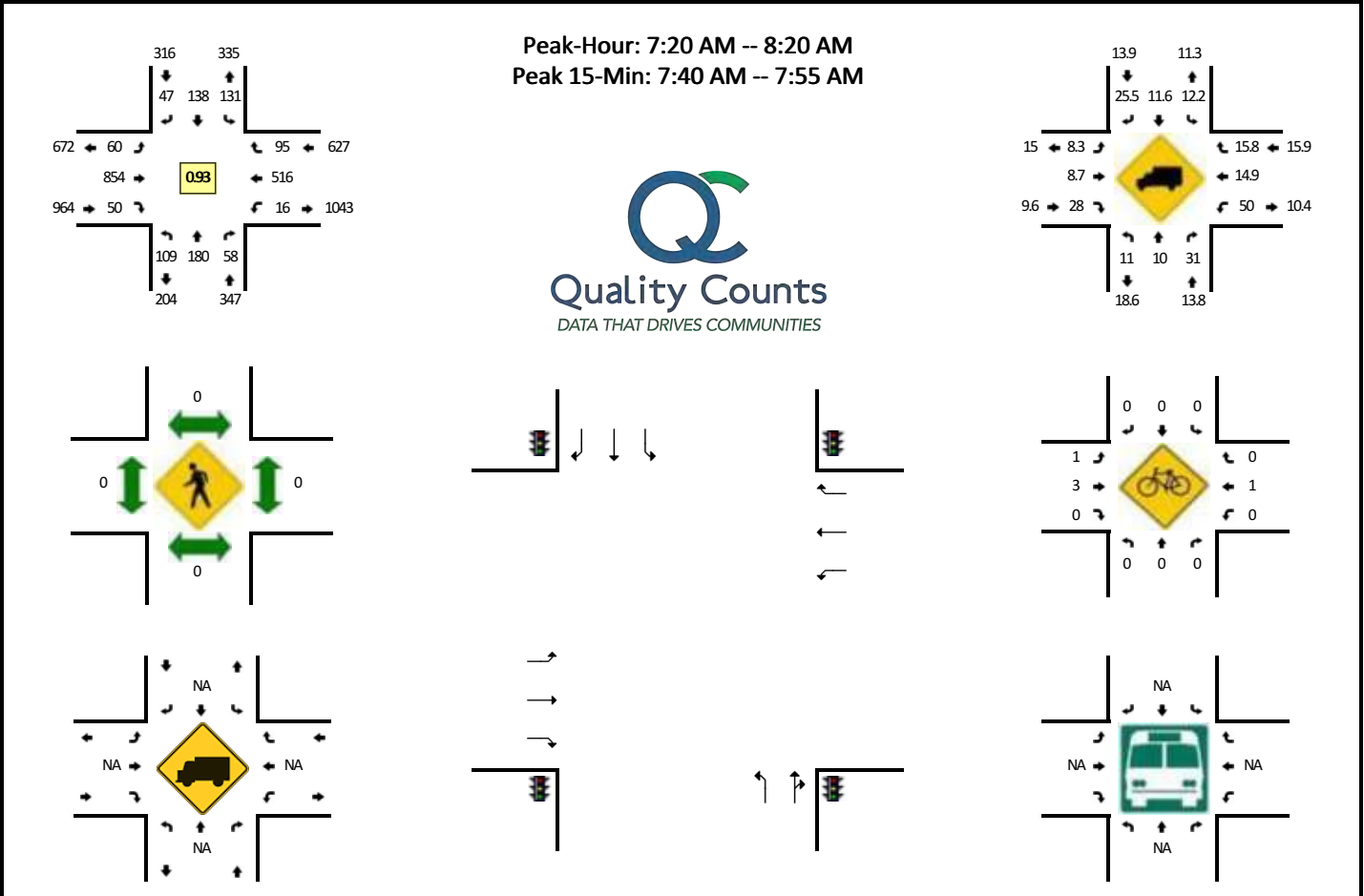


5-Min Count Period Beginning At	Cipole Rd (Northbound)				Cipole Rd (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	22	0	14	0	4	66	0	0	0	75	3	0	184	
4:05 PM	0	0	0	0	18	0	12	0	5	62	0	0	0	73	2	0	172	
4:10 PM	0	0	0	0	10	0	16	0	2	78	0	0	0	71	7	0	184	
4:15 PM	0	0	0	0	11	0	14	0	6	72	0	0	0	77	2	0	182	
4:20 PM	0	0	0	0	9	0	6	0	3	50	0	0	0	81	4	0	153	
4:25 PM	0	0	0	0	5	0	8	0	3	68	0	0	0	92	2	0	178	
4:30 PM	0	0	0	0	6	0	12	0	1	62	0	0	0	90	1	0	172	
4:35 PM	0	0	0	0	3	0	8	0	2	67	0	0	0	86	3	0	169	
4:40 PM	0	0	0	0	7	0	12	0	4	58	0	0	0	87	4	0	172	
4:45 PM	0	0	0	0	10	0	9	0	3	64	0	0	0	85	1	0	172	
4:50 PM	0	0	0	0	5	0	7	0	1	70	0	0	0	85	4	0	172	
4:55 PM	0	0	0	0	6	0	11	0	5	71	0	0	0	89	1	0	183	2093
5:00 PM	0	0	0	0	8	0	12	0	2	65	0	0	0	77	0	0	164	2073
5:05 PM	0	0	0	0	9	0	15	0	8	81	0	0	0	82	1	0	196	2097
5:10 PM	0	0	0	0	3	0	11	0	7	92	0	0	0	86	2	0	201	2114
5:15 PM	0	0	0	0	7	0	11	0	4	86	0	0	0	87	0	0	195	2127
5:20 PM	0	0	0	0	2	0	12	0	3	63	0	0	0	94	1	0	175	2149
5:25 PM	0	0	0	0	3	0	8	0	1	69	0	0	0	95	1	0	177	2148
5:30 PM	0	0	0	0	3	0	11	0	1	53	0	0	0	102	0	0	170	2146
5:35 PM	0	0	0	0	4	0	8	0	1	78	0	0	0	100	1	0	192	2169
5:40 PM	0	0	0	0	3	0	9	0	1	64	0	0	0	97	2	0	176	2173
5:45 PM	0	0	0	0	1	0	8	0	0	63	0	0	0	90	3	0	165	2166
5:50 PM	0	0	0	0	5	0	7	0	3	58	0	0	0	89	1	0	163	2157
5:55 PM	0	0	0	0	1	0	4	0	1	67	0	0	0	91	0	0	164	2138
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	0	0	0	0	76	0	148	0	76	1036	0	0	0	1020	12	0	2368	
Heavy Trucks	0	0	0	0	8	0	0	0	4	52	0	0	0	24	8	0	96	
Pedestrians		8				0				0				0			8	
Bicycles	0	0	0		0	0	0		0	1	0		0	1	0		2	
Railroad																		
Stopped Buses																		

Comments:

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

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

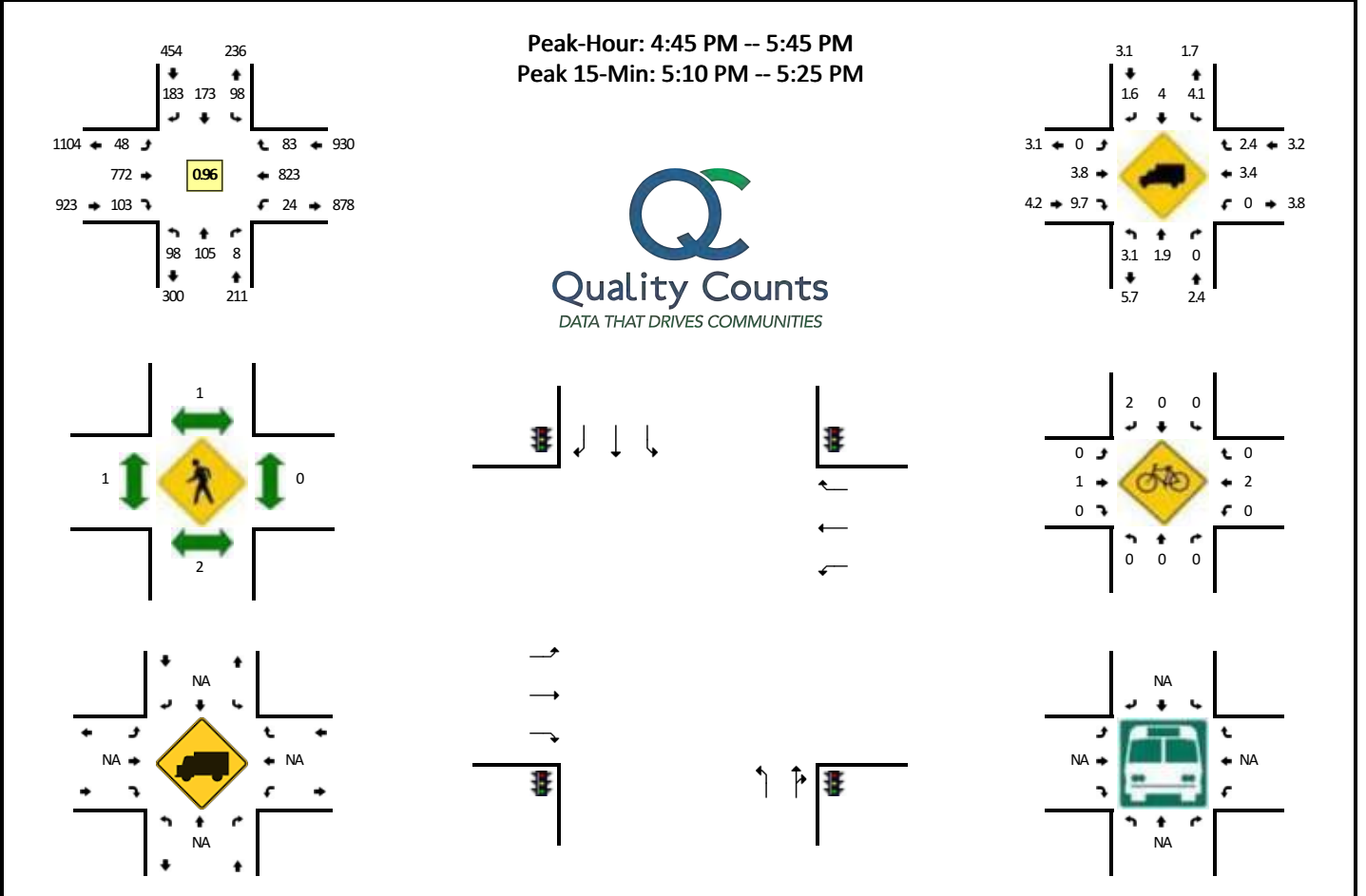


5-Min Count Period Beginning At	124th Ave (Northbound)				124th Ave (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	8	15	8	0	10	8	3	0	6	81	6	0	0	42	5	0	192	
7:05 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	0			0	0			0	
Bicycles	0	0			0	0			0	0			0	0			0	
Railroad																		
Stopped Buses																		

Comments:

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

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

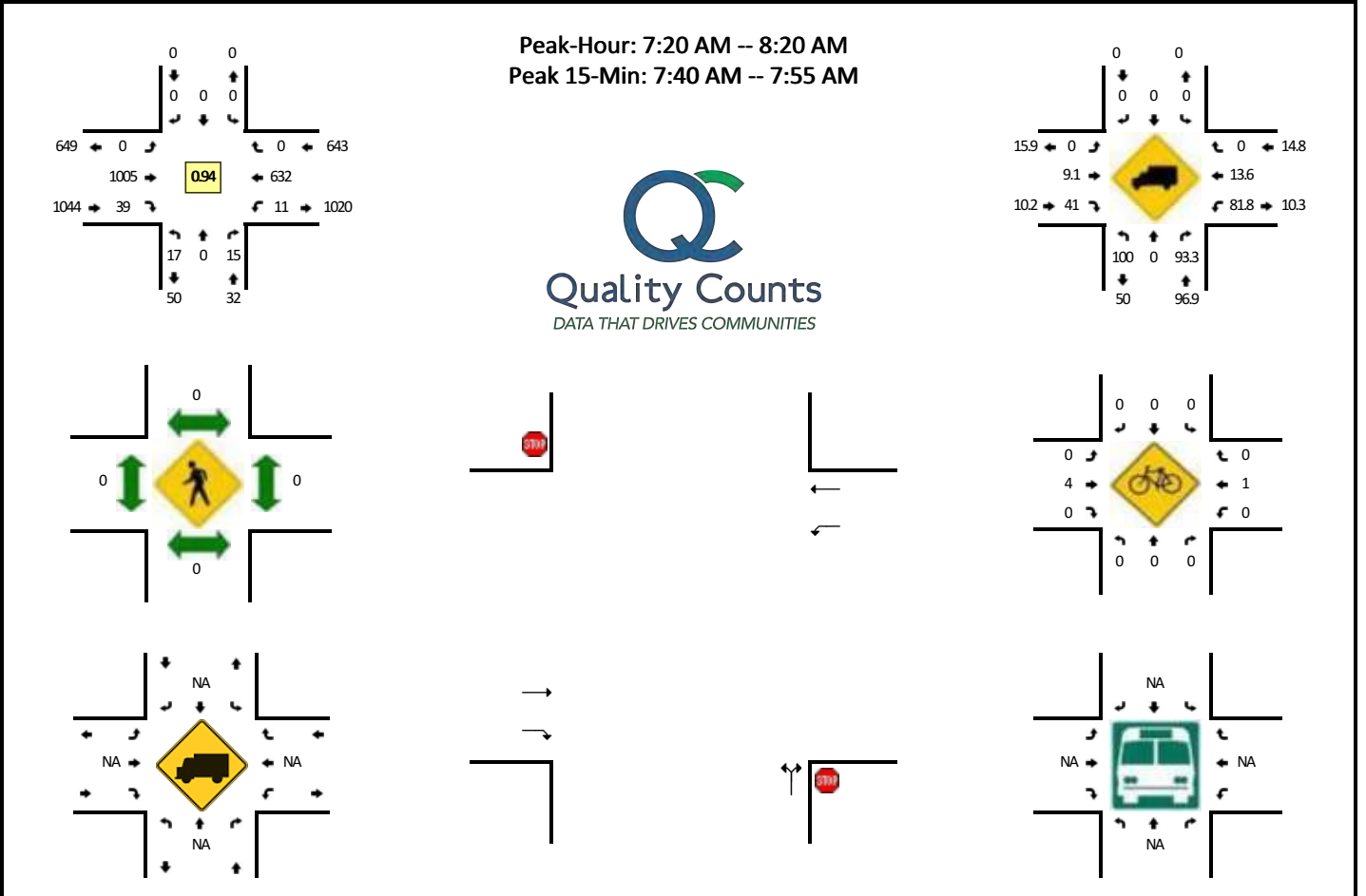


5-Min Count Period Beginning At	124th Ave (Northbound)				124th Ave (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	7	7	1	0	5	12	11	0	4	66	9	0	3	62	3	0	190	
4:05 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	0	4	4	0	0	40	16	0	0	48	0	0	116	
Pedestrians		8				0				0				0			8	
Bicycles		0				0	1			1	0			0	0		2	
Railroad																		
Stopped Buses																		

Comments:

**LOCATION:** 120th Ave -- Tualatin-Sherwood Rd  
**CITY/STATE:** Washington, OR

**QC JOB #:** 14898009  
**DATE:** Wed, Feb 13 2019



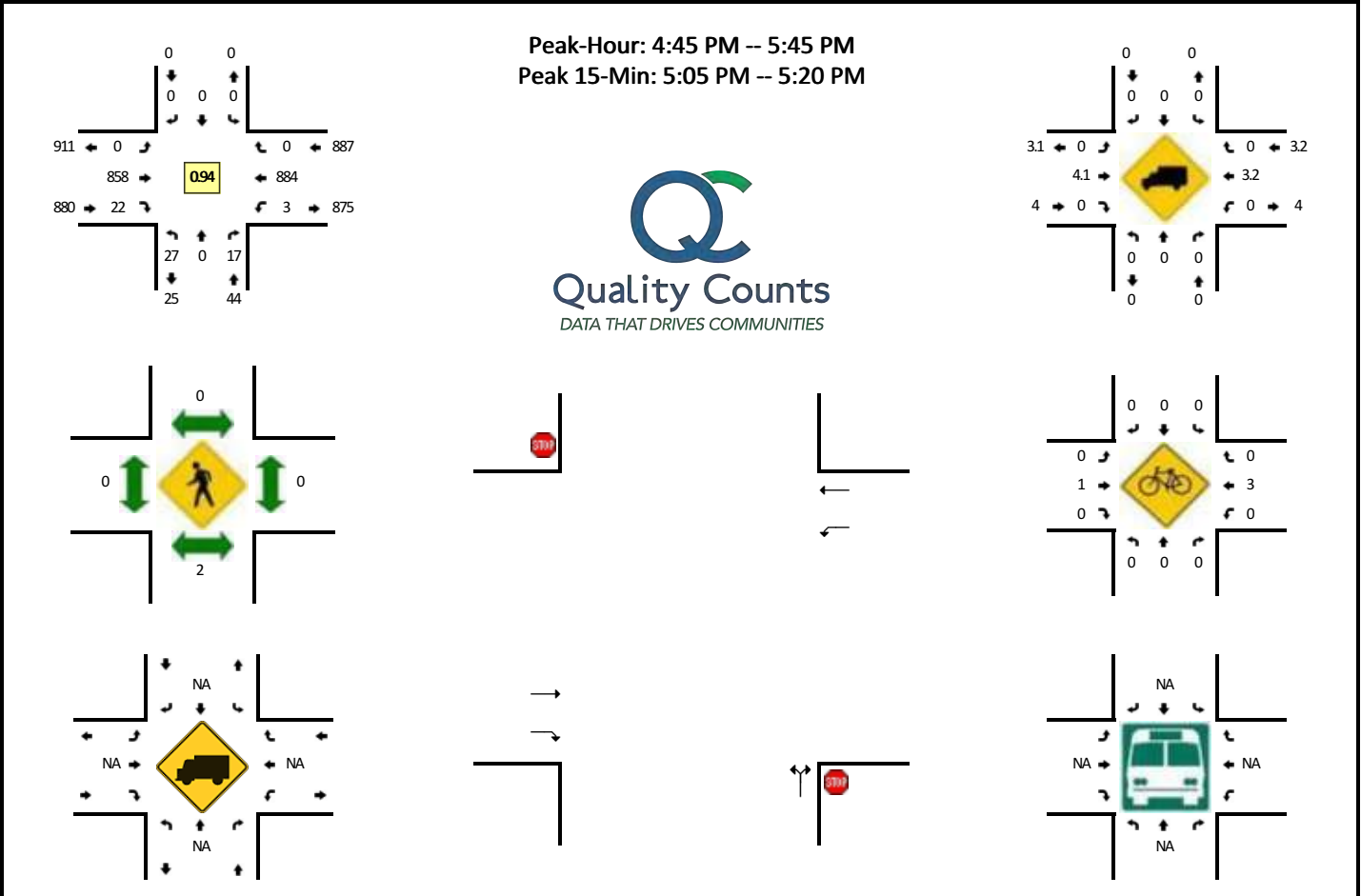
5-Min Count Period Beginning At	120th Ave (Northbound)				120th Ave (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
7:00 AM	1	0	0	0	0	0	0	0	0	0	86	6	0	2	42	0	0	137	
7:05 AM	0	0	0	0	0	0	0	0	0	0	79	3	0	1	54	0	0	137	
7:10 AM	2	0	1	0	0	0	0	0	0	0	74	6	0	0	49	0	0	132	
7:15 AM	1	0	1	0	0	0	0	0	0	0	97	1	0	0	52	0	0	152	
7:20 AM	3	0	2	0	0	0	0	0	0	0	74	4	0	1	47	0	0	131	
7:25 AM	3	0	0	0	0	0	0	0	0	0	93	3	0	0	61	0	0	160	
7:30 AM	2	0	0	0	0	0	0	0	0	0	87	1	0	1	38	0	0	129	
7:35 AM	1	0	1	0	0	0	0	0	0	0	87	1	0	0	42	0	0	132	
7:40 AM	0	0	3	0	0	0	0	0	0	0	85	2	0	1	63	0	0	154	
7:45 AM	1	0	0	0	0	0	0	0	0	0	84	4	0	2	60	0	0	151	
7:50 AM	0	0	0	0	0	0	0	0	0	0	80	6	0	4	61	0	0	151	
7:55 AM	1	0	1	0	0	0	0	0	0	0	75	8	0	0	56	0	0	141	1707
8:00 AM	1	0	1	0	0	0	0	0	0	0	91	2	0	0	46	0	0	141	1711
8:05 AM	1	0	4	0	0	0	0	0	0	0	76	1	0	0	48	0	0	130	1704
8:10 AM	2	0	2	0	0	0	0	0	0	0	76	4	0	2	55	0	0	141	1713
8:15 AM	2	0	1	0	0	0	0	0	0	0	97	3	0	0	55	0	0	158	1719
8:20 AM	1	0	2	0	0	0	0	0	0	0	86	2	0	1	39	0	0	131	1719
8:25 AM	1	0	0	0	0	0	0	0	0	0	76	0	0	1	55	0	0	133	1692
8:30 AM	1	0	4	0	0	0	0	0	0	0	71	4	0	1	51	0	0	132	1695
8:35 AM	0	0	1	0	0	0	0	0	0	0	72	3	0	1	60	0	0	137	1700
8:40 AM	2	0	3	0	0	0	0	0	0	0	61	1	0	3	52	0	0	122	1668
8:45 AM	2	0	0	0	0	0	0	0	0	0	65	3	0	1	46	0	0	117	1634
8:50 AM	2	0	1	0	0	0	0	0	0	0	76	0	0	2	46	0	0	127	1610
8:55 AM	1	0	1	0	0	0	0	0	0	0	74	4	0	1	52	0	0	133	1602
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	4	0	12	0	0	0	0	0	0	996	48	0	28	736	0	0	1824		
Heavy Trucks	4	0	12	0	0	0	0	0	0	68	12	0	24	64	0	0	184		
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Railroad																			
Stopped Buses																			

Comments:



**LOCATION:** 120th Ave -- Tualatin-Sherwood Rd  
**CITY/STATE:** Washington, OR

**QC JOB #:** 14898010  
**DATE:** Wed, Feb 13 2019

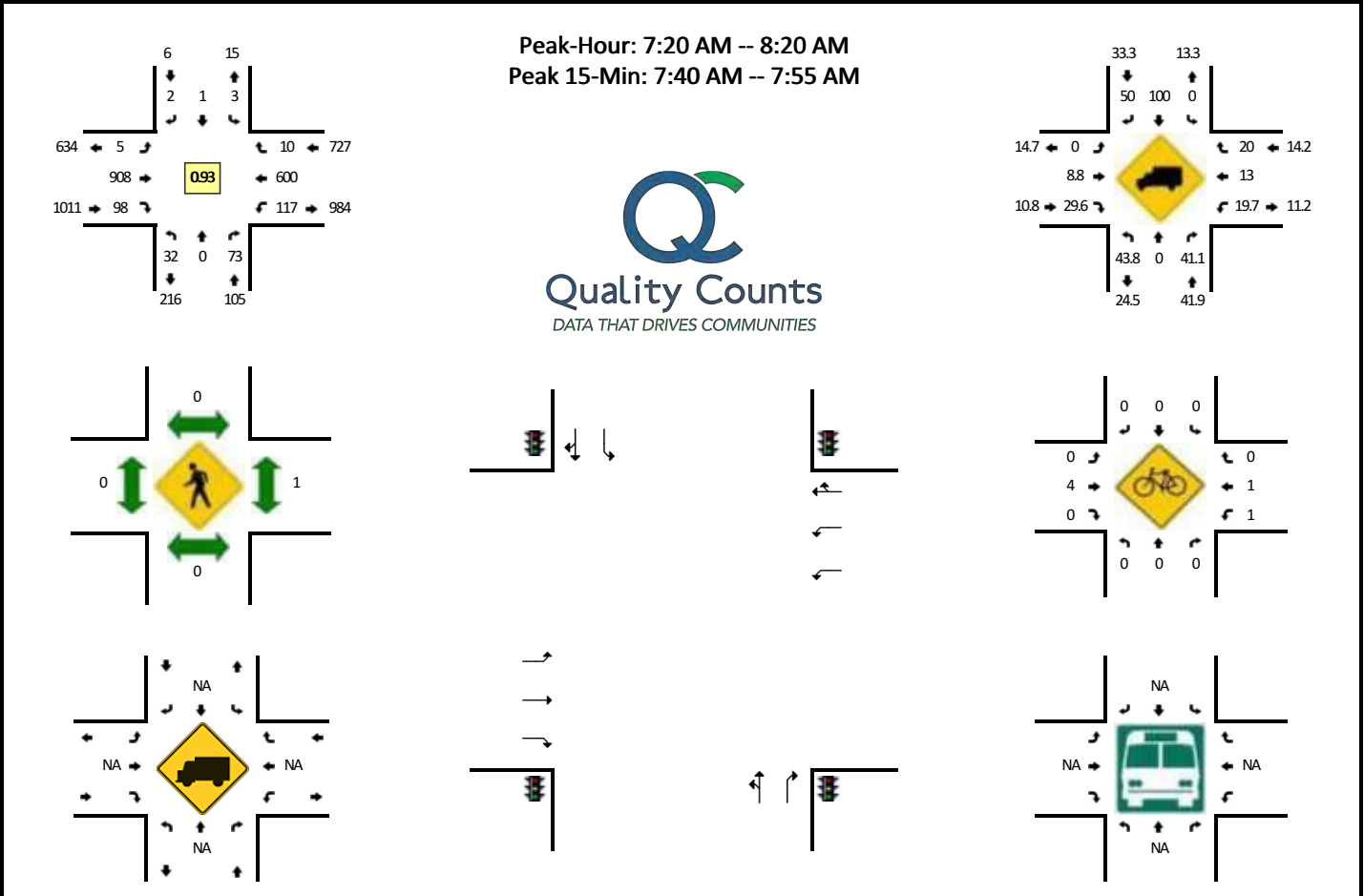


5-Min Count Period Beginning At	120th Ave (Northbound)				120th Ave (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	8	0	4	0	0	0	0	0	0	62	1	0	0	67	0	0	142	
4:05 PM	0	0	3	0	0	0	0	0	0	78	2	0	1	61	0	0	145	
4:10 PM	3	0	2	0	0	0	0	0	0	70	0	0	0	61	0	0	136	
4:15 PM	1	0	0	0	0	0	0	0	0	83	4	0	0	73	0	0	161	
4:20 PM	3	0	0	0	0	0	0	0	0	65	0	0	0	65	0	0	133	
4:25 PM	1	0	0	0	0	0	0	0	0	55	2	0	0	92	0	0	150	
4:30 PM	1	0	1	0	0	0	0	0	0	63	3	0	1	81	0	0	150	
4:35 PM	4	0	2	0	0	0	0	0	0	65	2	0	1	73	0	0	147	
4:40 PM	2	0	1	0	0	0	0	0	0	64	1	0	0	75	0	0	143	
4:45 PM	2	0	2	0	0	0	0	0	0	70	2	0	0	69	0	0	145	
4:50 PM	4	0	0	0	0	0	0	0	0	57	0	0	1	62	0	0	124	
4:55 PM	1	0	1	0	0	0	0	0	0	89	0	0	0	83	0	0	174	1750
5:00 PM	2	0	1	0	0	0	0	0	0	58	3	0	0	72	0	0	136	1744
5:05 PM	1	0	3	0	0	0	0	0	0	92	4	0	0	64	0	0	164	1763
5:10 PM	2	0	2	0	0	0	0	0	0	87	4	0	0	71	0	0	166	1793
5:15 PM	4	0	2	0	0	0	0	0	0	71	4	0	1	68	0	0	150	1782
5:20 PM	3	0	0	0	0	0	0	0	0	72	2	0	1	76	0	0	154	1803
5:25 PM	1	0	0	0	0	0	0	0	0	55	2	0	0	80	0	0	138	1791
5:30 PM	3	0	4	0	0	0	0	0	0	67	0	0	0	79	0	0	153	1794
5:35 PM	4	0	2	0	0	0	0	0	0	70	1	0	0	80	0	0	157	1804
5:40 PM	0	0	0	0	0	0	0	0	0	70	0	0	0	80	0	0	150	1811
5:45 PM	3	0	0	0	0	0	0	0	0	62	1	0	1	78	0	0	145	1811
5:50 PM	0	0	0	0	0	0	0	0	0	53	3	0	1	82	0	0	139	1826
5:55 PM	1	0	1	0	0	0	0	0	0	54	3	0	0	78	0	0	137	1789
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	28	0	28	0	0	0	0	0	0	1000	48	0	4	812	0	0	1920	
Heavy Trucks	0	0	0	0	0	0	0	0	0	48	0	0	0	36	0	0	84	
Pedestrians		8				0				0				0			8	
Bicycles	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
Railroad																		
Stopped Buses																		

Comments:

**LOCATION:** 115th Ave -- Tualatin-Sherwood Rd  
**CITY/STATE:** Washington, OR

**QC JOB #:** 14898011  
**DATE:** Wed, Feb 13 2019

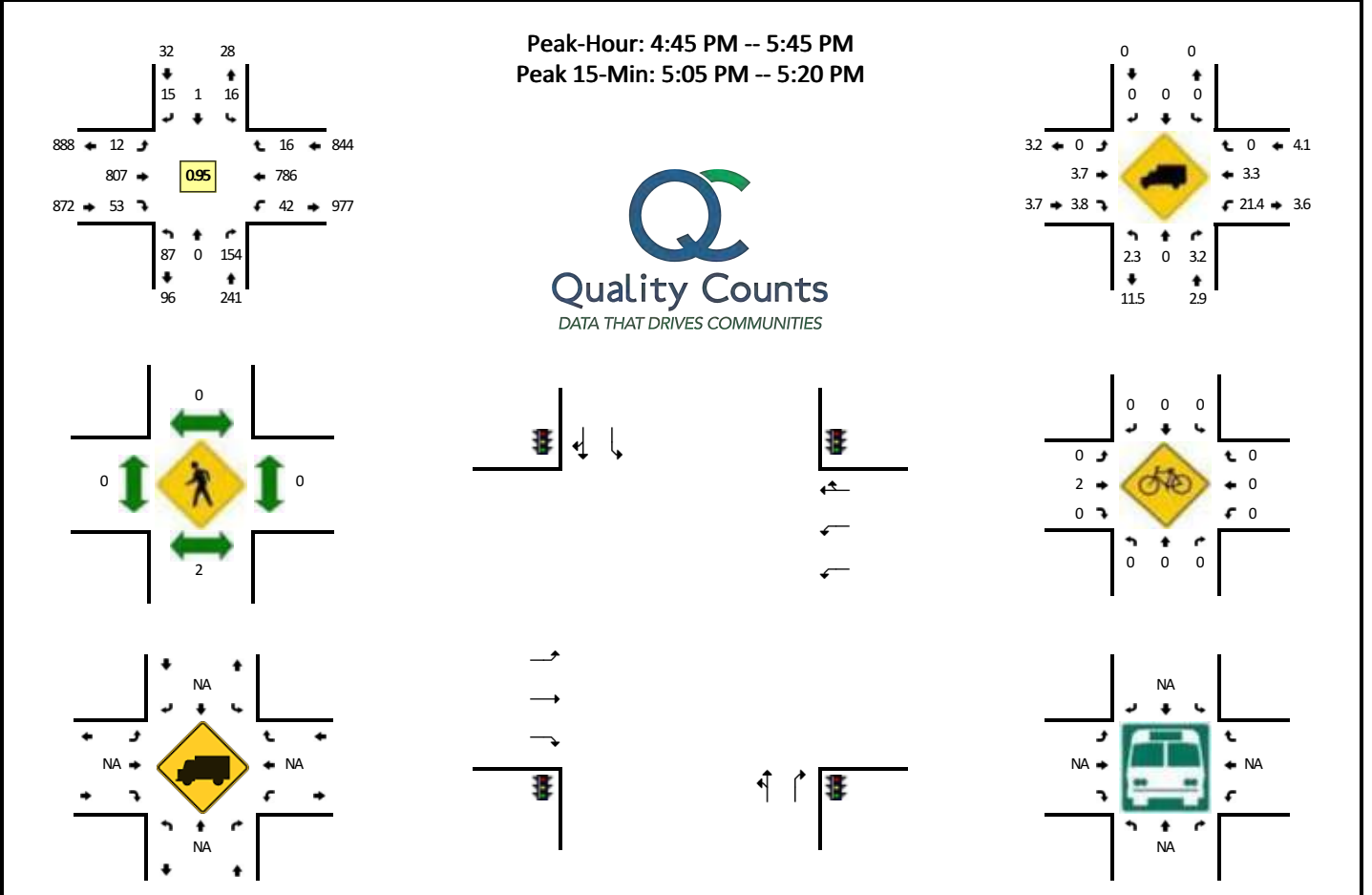


5-Min Count Period Beginning At	115th Ave (Northbound)				115th Ave (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	0	5	0	1	0	0	0	0	75	10	0	10	42	1	0	146	
7:05 AM	1	0	5	0	0	0	1	0	0	75	11	0	7	54	0	0	154	
7:10 AM	3	0	8	0	3	0	1	0	0	61	6	0	5	37	0	0	124	
7:15 AM	3	0	5	0	1	0	0	0	0	86	11	0	7	49	0	0	162	
7:20 AM	4	0	10	0	0	0	0	0	0	63	10	0	9	49	0	0	145	
7:25 AM	2	0	4	0	2	0	0	0	0	70	14	0	19	59	1	0	171	
7:30 AM	2	0	6	0	0	0	0	0	0	88	12	0	5	35	1	0	149	
7:35 AM	2	0	8	0	0	0	0	0	0	68	12	0	10	40	0	0	140	
7:40 AM	5	0	7	0	0	0	0	0	1	86	4	0	14	58	0	0	175	
7:45 AM	4	0	4	0	0	0	0	0	1	90	5	0	10	59	1	0	174	
7:50 AM	3	0	4	0	0	0	0	0	2	61	7	0	11	56	2	0	146	
7:55 AM	3	0	7	0	0	0	1	0	0	69	8	0	5	46	1	0	140	1826
8:00 AM	1	0	5	0	1	0	0	0	1	65	8	0	15	53	2	0	151	1831
8:05 AM	2	0	8	0	0	1	0	0	0	89	2	0	4	40	0	0	146	1823
8:10 AM	2	0	4	0	0	0	1	0	0	72	6	0	14	50	1	0	150	1849
8:15 AM	2	0	6	0	0	0	0	0	0	87	10	0	1	55	1	0	162	1849
8:20 AM	4	0	5	0	2	0	1	0	4	78	5	0	3	36	2	0	140	1844
8:25 AM	0	0	4	0	0	0	0	0	0	70	7	0	3	55	0	0	139	1812
8:30 AM	5	0	6	0	0	0	0	0	0	63	6	0	5	49	0	0	134	1797
8:35 AM	2	0	9	0	0	0	1	0	4	70	7	0	6	55	1	0	155	1812
8:40 AM	6	0	8	0	0	0	0	0	0	65	3	0	5	51	0	0	138	1775
8:45 AM	1	0	7	0	1	0	0	0	1	55	4	0	6	42	0	0	117	1718
8:50 AM	3	0	8	0	0	0	0	0	1	83	3	0	4	45	2	0	149	1721
8:55 AM	4	0	3	0	4	0	0	0	0	66	2	0	2	52	3	0	136	1717
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	48	0	60	0	0	0	0	0	16	948	64	0	140	692	12	0	1980	
Heavy Trucks	16	0	16		0	0	0		0	64	12		20	76	4		208	
Pedestrians																	0	
Bicycles													1				1	
Railroad																		
Stopped Buses																		

*Comments:*

**LOCATION:** 115th Ave -- Tualatin-Sherwood Rd  
**CITY/STATE:** Washington, OR

**QC JOB #:** 14898012  
**DATE:** Wed, Feb 13 2019

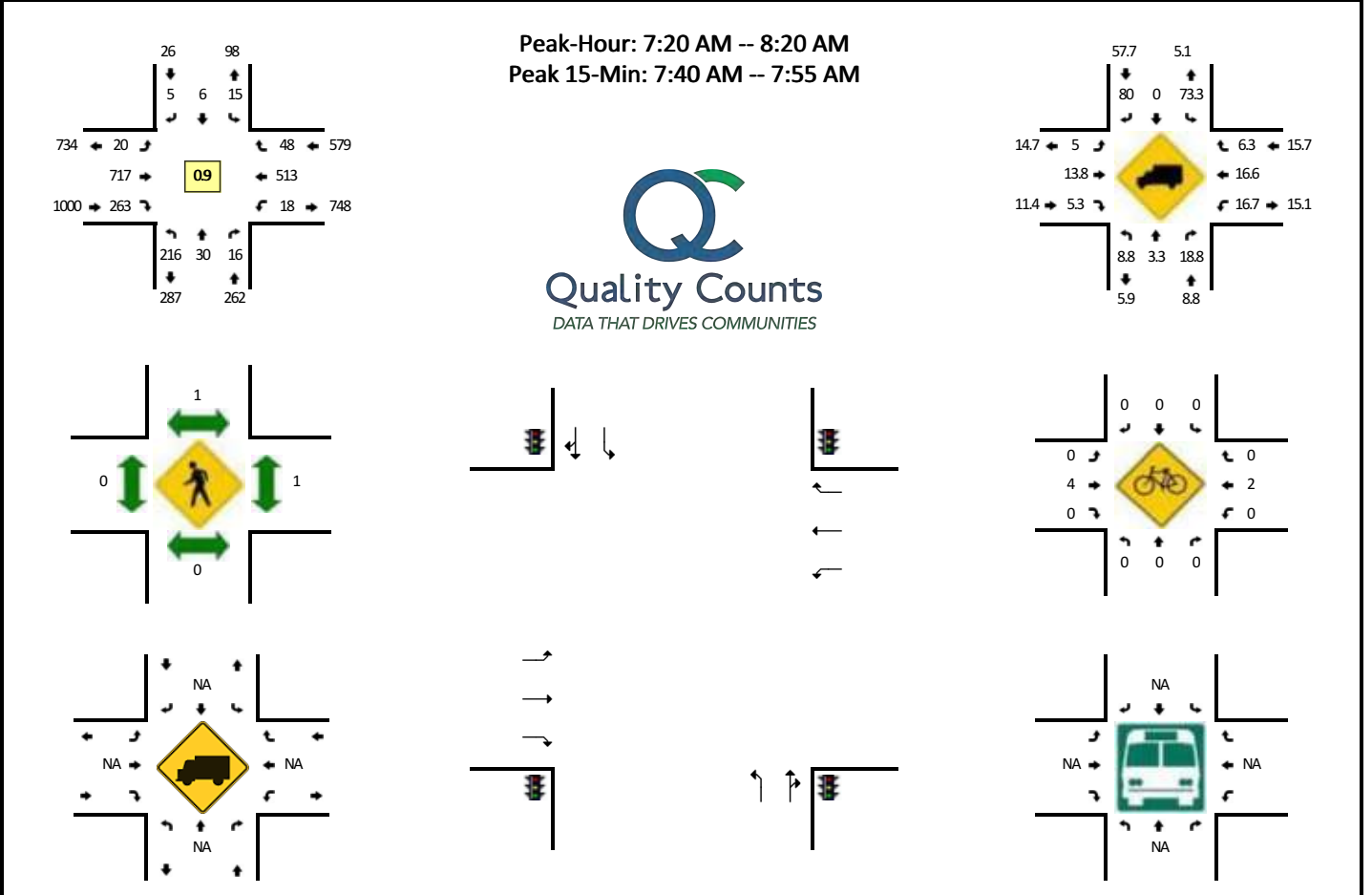


5-Min Count Period Beginning At	115th Ave (Northbound)				115th Ave (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	0	13	0	1	0	1	0	0	65	2	0	2	66	2	0	156	
4:05 PM	15	0	31	0	3	0	2	0	1	63	4	0	0	47	1	0	167	
4:10 PM	7	0	9	0	0	0	0	0	0	76	1	0	0	51	1	0	145	
4:15 PM	5	0	12	0	2	0	1	0	2	79	3	0	8	72	1	0	185	
4:20 PM	2	1	6	0	0	0	0	0	1	67	5	0	2	61	0	0	145	
4:25 PM	10	0	14	0	2	0	1	0	0	56	2	0	4	75	2	0	166	
4:30 PM	6	0	13	0	2	0	1	0	0	56	2	0	3	80	0	0	163	
4:35 PM	17	0	12	0	0	0	0	0	1	59	4	0	4	63	1	0	161	
4:40 PM	8	0	10	0	1	0	1	0	3	68	2	0	4	61	1	0	159	
4:45 PM	9	0	7	0	0	0	1	0	2	60	7	0	5	64	1	0	156	
4:50 PM	3	0	11	0	2	0	1	0	0	56	6	0	1	58	3	0	141	
4:55 PM	3	0	12	0	1	0	3	0	2	82	5	0	4	75	2	0	189	1933
5:00 PM	4	0	13	0	1	0	1	0	0	57	1	0	3	70	1	0	151	1928
5:05 PM	14	0	17	0	2	0	2	0	0	68	8	0	6	50	1	0	168	1929
5:10 PM	7	0	20	0	1	0	2	0	2	89	6	0	2	52	1	0	182	1966
5:15 PM	10	0	12	0	0	0	0	0	1	72	3	0	3	72	0	0	173	1954
5:20 PM	2	0	11	0	0	1	1	0	1	70	3	0	1	70	3	0	163	1972
5:25 PM	7	0	13	0	3	0	1	0	0	59	1	0	2	71	2	0	159	1965
5:30 PM	3	0	9	0	1	0	1	0	1	60	5	0	4	72	1	0	157	1959
5:35 PM	18	0	14	0	2	0	2	0	2	53	4	0	7	53	0	0	155	1953
5:40 PM	7	0	15	0	3	0	0	0	1	81	4	0	4	79	1	0	195	1989
5:45 PM	8	0	12	0	0	0	1	0	0	62	2	0	0	74	1	0	160	1993
5:50 PM	2	0	7	0	0	0	1	0	1	44	3	0	3	80	2	0	143	1995
5:55 PM	2	0	6	0	1	0	0	0	3	59	0	0	4	60	1	0	136	1942
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	124	0	196	0	12	0	16	0	12	916	68	0	44	696	8	0	2092	
Heavy Trucks	8	0	4	0	0	0	0	0	0	40	4	0	4	32	0	0	92	
Pedestrians		8				0				0				0			8	
Bicycles		0	0			0	0			1	0			0	0		1	
Railroad																		
Stopped Buses																		

*Comments:*

**LOCATION:** 112th Ave/Avery St -- Tualatin-Sherwood Rd  
**CITY/STATE:** Washington, OR

**QC JOB #:** 14898013  
**DATE:** Wed, Feb 13 2019

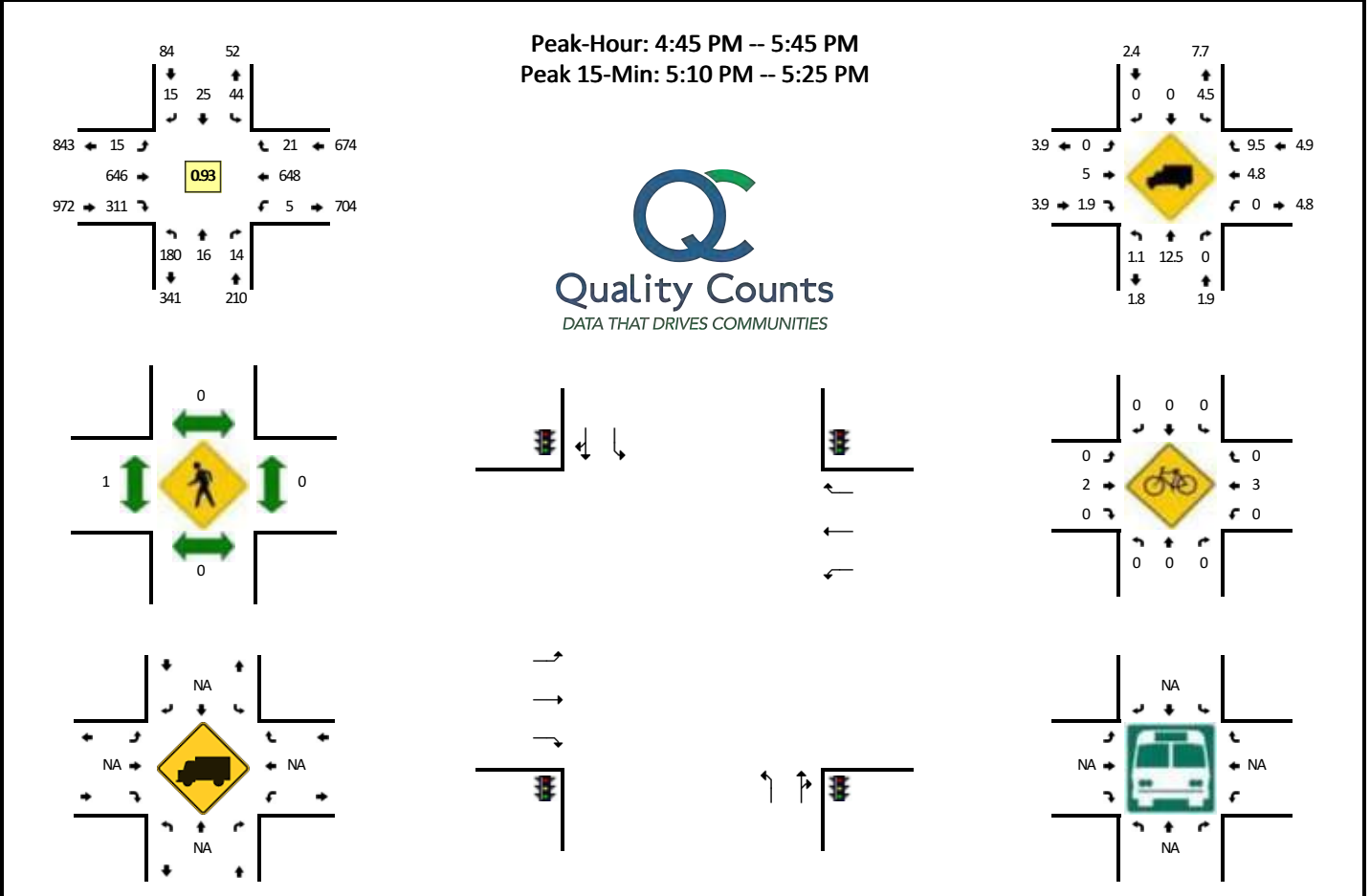


5-Min Count Period Beginning At	112th Ave/Avery St (Northbound)				112th Ave/Avery St (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	15	4	1	0	0	1	0	0	4	61	19	0	0	45	1	0	151	
7:05 AM	13	3	1	0	0	0	0	0	1	49	23	0	0	49	4	0	143	
7:10 AM	18	4	0	0	0	0	0	0	1	63	13	0	0	21	3	0	123	
7:15 AM	16	3	0	0	0	0	1	0	3	63	22	0	0	39	4	0	151	
7:20 AM	16	2	1	0	0	0	0	0	2	61	18	0	0	47	3	0	150	
7:25 AM	28	0	0	0	2	0	0	0	1	50	22	0	2	48	5	0	158	
7:30 AM	9	5	1	0	1	2	0	0	0	68	22	0	0	30	2	0	140	
7:35 AM	11	3	0	0	1	1	1	0	3	58	21	0	1	42	4	0	146	
7:40 AM	21	2	2	0	2	0	0	0	2	53	38	0	2	56	3	0	181	
7:45 AM	16	2	1	0	1	1	0	0	3	57	34	0	1	45	8	0	169	
7:50 AM	24	2	3	0	3	1	2	0	1	52	17	0	2	53	11	0	171	
7:55 AM	26	3	2	0	0	0	0	0	1	53	25	0	2	31	1	0	144	1827
8:00 AM	19	3	3	0	2	0	0	0	1	58	13	0	1	47	4	0	151	1827
8:05 AM	16	6	2	0	0	0	0	0	1	79	21	0	2	28	2	0	157	1841
8:10 AM	19	1	1	0	2	0	2	0	3	54	8	0	4	39	2	0	135	1853
8:15 AM	11	1	0	0	1	1	0	0	2	74	24	0	1	47	3	0	165	1867
8:20 AM	15	2	0	0	1	0	0	0	1	72	13	0	0	30	0	0	134	1851
8:25 AM	9	0	1	0	2	1	1	0	0	51	15	0	1	44	7	0	132	1825
8:30 AM	15	0	0	0	0	1	1	0	1	63	8	0	0	46	2	0	137	1822
8:35 AM	9	1	0	0	1	0	0	0	2	56	18	0	1	50	0	0	138	1814
8:40 AM	11	0	2	0	1	1	2	0	0	71	9	0	0	43	4	0	144	1777
8:45 AM	8	0	0	0	1	0	1	0	1	46	17	0	3	39	5	0	121	1729
8:50 AM	10	3	1	0	2	0	3	0	0	69	20	0	0	39	4	0	151	1709
8:55 AM	11	2	1	0	2	2	2	0	0	56	13	0	1	44	5	0	139	1704
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	244	24	24	0	24	8	8	0	24	648	356	0	20	616	88	0	2084	
Heavy Trucks	8	0	4	0	16	0	8	0	0	76	16	0	8	88	0	0	224	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
Railroad																		
Stopped Buses																		

*Comments:*

**LOCATION:** 112th Ave/Avery St -- Tualatin-Sherwood Rd  
**CITY/STATE:** Washington, OR

**QC JOB #:** 14898014  
**DATE:** Wed, Feb 13 2019



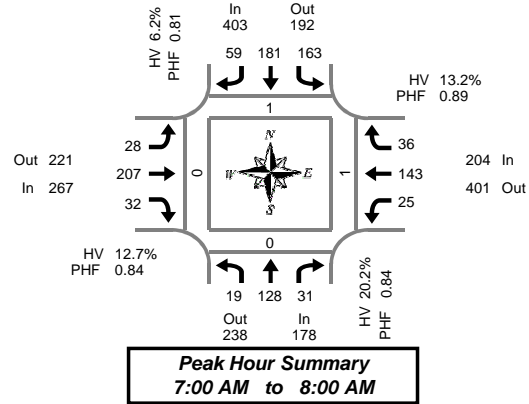
5-Min Count Period Beginning At	112th Ave/Avery St (Northbound)				112th Ave/Avery St (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	0	0	0	7	2	0	0	1	46	23	0	0	54	1	0	145	
4:05 PM	24	1	0	0	5	4	3	0	2	55	34	0	0	37	0	0	165	
4:10 PM	15	1	2	0	1	1	1	0	1	63	23	0	1	31	2	0	142	
4:15 PM	15	3	1	0	0	3	2	0	2	72	26	0	1	53	3	0	181	
4:20 PM	11	2	0	0	2	2	1	0	3	48	22	0	0	58	5	0	154	
4:25 PM	20	0	1	0	5	3	0	0	1	45	28	0	0	55	5	0	163	
4:30 PM	13	0	0	0	4	3	4	0	0	56	19	0	1	64	2	0	166	
4:35 PM	38	4	6	0	8	6	1	0	0	44	23	0	0	37	1	0	168	
4:40 PM	19	1	1	0	3	4	1	0	1	61	25	0	0	41	3	0	160	
4:45 PM	25	1	0	0	1	2	1	0	0	37	25	0	0	43	0	0	135	
4:50 PM	10	4	1	0	4	2	0	0	0	44	27	0	0	52	3	0	147	
4:55 PM	12	0	1	0	5	2	1	0	0	55	30	0	1	61	0	0	168	1894
5:00 PM	13	2	0	0	4	0	1	0	1	50	25	0	2	67	5	0	170	1919
5:05 PM	28	1	2	0	6	4	4	0	3	57	23	0	0	36	1	0	165	1919
5:10 PM	12	0	2	0	6	2	1	0	1	76	32	0	0	32	1	0	165	1942
5:15 PM	22	4	1	0	6	2	0	0	2	53	25	0	1	56	3	0	175	1936
5:20 PM	11	2	2	0	4	2	5	0	0	58	34	0	0	58	5	0	181	1963
5:25 PM	13	1	2	0	2	0	1	0	1	55	24	0	0	61	1	0	161	1961
5:30 PM	8	0	2	0	2	2	0	0	3	47	18	0	0	62	0	0	144	1939
5:35 PM	11	1	0	0	3	6	0	0	2	43	21	0	1	53	1	0	142	1913
5:40 PM	15	0	1	0	1	1	1	0	2	71	27	0	0	67	1	0	187	1940
5:45 PM	22	1	1	0	1	3	1	0	1	41	31	0	0	48	2	0	152	1957
5:50 PM	19	1	0	0	3	0	0	0	0	44	13	0	1	58	1	0	140	1950
5:55 PM	15	2	1	0	3	0	4	0	0	47	14	0	0	45	4	0	135	1917
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	180	24	20	0	64	24	24	0	12	748	364	0	4	584	36	0	2084	
Heavy Trucks	4	4	0		8	0	0		0	48	8		0	44	4		120	
Pedestrians	0	0			0	0			0	0			0	0			0	
Bicycles	0	0			0	0			0	1	0		0	0			1	
Railroad																		
Stopped Buses																		

Comments:

# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Herman Rd

Thursday, July 13, 2017

7:00 AM to 9:00 AM

### 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	5	8	5	0	14	24	6	0	1	14	1	0	1	18	5	0	102	1	0	1	0
7:05 AM	1	11	1	0	13	4	7	0	6	15	2	0	3	8	3	0	74	0	0	0	0
7:10 AM	0	4	0	0	11	15	6	0	0	15	4	0	4	13	1	0	73	0	0	0	0
7:15 AM	1	13	3	0	8	14	4	0	3	15	2	0	0	12	2	0	77	0	0	0	0
7:20 AM	0	17	4	0	13	14	4	0	4	21	3	0	2	16	4	0	102	0	0	0	0
7:25 AM	1	6	3	0	18	9	4	0	3	16	6	0	1	16	3	0	86	0	0	0	0
7:30 AM	3	14	5	0	6	14	3	0	2	11	2	0	4	7	4	0	75	0	0	0	0
7:35 AM	1	9	1	0	13	20	3	1	2	25	1	0	2	8	2	0	87	0	0	0	0
7:40 AM	0	10	2	0	23	25	5	0	2	19	3	0	2	12	3	0	106	0	0	0	0
7:45 AM	4	8	2	0	15	16	5	0	1	23	3	0	2	16	1	0	96	0	0	0	0
7:50 AM	3	12	3	0	13	16	6	0	2	19	2	0	4	8	7	0	95	0	0	0	0
7:55 AM	0	16	2	0	16	10	6	0	2	14	3	0	0	9	1	0	79	0	0	0	0
8:00 AM	1	6	4	0	9	21	7	0	3	15	2	0	3	9	3	0	83	0	0	0	0
8:05 AM	0	9	2	0	9	12	7	0	3	19	2	0	2	9	4	0	78	0	0	0	0
8:10 AM	2	10	3	0	7	16	1	0	6	9	3	0	4	6	2	0	69	0	0	0	0
8:15 AM	2	9	6	0	10	13	2	0	0	17	1	0	2	2	3	0	67	0	0	0	0
8:20 AM	1	12	5	0	6	15	2	1	2	14	3	0	4	5	5	0	74	0	0	0	0
8:25 AM	3	9	4	0	10	16	5	0	3	15	1	0	0	5	4	0	75	0	0	0	0
8:30 AM	0	4	1	0	5	13	3	0	1	12	4	0	1	9	4	0	57	0	0	0	0
8:35 AM	2	7	4	0	6	10	2	0	2	10	3	0	3	10	6	0	65	0	0	0	0
8:40 AM	0	14	4	0	2	13	4	1	2	14	4	0	4	6	4	0	71	0	0	0	0
8:45 AM	1	9	2	0	5	15	2	0	2	12	2	1	1	9	1	0	61	0	0	0	0
8:50 AM	2	11	5	0	4	13	2	0	2	8	3	0	4	10	2	0	66	0	0	0	0
8:55 AM	0	6	4	0	5	12	0	0	6	11	2	0	3	10	6	0	65	0	0	0	0
Total Survey	33	234	75	0	241	350	96	3	60	363	62	1	56	233	80	0	1,883	1	0	1	0

### 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	6	23	6	0	38	43	19	0	7	44	7	0	8	39	9	0	249	1	0	1	0
7:15 AM	2	36	10	0	39	37	12	0	10	52	11	0	3	44	9	0	265	0	0	0	0
7:30 AM	4	33	8	0	42	59	11	1	6	55	6	0	8	27	9	0	268	0	0	0	0
7:45 AM	7	36	7	0	44	42	17	0	5	56	8	0	6	33	9	0	270	0	0	0	0
8:00 AM	3	25	9	0	25	49	15	0	12	43	7	0	9	24	9	0	230	0	0	0	0
8:15 AM	6	30	15	0	26	44	9	1	5	46	5	0	6	12	12	0	216	0	0	0	0
8:30 AM	2	25	9	0	13	36	9	1	5	36	11	0	8	25	14	0	193	0	0	0	0
8:45 AM	3	26	11	0	14	40	4	0	10	31	7	1	8	29	9	0	192	0	0	0	0
Total Survey	33	234	75	0	241	350	96	3	60	363	62	1	56	233	80	0	1,883	1	0	1	0

### Peak Hour Summary

7:00 AM to 8:00 AM

By Approach	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	178	238	416	0	403	192	595	1	267	221	488	0	204	401	605	0	1,052	1	0	1	0
%HV	20.2%				6.2%				12.7%				13.2%				11.6%				
PHF	0.84				0.81				0.84				0.89				0.89				

By Movement	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	19	128	31	178	163	181	59	403	28	207	32	267	25	143	36	204	1,052
%HV	5.3%	21.9%	22.6%	20.2%	1.8%	11.6%	1.7%	6.2%	21.4%	10.6%	18.8%	12.7%	28.0%	8.4%	22.2%	13.2%	11.6%
PHF	0.68	0.86	0.65	0.84	0.80	0.74	0.78	0.81	0.70	0.77	0.73	0.84	0.78	0.81	0.82	0.89	0.89

### Rolling Hour Summary

7:00 AM to 9:00 AM

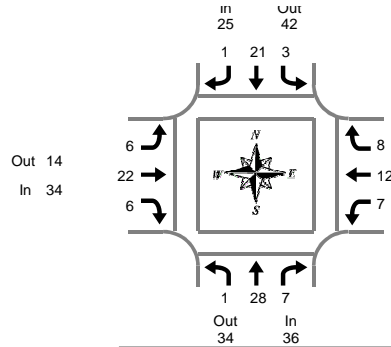
Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	19	128	31	0	163	181	59	1	28	207	32	0	25	143	36	0	1,052	1	0	1	0
7:15 AM	16	130	34	0	150	187	55	1	33	206	32	0	26	128	36	0	1,033	0	0	0	0
7:30 AM	20	124	39	0	137	194	52	2	28	200	26	0	29	96	39	0	984	0	0	0	0
7:45 AM	18	116	40	0	108	171	50	2	27	181	31	0	29	94	44	0	909	0	0	0	0
8:00 AM	14	106	44	0	78	169	37	2	32	156	30	1	31	90	44	0	831	0	0	0	0



# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Herman Rd

Thursday, July 13, 2017

7:00 AM to 9:00 AM

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

### Heavy Vehicle 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	2	1	3	0	3	0	3	1	1	0	2	0	2	1	3	11
7:05 AM	0	1	0	1	0	0	0	0	3	1	0	4	2	1	1	4	9
7:10 AM	0	1	0	1	0	1	0	1	0	2	1	3	1	0	0	1	6
7:15 AM	0	3	1	4	0	3	0	3	1	2	1	4	0	2	0	2	13
7:20 AM	0	3	1	4	0	1	0	1	1	0	0	1	1	4	1	6	12
7:25 AM	0	1	1	2	0	1	1	2	0	0	2	2	1	0	0	1	7
7:30 AM	0	5	0	5	0	2	0	2	0	1	0	1	0	1	1	2	10
7:35 AM	0	3	1	4	1	2	0	3	0	8	0	8	1	0	1	2	17
7:40 AM	0	2	0	2	0	4	0	4	0	3	1	4	1	1	2	4	14
7:45 AM	1	2	0	3	0	2	0	2	0	3	0	3	0	0	0	0	8
7:50 AM	0	3	0	3	2	1	0	3	0	1	0	1	0	1	1	2	9
7:55 AM	0	2	2	4	0	1	0	1	0	0	1	1	0	0	0	0	6
8:00 AM	0	1	1	2	0	8	0	8	1	1	1	3	1	0	0	1	14
8:05 AM	0	4	1	5	1	1	0	2	1	3	0	4	2	0	0	2	13
8:10 AM	0	6	1	7	0	1	0	1	0	2	0	2	3	1	0	4	14
8:15 AM	1	3	0	4	0	1	0	1	0	1	0	1	1	0	1	2	8
8:20 AM	1	0	2	3	0	1	0	1	0	2	0	2	1	2	1	4	10
8:25 AM	0	1	1	2	0	3	1	4	1	2	0	3	0	0	3	3	12
8:30 AM	0	1	0	1	0	0	1	1	0	1	0	1	0	1	1	2	5
8:35 AM	1	1	0	2	0	3	0	3	0	0	1	1	0	1	4	5	11
8:40 AM	0	1	1	2	0	2	0	2	1	1	0	2	0	2	3	5	11
8:45 AM	0	3	1	4	0	2	0	2	0	1	0	1	1	1	1	3	10
8:50 AM	0	0	0	0	0	1	0	1	1	1	0	2	0	0	1	1	4
8:55 AM	0	3	0	3	0	1	0	1	1	2	0	3	1	0	2	3	10
Total Survey	4	52	15	71	4	45	3	52	12	39	8	59	17	20	25	62	244

### Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	4	1	5	0	4	0	4	4	4	1	9	3	3	2	8	26
7:15 AM	0	7	3	10	0	5	1	6	2	2	3	7	2	6	1	9	32
7:30 AM	0	10	1	11	1	8	0	9	0	12	1	13	2	2	4	8	41
7:45 AM	1	7	2	10	2	4	0	6	0	4	1	5	0	1	1	2	23
8:00 AM	0	11	3	14	1	10	0	11	2	6	1	9	6	1	0	7	41
8:15 AM	2	4	3	9	0	5	1	6	1	5	0	6	2	2	5	9	30
8:30 AM	1	3	1	5	0	5	1	6	1	2	1	4	0	4	8	12	27
8:45 AM	0	6	1	7	0	4	0	4	2	4	0	6	2	1	4	7	24
Total Survey	4	52	15	71	4	45	3	52	12	39	8	59	17	20	25	62	244

### Heavy Vehicle Peak Hour Summary

7:00 AM to 8:00 AM

By Approach	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Herman Rd			Westbound SW Herman Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	36	34	70	25	42	67	34	14	48	27	32	59	122
PHF	0.82			0.69			0.57			0.75			0.74

By Movement	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	28	7	36	3	21	1	25	6	22	6	34	7	12	8	27	122
PHF	0.25	0.70	0.58	0.82	0.38	0.66	0.25	0.69	0.38	0.39	0.50	0.57	0.58	0.50	0.50	0.75	0.74

### Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	28	7	36	3	21	1	25	6	22	6	34	7	12	8	27	122
7:15 AM	1	35	9	45	4	27	1	32	4	24	6	34	10	10	6	26	137
7:30 AM	3	32	9	44	4	27	1	32	3	27	3	33	10	6	10	26	135
7:45 AM	4	25	9	38	3	24	2	29	4	17	3	24	8	8	14	30	121
8:00 AM	3	24	8	35	1	24	2	27	6	17	2	25	10	8	17	35	122

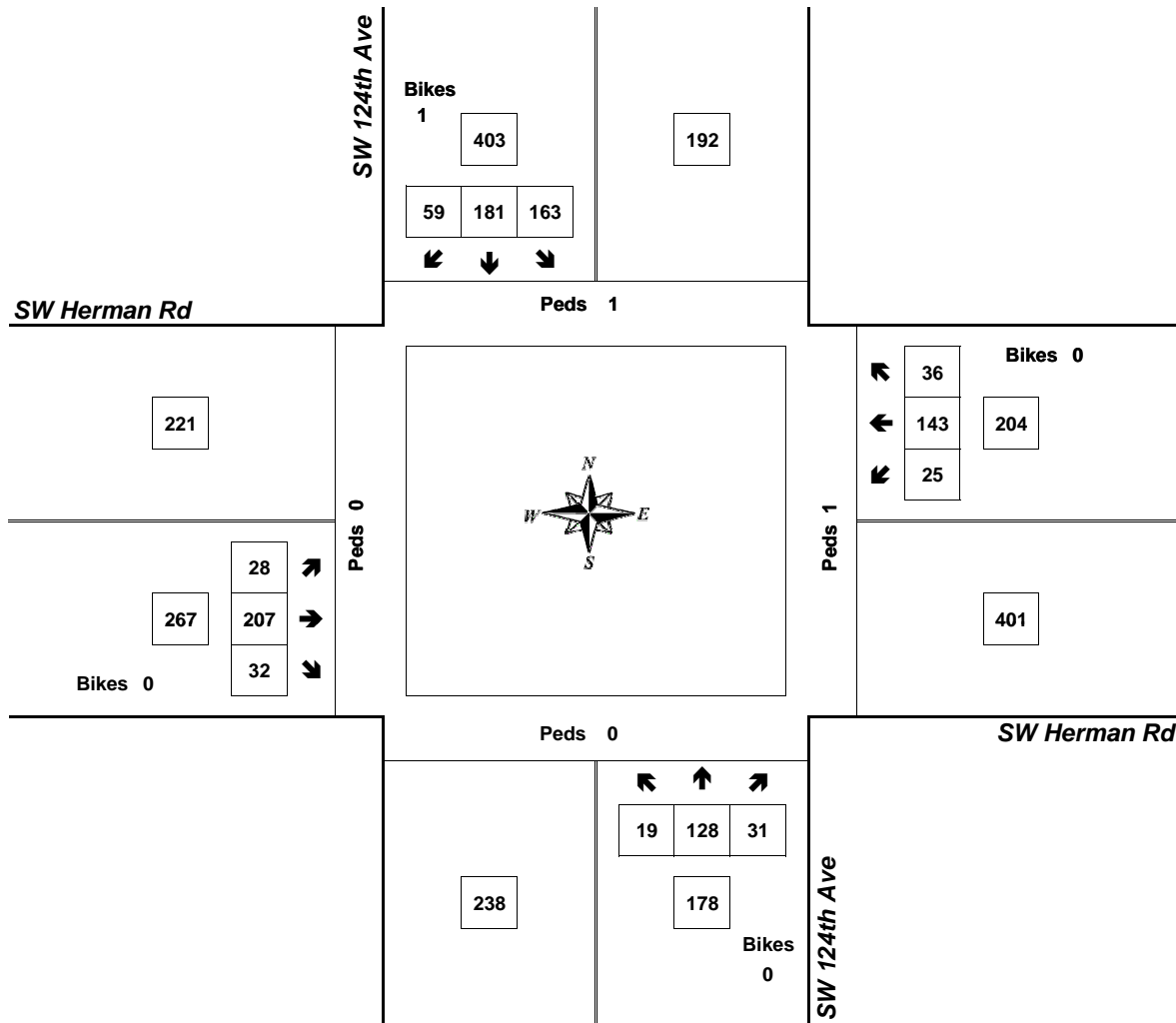
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW 124th Ave & SW Herman Rd

7:00 AM to 8:00 AM  
Thursday, July 13, 2017



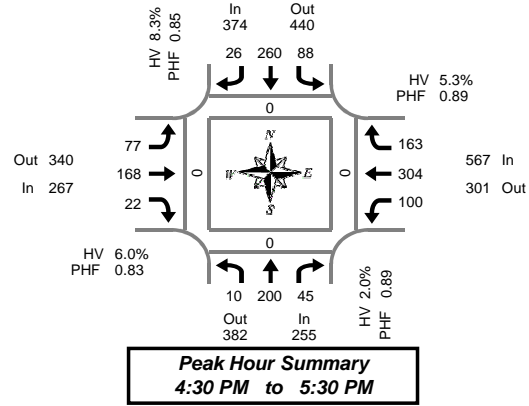
Approach	PHF	HV%	Volume
EB	0.84	12.7%	267
WB	0.89	13.2%	204
NB	0.84	20.2%	178
SB	0.81	6.2%	403
<b>Intersection</b>	<b>0.89</b>	<b>11.6%</b>	<b>1,052</b>

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

# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Herman Rd

Wednesday, July 12, 2017

4:00 PM to 6:00 PM

### 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	1	17	3	0	8	15	1	0	7	21	3	0	6	26	16	0	124	0	0	1	0
4:05 PM	1	28	10	0	4	15	2	0	11	19	1	0	6	20	21	0	138	0	0	0	0
4:10 PM	1	26	3	0	3	17	0	0	11	12	4	0	12	20	10	0	119	0	0	1	0
4:15 PM	1	18	3	0	8	15	2	0	5	13	1	0	2	28	7	0	103	0	0	1	0
4:20 PM	2	13	3	0	5	9	1	0	1	12	2	0	6	36	13	0	103	0	0	0	0
4:25 PM	2	7	2	0	5	19	3	0	3	8	2	0	3	23	9	0	86	0	0	1	0
4:30 PM	0	20	1	0	8	20	2	0	12	11	2	0	6	24	14	0	120	0	0	0	0
4:35 PM	3	16	4	0	2	18	1	0	4	18	1	0	10	31	21	0	129	0	0	0	0
4:40 PM	1	19	3	0	11	17	1	0	5	16	1	1	10	26	17	0	127	0	0	0	0
4:45 PM	0	21	5	0	8	21	1	0	3	18	4	0	13	19	12	0	125	0	0	0	0
4:50 PM	1	11	2	0	11	26	6	0	2	17	1	0	6	26	10	0	119	0	0	0	0
4:55 PM	0	12	3	0	8	23	3	1	3	9	3	0	7	22	10	0	103	0	0	0	0
5:00 PM	1	19	4	0	5	17	1	1	9	18	0	0	8	24	12	0	118	0	0	0	0
5:05 PM	2	17	5	0	11	31	3	0	11	14	4	0	5	19	22	0	144	0	0	0	0
5:10 PM	0	18	3	0	5	25	5	0	9	15	0	0	9	21	17	0	127	0	0	0	0
5:15 PM	1	14	2	0	3	26	1	0	10	14	1	0	6	40	13	1	131	0	0	0	0
5:20 PM	1	15	8	0	10	15	2	0	7	9	4	0	9	27	6	0	113	0	0	0	0
5:25 PM	0	18	5	0	6	21	0	0	2	9	1	0	11	25	9	0	107	0	0	0	0
5:30 PM	1	11	4	0	7	30	1	1	7	7	2	0	6	26	10	0	112	0	0	0	0
5:35 PM	2	18	4	0	3	20	1	0	4	6	1	0	8	21	9	0	97	0	0	0	0
5:40 PM	1	13	1	0	7	18	0	1	6	10	1	0	8	16	14	1	95	0	0	0	1
5:45 PM	0	14	3	0	9	22	3	0	4	6	0	0	10	21	8	0	100	0	0	0	0
5:50 PM	1	9	4	0	4	13	2	0	2	12	2	0	3	23	6	0	81	1	0	0	0
5:55 PM	0	18	0	0	9	25	1	0	1	7	1	0	4	18	4	0	88	0	0	1	0
Total Survey	23	392	85	0	160	478	43	4	139	301	42	1	174	582	290	2	2,709	1	0	5	1

### 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	3	71	16	0	15	47	3	0	29	52	8	0	24	66	47	0	381	0	0	2	0
4:15 PM	5	38	8	0	18	43	6	0	9	33	5	0	11	87	29	0	292	0	0	2	0
4:30 PM	4	55	8	0	21	55	4	0	21	45	4	1	26	81	52	0	376	0	0	0	0
4:45 PM	1	44	10	0	27	70	10	1	8	44	8	0	26	67	32	0	347	0	0	0	0
5:00 PM	3	54	12	0	21	73	9	1	29	47	4	0	22	64	51	0	389	0	0	0	0
5:15 PM	2	47	15	0	19	62	3	0	19	32	6	0	26	92	28	1	351	0	0	0	0
5:30 PM	4	42	9	0	17	68	2	2	17	23	4	0	22	63	33	1	304	0	0	0	1
5:45 PM	1	41	7	0	22	60	6	0	7	25	3	0	17	62	18	0	269	1	0	1	0
Total Survey	23	392	85	0	160	478	43	4	139	301	42	1	174	582	290	2	2,709	1	0	5	1

### Peak Hour Summary

4:30 PM to 5:30 PM

By Approach	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	255	382	637	0	374	440	814	2	267	340	607	1	567	301	868	1	1,463	0	0	0	0
%HV	2.0%				8.3%				6.0%				5.3%				5.6%				
PHF	0.89				0.85				0.83				0.89				0.91				

By Movement	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	10	200	45	255	88	260	26	374	77	174	22	267	100	304	163	567	1,463
%HV	0.0%	2.0%	2.2%	2.0%	15.9%	5.8%	7.7%	8.3%	5.2%	6.5%	4.5%	6.0%	2.0%	7.6%	3.1%	5.3%	5.6%
PHF	0.63	0.89	0.75	0.89	0.73	0.79	0.65	0.85	0.64	0.81	0.69	0.83	0.76	0.83	0.78	0.89	0.91

### Rolling Hour Summary

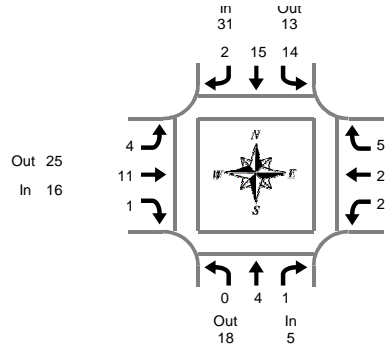
4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	13	208	42	0	81	215	23	1	67	174	25	1	87	301	160	0	1,396	0	0	4	0
4:15 PM	13	191	38	0	87	241	29	2	67	169	21	1	85	299	164	0	1,404	0	0	2	0
4:30 PM	10	200	45	0	88	260	26	2	77	168	22	1	100	304	163	1	1,463	0	0	0	0
4:45 PM	10	187	46	0	84	273	24	4	73	146	22	0	96	286	144	2	1,391	0	0	0	1
5:00 PM	10	184	43	0	79	263	20	3	72	127	17	0	87	281	130	2	1,313	1	0	1	1

# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Herman Rd

Wednesday, July 12, 2017

4:00 PM to 6:00 PM

**Peak Hour Summary**  
4:30 PM to 5:30 PM

### Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	1	1	1	3	0	2	1	3	0	3	2	5	12
4:05 PM	0	0	0	0	1	2	0	3	0	1	0	1	0	1	0	1	5
4:10 PM	0	1	0	1	1	1	0	2	1	2	1	4	0	3	0	3	10
4:15 PM	1	1	0	2	3	1	0	4	1	1	0	2	1	3	0	4	12
4:20 PM	0	0	0	0	0	1	0	1	0	0	0	0	2	3	0	5	6
4:25 PM	0	0	0	0	0	2	0	2	1	0	1	2	0	7	0	7	11
4:30 PM	0	0	0	0	2	1	0	3	1	1	0	2	0	2	0	2	7
4:35 PM	0	0	1	1	0	0	0	0	1	0	0	1	0	2	2	4	6
4:40 PM	0	1	0	1	1	0	0	1	0	2	0	2	0	0	1	1	5
4:45 PM	0	1	0	1	1	1	1	3	0	3	0	3	1	4	0	5	12
4:50 PM	0	0	0	0	2	3	1	6	0	2	0	2	0	1	1	2	10
4:55 PM	0	0	0	0	2	1	0	3	0	0	0	0	1	2	0	3	6
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	2	1	3	4
5:05 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	1	0	1	3
5:10 PM	0	0	0	0	2	3	0	5	0	1	0	1	0	0	0	0	6
5:15 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	4	0	4	6
5:20 PM	0	0	0	0	3	2	0	5	1	1	1	3	0	3	0	3	11
5:25 PM	0	1	0	1	1	2	0	3	0	0	0	0	0	2	0	2	6
5:30 PM	0	1	0	1	0	2	0	2	1	0	0	1	0	2	0	2	6
5:35 PM	0	1	1	2	2	0	0	2	0	0	1	1	0	1	0	1	6
5:40 PM	0	0	0	0	2	1	0	3	0	1	0	1	0	3	1	4	8
5:45 PM	0	1	0	1	1	1	0	2	0	0	0	0	0	1	0	1	4
5:50 PM	0	0	0	0	0	1	0	1	0	1	0	1	0	1	0	1	3
5:55 PM	0	2	0	2	1	0	0	1	0	0	0	0	0	1	0	1	4
Total Survey	1	12	2	15	26	28	3	57	8	19	5	32	5	52	8	65	169

### Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	2	0	2	3	4	1	8	1	5	2	8	0	7	2	9	27
4:15 PM	1	1	0	2	3	4	0	7	2	1	1	4	3	13	0	16	29
4:30 PM	0	1	1	2	3	1	0	4	2	3	0	5	0	4	3	7	18
4:45 PM	0	1	0	1	5	5	2	12	0	5	0	5	2	7	1	10	28
5:00 PM	0	0	0	0	2	4	0	6	1	2	0	3	0	3	1	4	13
5:15 PM	0	2	0	2	4	5	0	9	1	1	1	3	0	9	0	9	23
5:30 PM	0	2	1	3	4	3	0	7	1	1	1	3	0	6	1	7	20
5:45 PM	0	3	0	3	2	2	0	4	0	1	0	1	0	3	0	3	11
Total Survey	1	12	2	15	26	28	3	57	8	19	5	32	5	52	8	65	169

### Heavy Vehicle Peak Hour Summary

4:30 PM to 5:30 PM

By Approach	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Herman Rd			Westbound SW Herman Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	5	18	23	31	13	44	16	25	41	30	26	56	82
PHF	0.42			0.65			0.57			0.75			0.73

By Movement	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	4	1	5	14	15	2	31	4	11	1	16	2	23	5	30	82
PHF	0.00	0.50	0.25	0.42	0.70	0.63	0.25	0.65	0.50	0.39	0.25	0.57	0.25	0.64	0.42	0.75	0.73

### Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Herman Rd				Westbound SW Herman Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	5	1	7	14	14	3	31	5	14	3	22	5	31	6	42	102
4:15 PM	1	3	1	5	13	14	2	29	5	11	1	17	5	27	5	37	88
4:30 PM	0	4	1	5	14	15	2	31	4	11	1	16	2	23	5	30	82
4:45 PM	0	5	1	6	15	17	2	34	3	9	2	14	2	25	3	30	84
5:00 PM	0	7	1	8	12	14	0	26	3	5	2	10	0	21	2	23	67

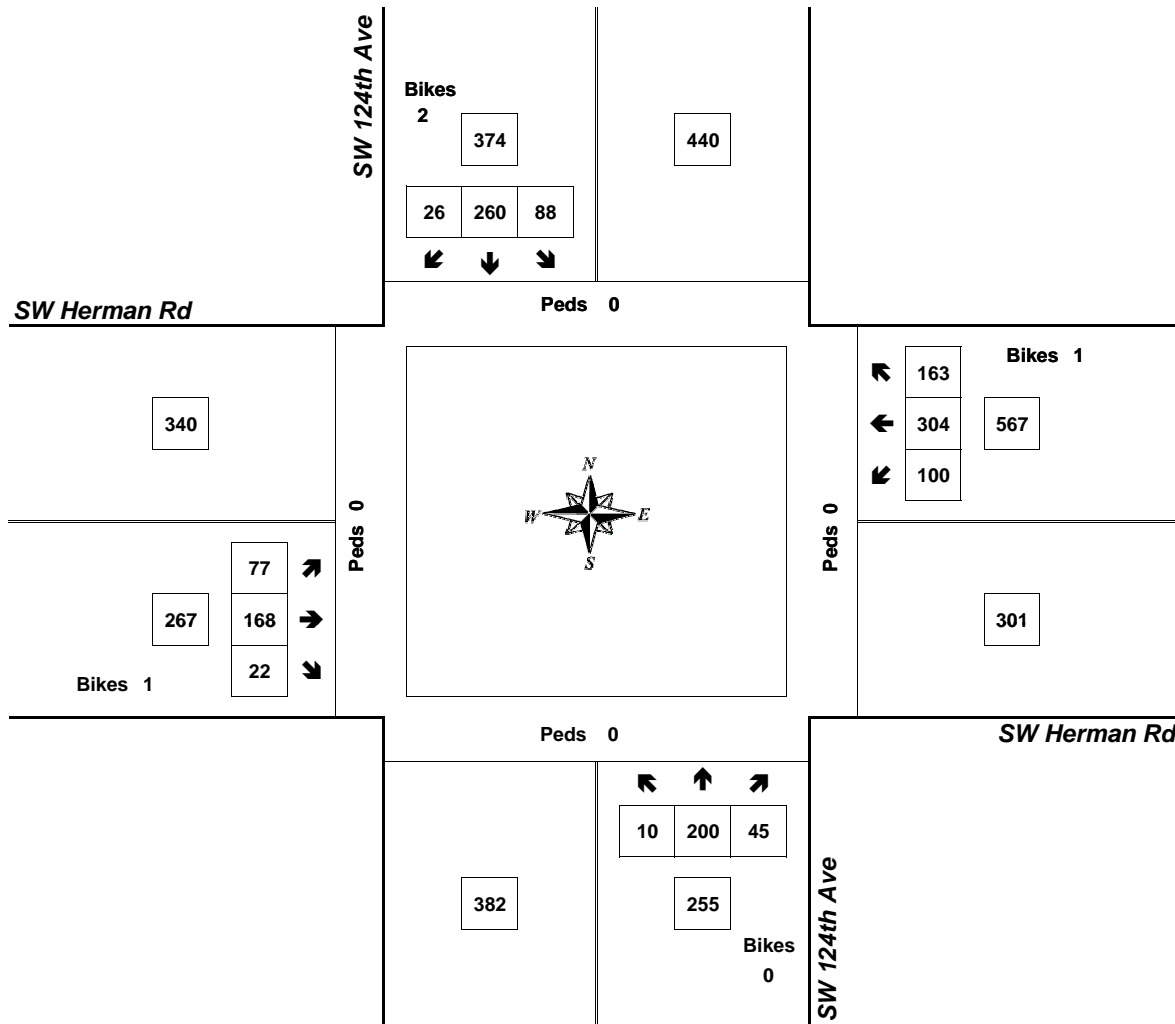
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW 124th Ave & SW Herman Rd

4:30 PM to 5:30 PM  
Wednesday, July 12, 2017



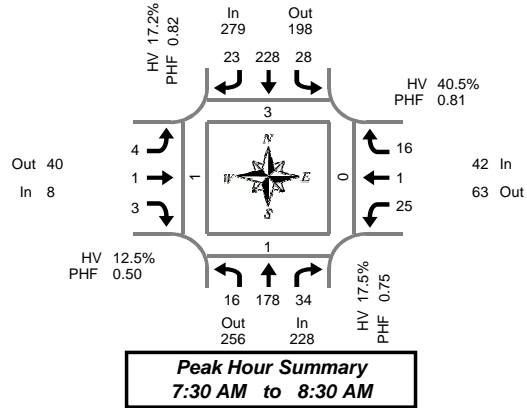
Approach	PHF	HV%	Volume
EB	0.83	6.0%	267
WB	0.89	5.3%	567
NB	0.89	2.0%	255
SB	0.85	8.3%	374
<b>Intersection</b>	<b>0.91</b>	<b>5.6%</b>	<b>1,463</b>

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

# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Myslony Rd

Tuesday, July 10, 2018  
7:00 AM to 9:00 AM

### 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	2	5	6	0	7	17	4	0	0	0	1	0	2	0	0	0	44	0	0	0	1
7:05 AM	2	11	5	0	6	14	1	0	0	0	0	0	0	0	2	0	41	0	0	1	0
7:10 AM	2	13	5	0	5	11	2	0	2	0	2	0	1	2	0	0	45	0	0	0	0
7:15 AM	2	10	9	0	7	10	2	0	0	0	0	0	0	0	1	0	41	1	1	1	10
7:20 AM	0	7	1	0	2	13	4	0	1	1	0	0	1	0	0	0	30	1	1	1	0
7:25 AM	1	10	3	0	3	8	2	1	1	0	1	0	4	0	1	0	34	1	0	0	10
7:30 AM	1	11	4	0	4	14	3	0	1	0	1	0	2	0	1	0	42	0	0	0	0
7:35 AM	3	8	2	0	2	20	1	0	0	0	0	0	4	0	5	0	45	0	0	0	1
7:40 AM	2	10	1	0	1	14	2	0	1	0	1	0	1	0	0	0	33	0	0	0	0
7:45 AM	1	15	4	0	1	18	2	0	0	0	0	0	0	2	0	0	43	0	0	0	0
7:50 AM	2	11	4	0	3	29	3	0	0	0	0	0	2	1	3	0	58	0	0	0	0
7:55 AM	0	25	4	0	7	15	6	0	0	0	0	0	3	0	1	0	61	0	0	0	0
8:00 AM	0	16	4	0	4	15	3	0	1	0	0	0	2	0	1	0	46	0	1	0	0
8:05 AM	2	21	4	0	1	18	2	0	1	0	0	0	4	0	0	0	53	0	0	0	0
8:10 AM	2	20	1	0	1	14	0	0	0	0	0	0	1	0	2	0	41	0	0	0	0
8:15 AM	1	14	2	0	1	22	0	0	0	1	0	0	2	0	1	0	44	1	0	0	0
8:20 AM	1	15	3	0	2	24	1	0	0	0	1	0	3	0	0	0	50	1	0	0	0
8:25 AM	1	12	1	0	1	25	0	0	0	0	0	0	1	0	0	0	41	1	0	0	0
8:30 AM	0	18	1	0	0	13	0	0	0	0	0	0	2	0	1	0	35	0	0	1	0
8:35 AM	0	12	6	0	1	14	1	0	1	0	0	0	3	0	1	0	39	0	0	0	0
8:40 AM	1	15	3	0	1	15	0	0	0	0	0	0	1	0	0	0	36	0	0	0	0
8:45 AM	0	17	3	0	3	22	0	1	0	0	0	0	2	0	0	0	47	0	0	0	0
8:50 AM	0	20	1	0	2	20	0	0	1	0	0	0	1	0	0	0	45	0	0	0	0
8:55 AM	0	12	4	0	1	13	0	0	0	0	0	0	2	0	1	0	33	0	0	1	0
Total Survey	26	328	81	0	66	398	39	2	10	2	7	0	44	3	23	0	1,027	6	3	5	22

### 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	6	29	16	0	18	42	7	0	2	0	3	0	3	2	2	0	130	0	0	1	1
7:15 AM	3	27	13	0	12	31	8	1	2	1	1	0	5	0	2	0	105	3	2	2	20
7:30 AM	6	29	7	0	7	48	6	0	2	0	2	0	7	0	6	0	120	0	0	0	1
7:45 AM	3	51	12	0	11	62	11	0	0	0	0	0	5	1	6	0	162	0	0	0	0
8:00 AM	4	57	9	0	6	47	5	0	2	0	0	0	7	0	3	0	140	0	1	0	0
8:15 AM	3	41	6	0	4	71	1	0	0	1	1	0	6	0	1	0	135	3	0	0	0
8:30 AM	1	45	10	0	2	42	1	0	1	0	0	0	6	0	2	0	110	0	0	1	0
8:45 AM	0	49	8	0	6	55	0	1	1	0	0	0	5	0	1	0	125	0	0	1	0
Total Survey	26	328	81	0	66	398	39	2	10	2	7	0	44	3	23	0	1,027	6	3	5	22

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

By Approach	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	228	256	484	0	279	198	477	0	8	40	48	0	42	63	105	0	557	3	1	0	1
%HV	17.5%				17.2%				12.5%				40.5%				19.0%				
PHF	0.75				0.82				0.50				0.81				0.84				

By Movement	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Total				
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total					
Volume	16	178	34	228	28	228	23	279	4	1	3	8	25	1	16	42	557				
%HV	0.0%	19.1%	17.6%	17.5%	3.6%	20.2%	4.3%	17.2%	0.0%	0.0%	33.3%	12.5%	52.0%	0.0%	25.0%	40.5%	19.0%				
PHF	0.67	0.72	0.71	0.75	0.50	0.80	0.48	0.82	0.50	0.25	0.38	0.50	0.69	0.25	0.57	0.81	0.84				

### Rolling Hour Summary 7:00 AM to 9:00 AM

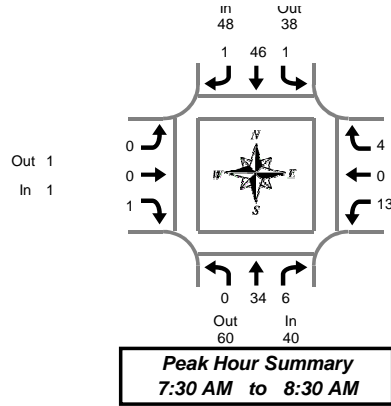
Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	18	136	48	0	48	183	32	1	6	1	6	0	20	3	16	0	517	3	2	3	22
7:15 AM	16	164	41	0	36	188	30	1	6	1	3	0	24	1	17	0	527	3	3	2	21
7:30 AM	16	178	34	0	28	228	23	0	4	1	3	0	25	1	16	0	557	3	1	0	1
7:45 AM	11	194	37	0	23	222	18	0	3	1	1	0	24	1	12	0	547	3	1	1	0
8:00 AM	8	192	33	0	18	215	7	1	4	1	1	0	24	0	7	0	510	3	1	2	0



# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Myslony Rd

Tuesday, July 10, 2018  
7:00 AM to 9:00 AM

### Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	1	2	0	3	0	0	0	0	2	0	0	2	5
7:05 AM	0	2	1	3	0	2	0	2	0	0	0	0	0	0	0	0	5
7:10 AM	0	2	0	2	0	4	0	4	0	0	1	1	1	2	0	3	10
7:15 AM	0	4	0	4	1	0	0	1	0	0	0	0	0	0	0	0	5
7:20 AM	0	3	0	3	0	4	0	4	1	0	0	1	0	0	0	0	8
7:25 AM	0	2	0	2	0	1	0	1	1	0	0	1	1	0	1	2	6
7:30 AM	0	5	1	6	0	1	0	1	0	0	1	1	2	0	0	2	10
7:35 AM	0	0	0	0	0	5	0	5	0	0	0	2	0	0	1	3	8
7:40 AM	0	2	1	3	0	2	0	2	0	0	0	0	1	0	0	1	6
7:45 AM	0	2	1	3	0	3	0	3	0	0	0	0	0	0	1	1	7
7:50 AM	0	3	0	3	0	4	0	4	0	0	0	0	0	0	1	1	8
7:55 AM	0	3	1	4	1	6	0	7	0	0	0	0	1	0	0	1	12
8:00 AM	0	2	1	3	0	3	1	4	0	0	0	0	0	0	1	1	8
8:05 AM	0	7	0	7	0	2	0	2	0	0	0	0	4	0	0	4	13
8:10 AM	0	5	0	5	0	2	0	2	0	0	0	0	1	0	0	1	8
8:15 AM	0	0	1	1	0	6	0	6	0	0	0	0	0	0	0	0	7
8:20 AM	0	1	0	1	0	6	0	6	0	0	0	0	1	0	0	1	8
8:25 AM	0	4	0	4	0	6	0	6	0	0	0	1	0	0	0	1	11
8:30 AM	0	6	1	7	0	3	0	3	0	0	0	0	1	0	0	1	11
8:35 AM	0	7	3	10	0	3	0	3	0	0	0	0	0	0	1	1	14
8:40 AM	1	3	1	5	0	2	0	2	0	0	0	0	0	0	0	0	7
8:45 AM	0	2	1	3	0	6	0	6	0	0	0	0	1	0	0	1	10
8:50 AM	0	5	0	5	1	0	0	1	1	0	0	1	1	0	0	1	8
8:55 AM	0	3	0	3	0	4	0	4	0	0	0	0	1	0	1	2	9
Total Survey	1	73	13	87	4	77	1	82	3	0	2	5	21	2	7	30	204

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

Interval Start Time	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Myslony Rd			Westbound SW Myslony Rd			Interval Total				
	L	T	R	L	T	R	L	T	R	L	T	R					
7:00 AM	0	4	1	5	1	8	0	9	0	0	1	1	3	2	0	5	20
7:15 AM	0	9	0	9	1	5	0	6	2	0	0	2	1	0	1	2	19
7:30 AM	0	7	2	9	0	8	0	8	0	0	1	1	5	0	1	6	24
7:45 AM	0	8	2	10	1	13	0	14	0	0	0	0	1	0	2	3	27
8:00 AM	0	14	1	15	0	7	1	8	0	0	0	0	5	0	1	6	29
8:15 AM	0	5	1	6	0	18	0	18	0	0	0	0	2	0	0	2	26
8:30 AM	1	16	5	22	0	8	0	8	0	0	0	0	1	0	1	2	32
8:45 AM	0	10	1	11	1	10	0	11	1	0	0	1	3	0	1	4	27
Total Survey	1	73	13	87	4	77	1	82	3	0	2	5	21	2	7	30	204

### Heavy Vehicle Peak Hour Summary 7:30 AM to 8:30 AM

By Approach	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Myslony Rd			Westbound SW Myslony Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	40	60	100	48	38	86	1	1	2	17	7	24	106
PHF	0.67			0.67			0.25			0.71			0.80

By Movement	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Myslony Rd			Westbound SW Myslony Rd			Total				
	L	T	R	L	T	R	L	T	R	L	T	R					
Volume	0	34	6	40	1	46	1	48	0	0	1	1	13	0	4	17	106
PHF	0.00	0.61	0.75	0.67	0.25	0.64	0.25	0.67	0.00	0.00	0.25	0.25	0.65	0.00	0.50	0.71	0.80

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

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	28	5	33	3	34	0	37	2	0	2	4	10	2	4	16	90
7:15 AM	0	38	5	43	2	33	1	36	2	0	1	3	12	0	5	17	99
7:30 AM	0	34	6	40	1	46	1	48	0	0	1	1	13	0	4	17	106
7:45 AM	1	43	9	53	1	46	1	48	0	0	0	0	9	0	4	13	114
8:00 AM	1	45	8	54	1	43	1	45	1	0	0	1	11	0	3	14	114

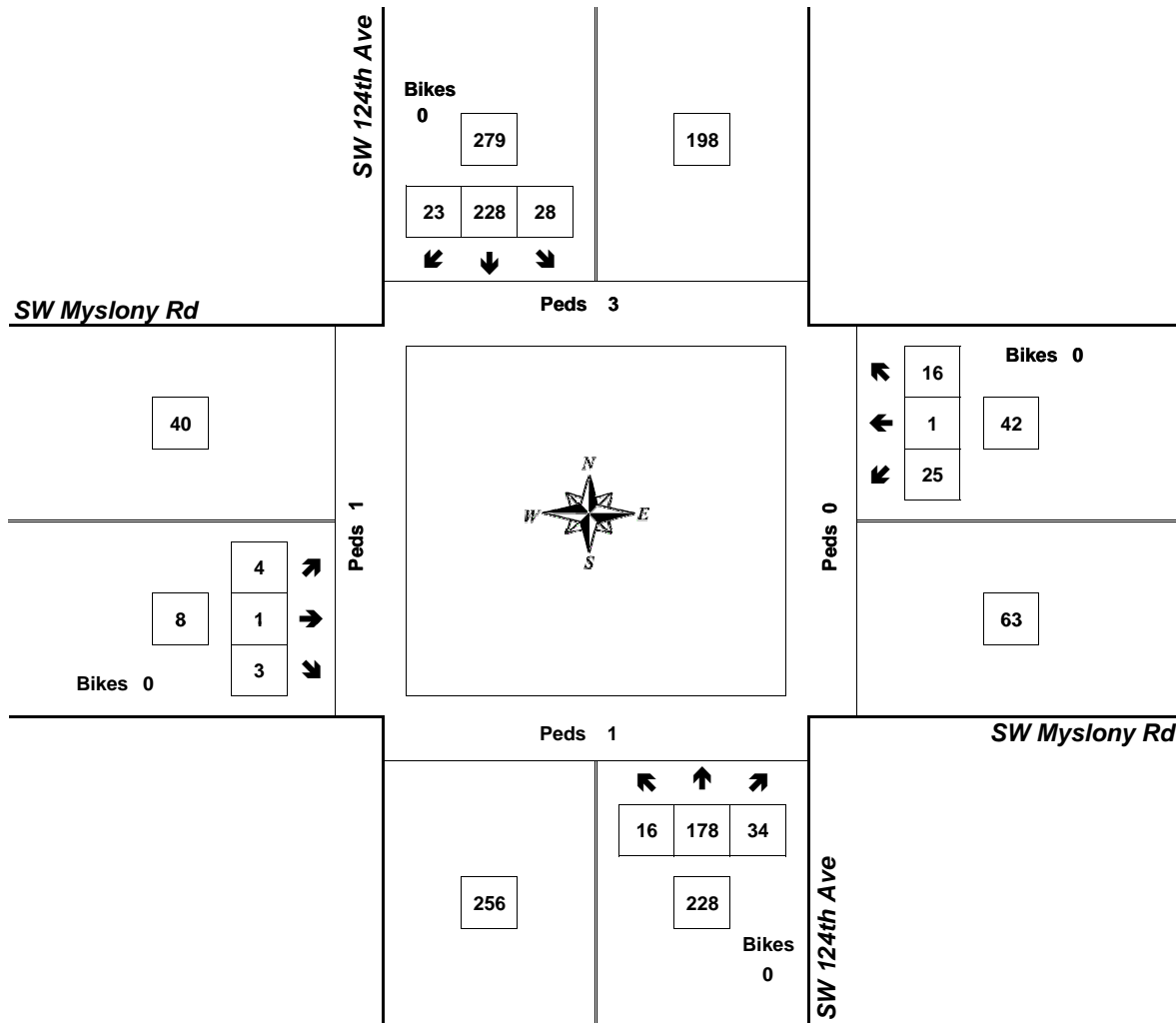
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW 124th Ave & SW Myslony Rd

7:30 AM to 8:30 AM  
Tuesday, July 10, 2018



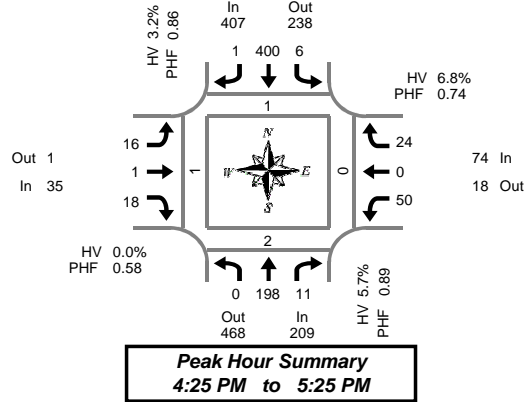
Approach	PHF	HV%	Volume
EB	0.50	12.5%	8
WB	0.81	40.5%	42
NB	0.75	17.5%	228
SB	0.82	17.2%	279
<b>Intersection</b>	<b>0.84</b>	<b>19.0%</b>	<b>557</b>

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

# Total Vehicle Summary



Clay Carney  
(503) 833-2740



## SW 124th Ave & SW Myslony Rd

Tuesday, July 10, 2018  
4:00 PM to 6:00 PM

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

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	11	0	0	0	23	1	0	5	0	1	0	6	0	7	0	54	0	1	0	0
4:05 PM	0	16	0	0	0	34	0	0	1	0	2	0	13	0	1	0	67	0	0	0	0
4:10 PM	0	18	2	0	0	14	0	0	2	0	1	0	7	0	1	0	45	0	0	0	0
4:15 PM	0	13	0	0	1	29	0	0	1	0	1	0	5	0	2	0	52	0	0	0	0
4:20 PM	0	19	2	0	0	24	0	0	1	0	1	0	3	0	0	0	50	0	0	0	0
4:25 PM	0	13	1	0	1	29	1	0	0	0	1	0	8	0	0	0	54	0	0	0	0
4:30 PM	0	25	0	0	0	33	0	0	3	0	2	0	4	0	2	0	69	0	0	0	0
4:35 PM	0	18	2	0	3	44	0	0	3	0	2	0	4	0	3	0	79	0	0	0	0
4:40 PM	0	13	1	1	2	32	0	0	0	0	5	0	3	0	0	0	56	0	1	0	0
4:45 PM	0	12	0	0	0	37	0	0	2	0	1	0	1	0	3	0	56	0	0	0	0
4:50 PM	0	19	1	0	0	34	0	0	1	0	2	0	5	0	2	0	64	0	1	0	1
4:55 PM	0	11	0	0	0	21	0	0	1	0	1	0	4	0	2	0	40	0	0	0	0
5:00 PM	0	17	0	0	0	23	0	0	0	0	0	0	1	0	4	0	45	1	0	0	0
5:05 PM	0	19	2	0	0	39	0	0	1	0	1	0	7	0	4	1	73	0	0	0	0
5:10 PM	0	17	2	0	0	37	0	0	2	0	3	0	5	0	2	1	68	0	0	0	0
5:15 PM	0	18	1	0	0	30	0	0	2	1	0	0	5	0	2	0	59	0	0	0	0
5:20 PM	0	16	1	0	0	41	0	0	1	0	0	0	3	0	0	1	62	0	0	0	0
5:25 PM	0	14	1	0	1	28	0	0	0	0	0	0	1	0	3	0	48	0	0	0	0
5:30 PM	0	15	1	0	1	26	0	0	3	1	1	0	2	0	1	0	51	0	0	0	0
5:35 PM	0	17	1	0	0	27	0	0	1	0	1	0	3	0	3	0	53	0	0	0	0
5:40 PM	0	7	0	0	2	21	0	0	1	0	0	0	2	0	2	0	35	0	0	0	0
5:45 PM	1	13	0	0	4	23	0	0	0	0	0	0	1	0	2	0	44	0	0	0	0
5:50 PM	0	8	0	0	0	25	0	0	0	0	0	0	4	0	3	0	40	0	0	0	0
5:55 PM	0	11	0	0	0	29	0	0	1	0	1	0	4	0	2	0	48	0	0	0	0
Total Survey	1	360	18	1	15	703	2	0	32	2	27	0	101	0	51	3	1,312	1	3	0	1

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

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	45	2	0	0	71	1	0	8	0	4	0	26	0	9	0	166	0	1	0	0
4:15 PM	0	45	3	0	2	82	1	0	2	0	3	0	16	0	2	0	156	0	0	0	0
4:30 PM	0	56	3	1	5	109	0	0	6	0	9	0	11	0	5	0	204	0	1	0	0
4:45 PM	0	42	1	0	0	92	0	0	4	0	4	0	10	0	7	0	160	0	1	0	1
5:00 PM	0	53	4	0	0	99	0	0	3	0	4	0	13	0	10	2	186	1	0	0	0
5:15 PM	0	48	3	0	1	99	0	0	3	1	0	0	9	0	5	1	169	0	0	0	0
5:30 PM	0	39	2	0	3	74	0	0	5	1	2	0	7	0	6	0	139	0	0	0	0
5:45 PM	1	32	0	0	4	77	0	0	1	0	1	0	9	0	7	0	132	0	0	0	0
Total Survey	1	360	18	1	15	703	2	0	32	2	27	0	101	0	51	3	1,312	1	3	0	1

### Peak Hour Summary 4:25 PM to 5:25 PM

By Approach	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	209	468	677	1	407	238	645	0	35	1	36	0	74	18	92	3	725	1	2	0	1
%HV	5.7%				3.2%				0.0%				6.8%				4.1%				
PHF	0.89				0.86				0.58				0.74				0.89				

By Movement	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	198	11	209	6	400	1	407	16	1	18	35	50	0	24	74	725
%HV	0.0%	4.0%	36.4%	5.7%	0.0%	3.3%	0.0%	3.2%	0.0%	0.0%	0.0%	0.0%	6.0%	0.0%	8.3%	6.8%	4.1%
PHF	0.00	0.88	0.55	0.89	0.30	0.88	0.25	0.86	0.67	0.25	0.50	0.58	0.74	0.00	0.60	0.74	0.89

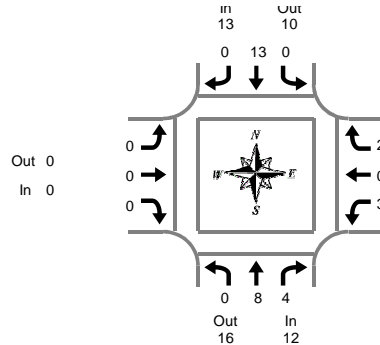
### Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	188	9	1	7	354	2	0	20	0	20	0	63	0	23	0	686	0	3	0	1
4:15 PM	0	196	11	1	7	382	1	0	15	0	20	0	50	0	24	2	706	1	2	0	1
4:30 PM	0	199	11	1	6	399	0	0	16	1	17	0	43	0	27	3	719	1	2	0	1
4:45 PM	0	182	10	0	4	364	0	0	15	2	10	0	39	0	28	3	654	1	1	0	1
5:00 PM	1	172	9	0	8	349	0	0	12	2	7	0	38	0	28	3	626	1	0	0	0

# Heavy Vehicle Summary



Clay Carney  
(503) 833-2740



**Peak Hour Summary**  
4:25 PM to 5:25 PM

## SW 124th Ave & SW Myslony Rd

Tuesday, July 10, 2018  
4:00 PM to 6:00 PM

### Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
4:00 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2
4:05 PM	0	1	0	1	0	2	0	2	0	0	0	0	1	0	0	0	1	4
4:10 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	1	2	3	
4:20 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:25 PM	0	0	1	1	0	1	0	1	0	0	0	0	2	0	0	2	4	
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
4:35 PM	0	1	1	2	0	3	0	3	0	0	0	0	1	0	0	1	6	
4:40 PM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2	
4:50 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	2
4:55 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:05 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
5:10 PM	0	0	1	1	0	2	0	2	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
5:20 PM	0	2	1	3	0	2	0	2	0	0	0	0	0	0	0	0	0	5
5:25 PM	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	1	0	1	0	3	0	3	0	0	0	0	1	0	1	2	6	
5:40 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	3
5:50 PM	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	2	3	
5:55 PM	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	2	
Total Survey	0	13	6	19	5	22	0	27	0	0	0	0	8	0	5	13	59	

### Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	2	1	3	0	4	0	4	0	0	0	0	1	0	0	1	8
4:15 PM	0	2	1	3	0	1	0	1	0	0	0	0	3	0	1	4	8
4:30 PM	0	2	1	3	0	6	0	6	0	0	0	0	1	0	0	1	10
4:45 PM	0	3	0	3	0	1	0	1	0	0	0	0	0	0	1	1	5
5:00 PM	0	1	1	2	0	3	0	3	0	0	0	0	0	0	0	0	5
5:15 PM	0	2	2	4	1	2	0	3	0	0	0	0	0	0	1	1	8
5:30 PM	0	1	0	1	1	3	0	4	0	0	0	0	1	0	1	2	7
5:45 PM	0	0	0	0	3	2	0	5	0	0	0	0	2	0	1	3	8
Total Survey	0	13	6	19	5	22	0	27	0	0	0	0	8	0	5	13	59

### Heavy Vehicle Peak Hour Summary

4:25 PM to 5:25 PM

By Approach	Northbound SW 124th Ave			Southbound SW 124th Ave			Eastbound SW Myslony Rd			Westbound SW Myslony Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	12	16	28	13	10	23	0	0	0	5	4	9	30
PHF	0.75			0.54			0.00			0.42			0.68

By Movement	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	8	4	12	0	13	0	13	0	0	0	0	3	0	2	5	30
PHF	0.00	0.67	0.50	0.75	0.00	0.54	0.00	0.54	0.00	0.00	0.00	0.00	0.25	0.00	0.50	0.42	0.68

### Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SW 124th Ave				Southbound SW 124th Ave				Eastbound SW Myslony Rd				Westbound SW Myslony Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	9	3	12	0	12	0	12	0	0	0	0	5	0	2	7	31
4:15 PM	0	8	3	11	0	11	0	11	0	0	0	0	4	0	2	6	28
4:30 PM	0	8	4	12	1	12	0	13	0	0	0	0	1	0	2	3	28
4:45 PM	0	7	3	10	2	9	0	11	0	0	0	0	1	0	3	4	25
5:00 PM	0	4	3	7	5	10	0	15	0	0	0	0	3	0	3	6	28

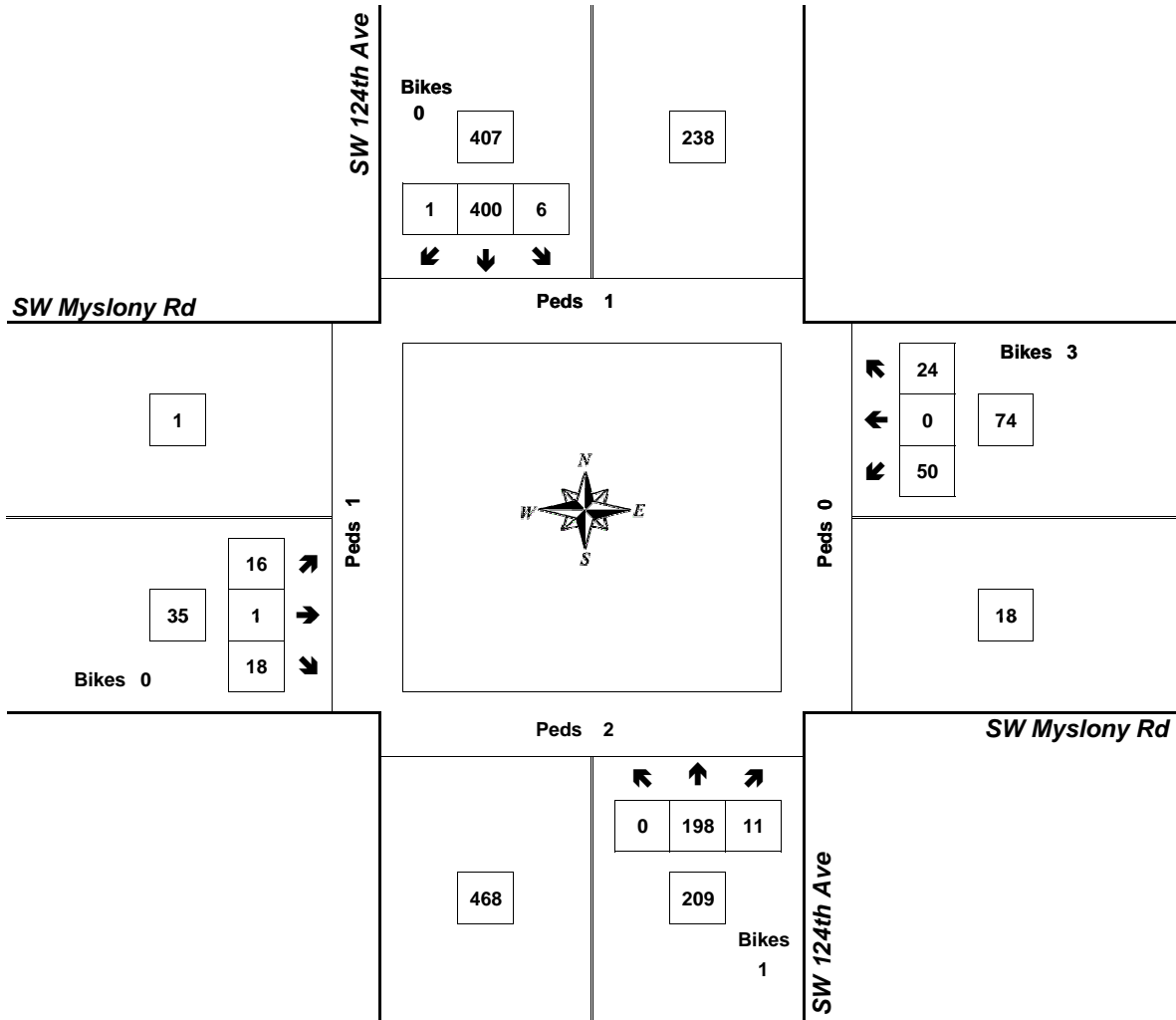
# Peak Hour Summary



Clay Carney  
(503) 833-2740

## SW 124th Ave & SW Myslony Rd

4:25 PM to 5:25 PM  
Tuesday, July 10, 2018



Approach	PHF	HV%	Volume
EB	0.58	0.0%	35
WB	0.74	6.8%	74
NB	0.89	5.7%	209
SB	0.86	3.2%	407
<b>Intersection</b>	<b>0.89</b>	<b>4.1%</b>	<b>725</b>

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

**All Traffic Data Services, LLC**  
alltrafficdata.net

Date Start: 15-Jul-21  
Date End: 16-Jul-21  
SW 124th Ave S-O SW Myslony St  
Site Code: 1

NB

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
07/15/21	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	1	2	1	7	15	30	53	76	33	12	3	0	0	0	233	51	56
15:00	1	0	4	4	20	35	96	102	53	8	1	1	1	0	326	51	54
16:00	5	0	2	2	6	12	71	144	93	16	4	1	0	0	356	53	56
17:00	3	0	2	1	5	15	73	116	75	21	9	2	0	0	322	53	58
18:00	0	0	0	0	1	15	45	64	40	17	4	1	0	0	187	54	58
19:00	0	0	1	1	3	4	25	37	20	7	1	0	0	0	99	53	57
20:00	2	0	0	0	3	1	35	39	33	11	0	0	0	1	125	53	57
21:00	1	0	0	1	0	13	26	30	12	6	1	0	0	0	90	52	57
22:00	1	1	0	0	1	4	12	25	8	2	1	0	0	0	55	51	55
23:00	0	0	0	3	2	3	11	9	4	3	4	0	0	0	39	56	62
Total	14	3	10	19	56	132	447	642	371	103	28	5	1	1	1832		
Percent	0.8%	0.2%	0.5%	1.0%	3.1%	7.2%	24.4%	35.0%	20.3%	5.6%	1.5%	0.3%	0.1%	0.1%			
AM Peak Vol.																	
PM Peak Vol.	16:00	14:00	15:00	14:00	15:00	15:00	15:00	16:00	16:00	17:00	17:00	17:00	15:00	20:00	16:00		
	5	2	4	7	20	35	96	144	93	21	9	2	1	1	356		



**All Traffic Data Services, LLC**  
alltrafficdata.net

Date Start: 15-Jul-21  
Date End: 16-Jul-21  
SW 124th Ave S-O SW Myslony St  
Site Code: 1

NB	Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th	95th
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999		Percent	Percent	
07/16/21	0	0	0	1	0	3	4	11	2	0	0	0	0	0	0	21	49	52
01:00	0	0	0	0	0	2	8	9	3	1	0	0	0	0	0	23	50	54
02:00	1	0	0	0	0	1	7	2	3	0	0	1	0	0	0	15	52	66
03:00	0	1	0	2	10	10	4	8	7	1	1	0	0	0	0	44	51	54
04:00	1	0	1	12	33	21	15	20	9	1	0	0	0	0	0	113	48	52
05:00	1	0	1	5	12	21	20	45	27	15	3	3	0	0	0	153	54	59
06:00	4	1	0	3	15	31	31	53	31	14	3	1	0	0	0	187	53	58
07:00	3	0	3	7	15	29	32	61	40	15	0	2	0	0	0	207	53	57
08:00	2	0	1	5	9	14	49	70	30	9	1	0	0	0	0	190	51	55
09:00	3	0	2	4	3	29	65	52	22	12	3	0	0	0	0	195	51	57
10:00	0	0	1	7	10	32	53	69	18	3	1	0	0	0	0	194	49	53
11:00	4	0	2	3	10	36	49	56	27	5	3	0	0	0	0	195	51	54
12 PM	4	0	2	7	10	30	64	71	35	3	2	0	0	0	0	228	50	54
13:00	3	0	0	6	10	27	56	98	22	3	1	0	0	0	0	226	49	53
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	26	2	13	62	137	286	457	625	276	82	18	7	0	0	0	1991		
Percent	1.3%	0.1%	0.7%	3.1%	6.9%	14.4%	23.0%	31.4%	13.9%	4.1%	0.9%	0.4%	0.0%	0.0%				
AM Peak	06:00	03:00	07:00	04:00	04:00	11:00	09:00	08:00	07:00	05:00	05:00	05:00	05:00			07:00		
Vol.	4	1	3	12	33	36	65	70	40	15	3	3				207		
PM Peak	12:00		12:00	12:00	12:00	12:00	12:00	13:00	12:00	12:00	12:00					12:00		
Vol.	4		2	7	10	30	64	98	35	3	2					228		
Grand Total	40	5	23	81	193	418	904	1267	647	185	46	12	1	1	0	3823		
Percent	1.0%	0.1%	0.6%	2.1%	5.0%	10.9%	23.6%	33.1%	16.9%	4.8%	1.2%	0.3%	0.0%	0.0%				

15th Percentile : 37 MPH  
50th Percentile : 45 MPH  
85th Percentile : 52 MPH  
95th Percentile : 56 MPH

Statistics  
10 MPH Pace Speed : 41-50 MPH  
Number in Pace : 2171  
Percent in Pace : 56.8%  
Number of Vehicles > 55 MPH : 245  
Percent of Vehicles > 55 MPH : 6.4%  
Mean Speed(Average) : 46 MPH

**All Traffic Data Services, LLC**  
alltrafficdata.net

Date Start: 19-Jul-21  
Date End: 20-Jul-21  
SW 124th Ave S-O SW Myslony St  
Site Code: 1

NB	Start Time	15	16:20	21:25	26:30	31:35	36:40	41:45	46:50	51:55	56:60	61:65	66:70	71:75	76:999	Total	85th Percent	95th Percent
07/19/21		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00		<b>3</b>	0	1	<b>13</b>	<b>31</b>	<b>67</b>	<b>166</b>	<b>115</b>	<b>46</b>	4	<b>2</b>	0	0	<b>448</b>	49	53	
17:00		1	1	<b>2</b>	13	18	67	130	89	27	<b>5</b>	1	0	0	0	354	48	52
18:00		0	0	2	7	13	33	70	54	18	2	0	<b>1</b>	0	0	200	49	53
19:00		1	0	1	3	3	9	34	45	10	3	0	0	0	<b>1</b>	110	49	53
20:00		0	1	1	0	10	16	30	39	9	1	1	0	0	0	108	49	53
21:00		0	<b>2</b>	2	5	5	10	26	17	8	1	1	0	0	0	77	49	53
22:00		0	0	0	1	2	5	16	18	5	1	0	0	0	0	48	49	53
23:00		0	0	0	0	1	5	8	9	3	0	1	0	0	0	27	49	54
Total		5	4	9	42	83	212	480	386	126	17	6	1	0	1	1372		
Percent		0.4%	0.3%	0.7%	3.1%	6.0%	15.5%	35.0%	28.1%	9.2%	1.2%	0.4%	0.1%	0.0%	0.1%			
AM Peak																		
Vol.																		
PM Peak	16:00	21:00	17:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	17:00	16:00	18:00		19:00	16:00		
Vol.	3	2	2	13	31	67	166	115	46	5	2	1		1	448			

# All Traffic Data Services, LLC

## alltrafficdata.net

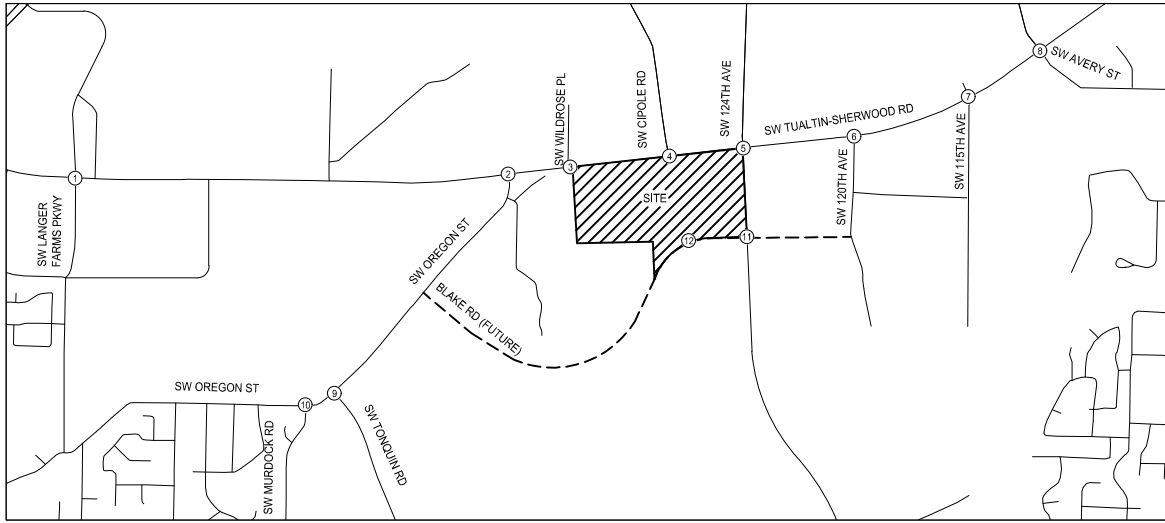
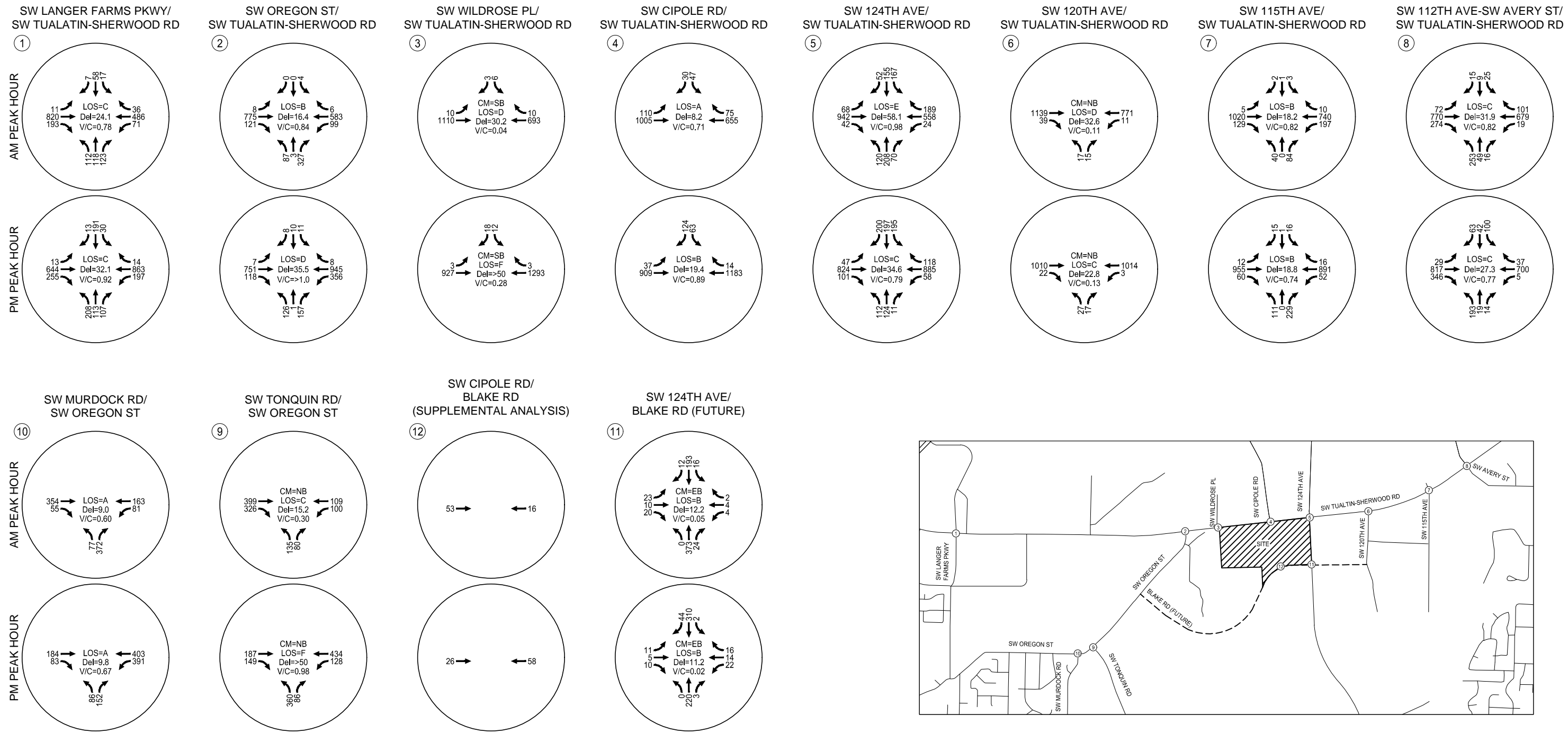
Date Start: 19-Jul-21  
Date End: 20-Jul-21  
SW 124th Ave S-O SW Myslony St  
Site Code: 1

NB

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
07/20/21	0	0	0	1	1	6	6	3	4	0	0	0	0	0	21	51	53
01:00	0	0	1	4	0	1	7	7	1	0	0	0	0	0	21	48	49
02:00	0	0	3	11	8	7	8	3	0	0	0	0	0	0	40	43	46
03:00	0	0	0	0	1	3	12	5	2	1	0	0	0	0	24	49	54
04:00	0	0	0	1	2	12	16	27	10	0	0	1	0	0	69	50	53
05:00	0	0	0	1	4	14	23	49	24	6	1	0	0	0	122	52	55
06:00	2	0	4	3	2	20	41	48	26	9	0	0	1	0	156	52	56
07:00	2	0	3	9	14	31	84	100	28	7	0	0	0	0	278	49	53
08:00	3	5	3	9	15	47	78	56	8	1	0	0	0	0	225	47	49
09:00	0	0	1	13	13	46	77	42	10	2	0	0	0	0	204	47	50
10:00	2	3	7	10	18	47	71	52	15	2	1	2	0	0	230	48	52
11:00	0	3	4	11	29	51	92	52	13	0	0	1	0	0	256	47	50
12 PM	4	4	6	11	23	52	98	56	12	2	1	0	1	0	270	47	51
13:00	1	0	5	4	25	27	86	82	18	7	0	0	0	0	255	49	53
14:00	2	2	2	19	36	68	137	65	19	4	1	0	0	0	355	47	51
15:00	2	2	11	35	56	78	147	97	21	2	1	0	0	0	452	47	50
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	18	19	50	142	247	510	983	744	211	43	5	4	2	0	2978		
Percent	0.6%	0.6%	1.7%	4.8%	8.3%	17.1%	33.0%	25.0%	7.1%	1.4%	0.2%	0.1%	0.1%	0.0%			
AM Peak	08:00	08:00	10:00	09:00	11:00	11:00	11:00	07:00	07:00	06:00	05:00	10:00	06:00		07:00		
Vol.	3	5	7	13	29	51	92	100	28	9	1	2	1		278		
PM Peak	12:00	12:00	15:00	15:00	15:00	15:00	15:00	15:00	15:00	13:00	12:00		12:00		15:00		
Vol.	4	4	11	35	56	78	147	97	21	7	1		1		452		
Grand Total	23	23	59	184	330	722	1463	1130	337	60	11	5	2	1	4350		
Percent	0.5%	0.5%	1.4%	4.2%	7.6%	16.6%	33.6%	26.0%	7.7%	1.4%	0.3%	0.1%	0.0%	0.0%			

15th Percentile : 35 MPH  
50th Percentile : 42 MPH  
85th Percentile : 48 MPH  
95th Percentile : 52 MPH

Statistics  
10 MPH Pace Speed : 41-50 MPH  
Number in Pace : 2593  
Percent in Pace : 59.6%  
Number of Vehicles > 55 MPH : 79  
Percent of Vehicles > 55 MPH : 1.8%  
Mean Speed(Average) : 43 MPH

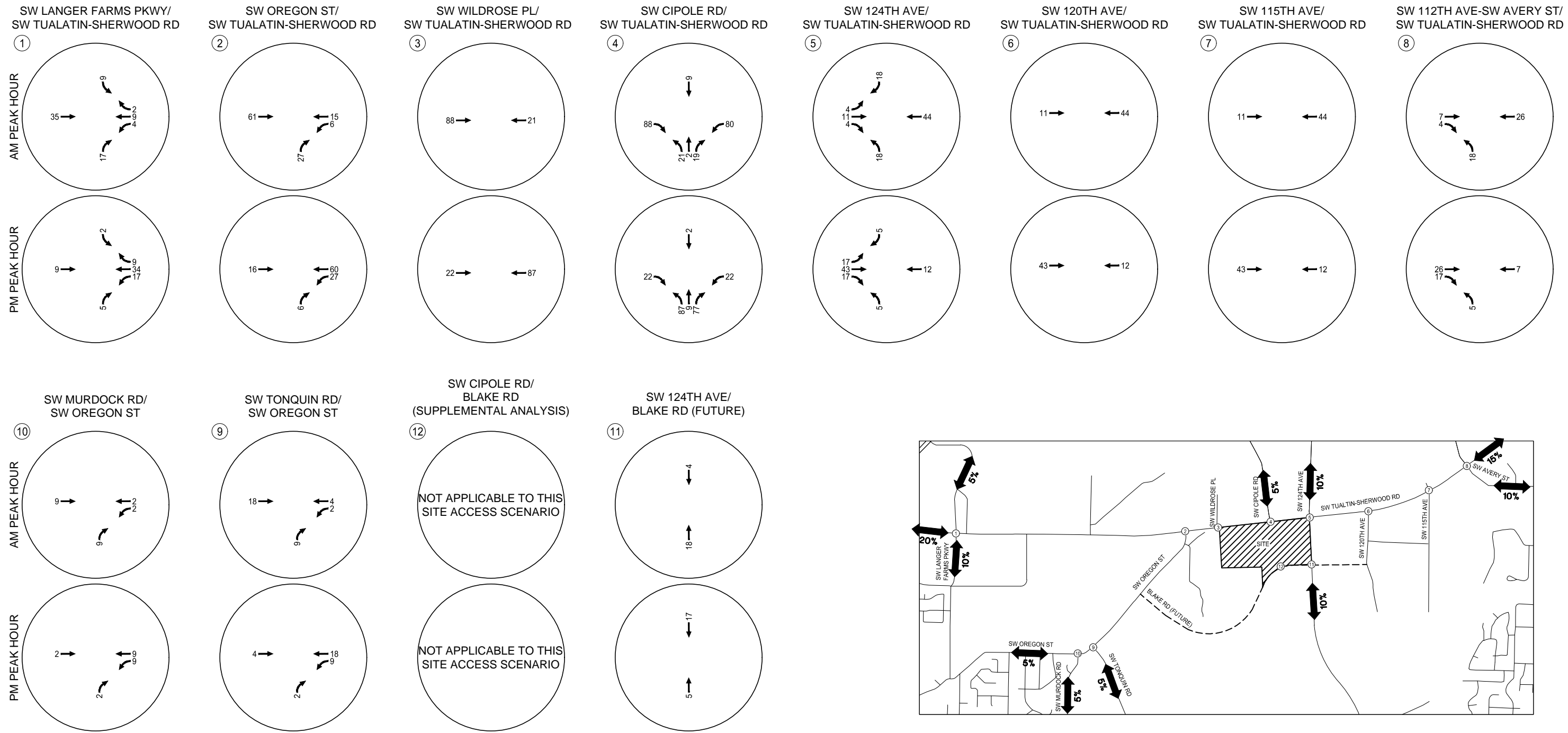


H:\2323278 - Onr Property Corporate Park.dwg\23278\_TIA.dwg Jan 02, 2020 - 11:30am - cbougherty Layout Tab: Background 2021 Ops\_Fig 5

CM = Critical Movement (Unsignalized)  
 LOS = Intersection Level of Service (Signalized) / Critical Movement Level of Service (Unsignalized)  
 Del = Intersection Average Control Delay (Signalized) / Critical Movement Control Delay (Unsignalized)  
 V/C = Volume-to-Capacity Ratio

Year 2021 Background Traffic Conditions  
 Weekday AM and PM Peak Hours  
 Sherwood, Oregon

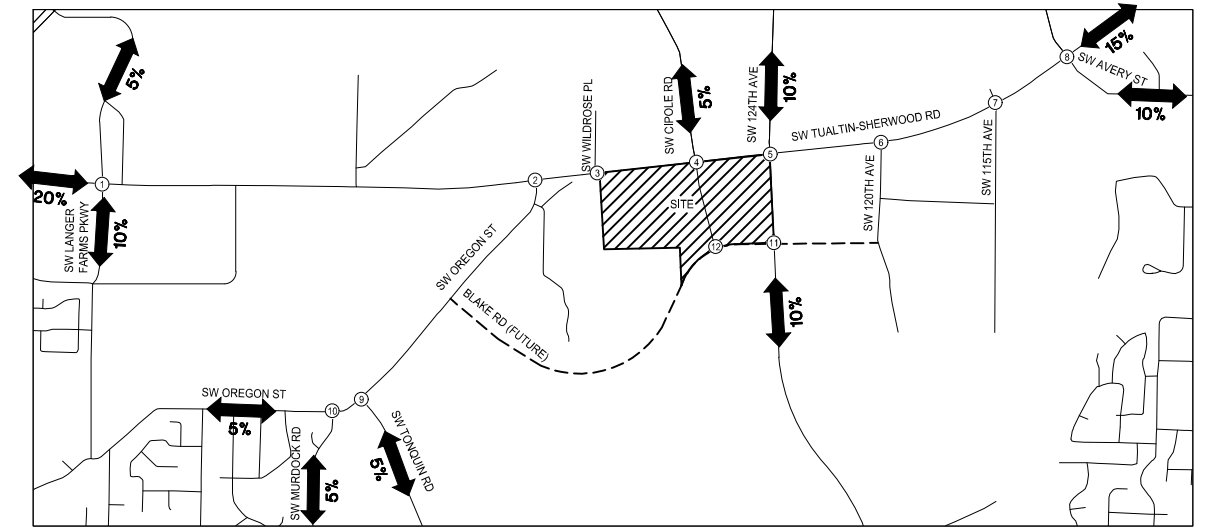
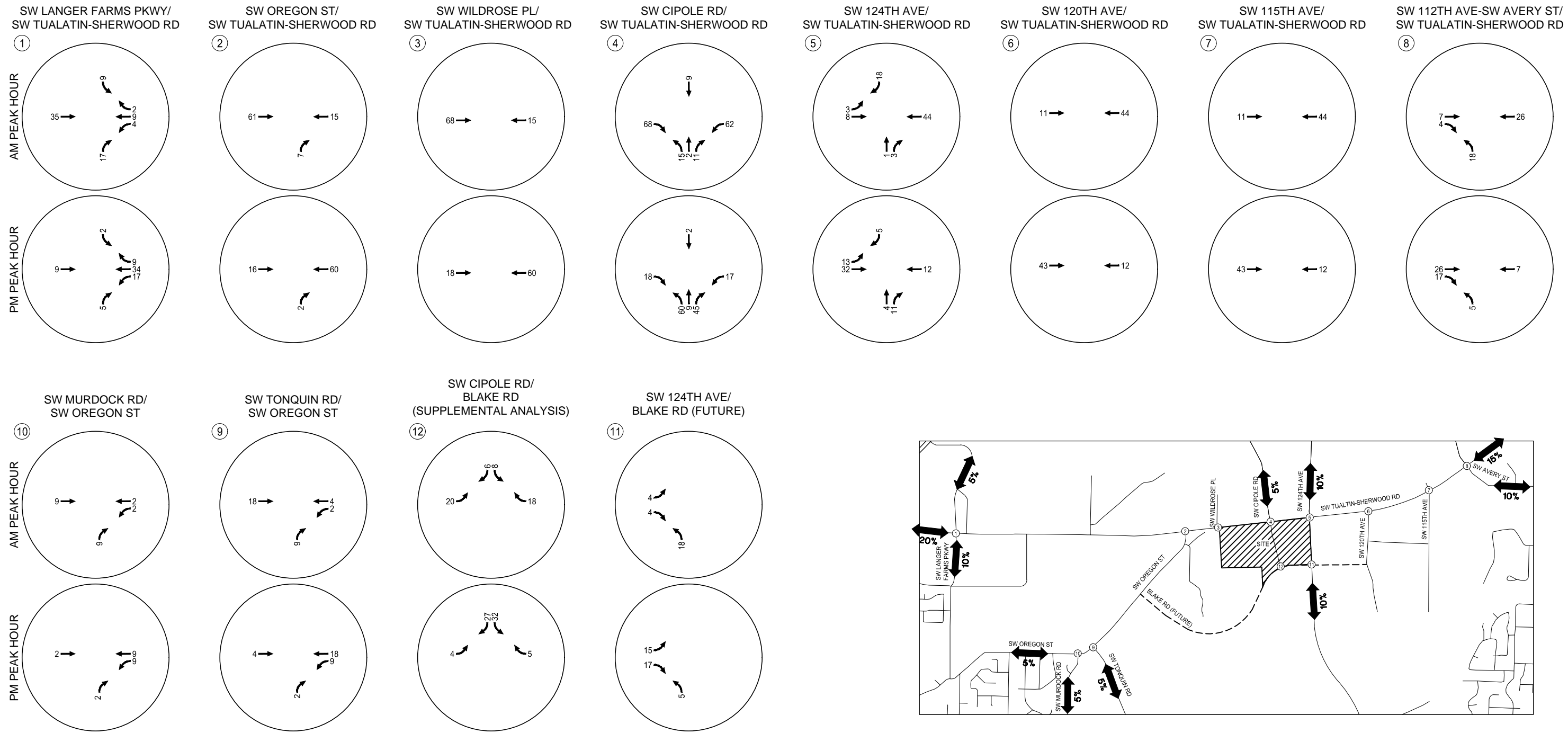
Figure 5



Site Trip Distribution  
 Weekday AM and PM Peak Hours  
 Sherwood, Oregon

Figure  
 6

H:\2323278 - On Property Corporate Park.dwg\23278\_TIA.dwg Jan 02, 2020 - 11:31am - cbougherty Layout Tab: Trip Dist\_culdesac\_Fig 6



Site Trip Distribution - Alternative Access Scenario  
Weekday AM and PM Peak Hours  
Sherwood, Oregon

Figure  
11

H:\2323278 - On Property Corporate Park.dwg\23278\_TIA.dwg Jan 02, 2020 - 11:35am - cbougherty Layout Tab: Trip Dist\_cipole ext\_fig 11



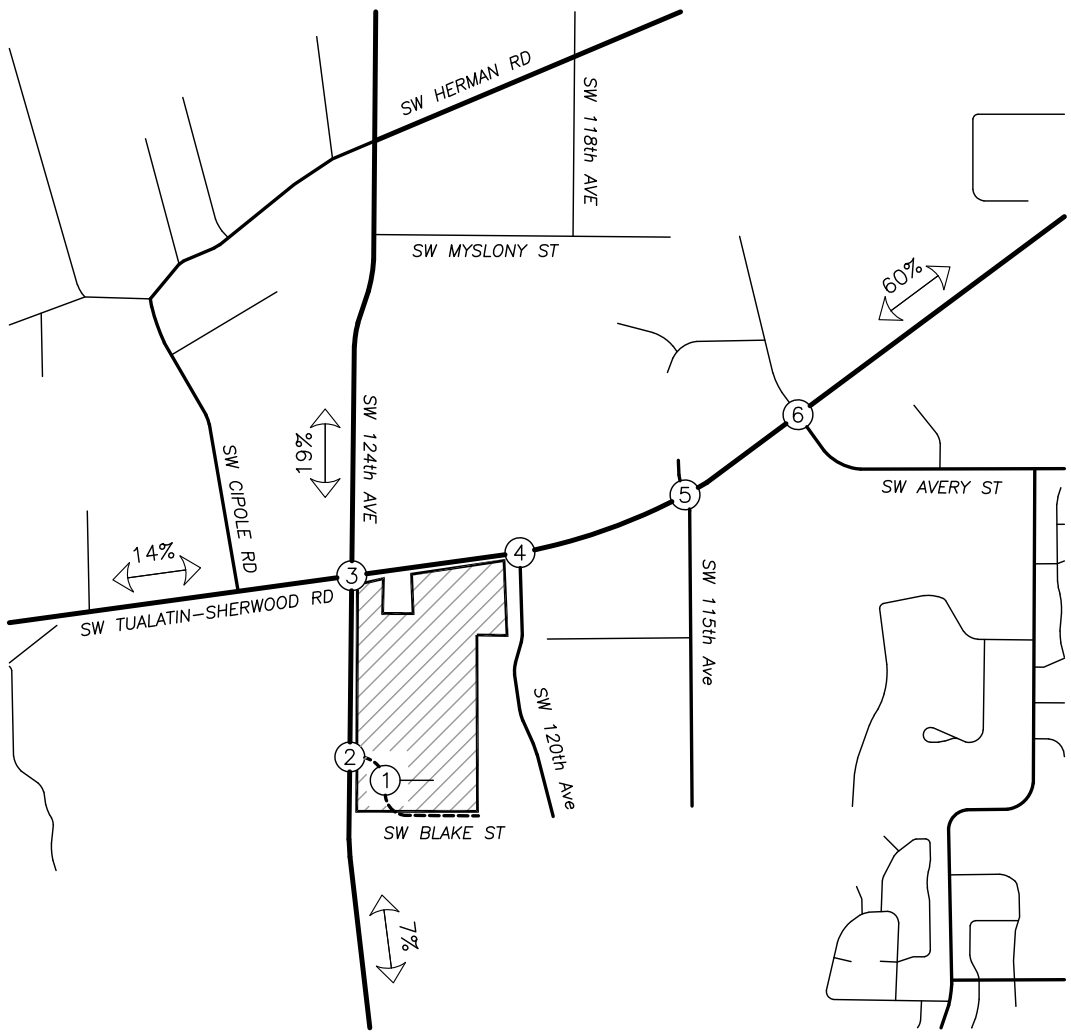
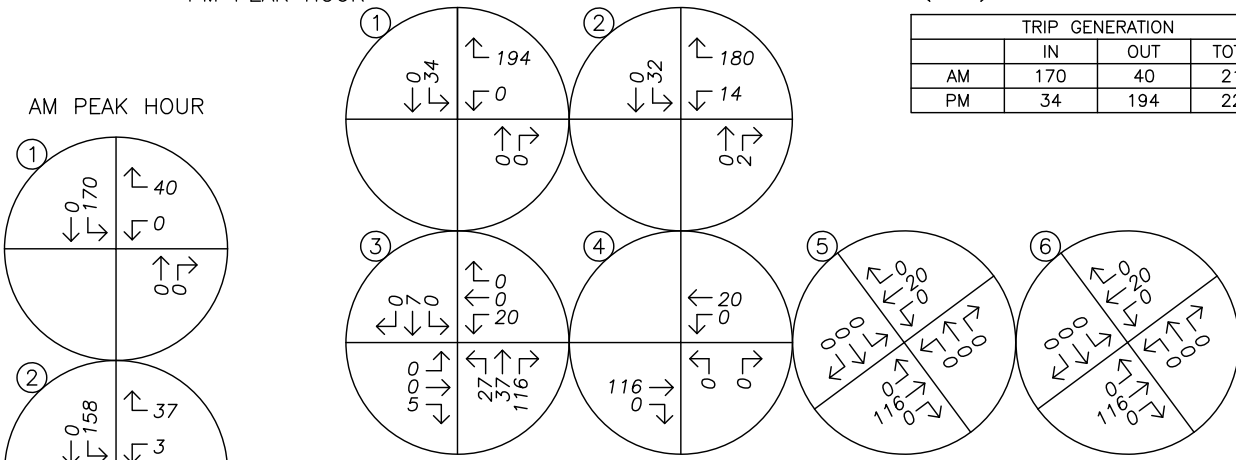
LEGEND

XX% PERCENT OF PROJECT TRIPS

TRIP GENERATION			
	IN	OUT	TOTAL
AM	170	40	210
PM	34	194	228

PM PEAK HOUR

AM PEAK HOUR



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



FIGURE 4

PAGE 10

## Appendix C – Safety

Crash Reports

Left-Turn Lane Warrant Analysis

Preliminary Signal Warrant Analysis



12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and OREGON ST, City of Sherwood, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
<b>YEAR: 2019</b>														
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	1	0	1	0	1	0	1
REAR-END	0	8	2	10	0	16	0	9	1	7	3	4	1	0
SIDESWIPE - OVERTAKING	0	0	1	1	0	0	0	1	0	1	0	0	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	0	1	1	0	1	0	0
<b>YEAR 2019 TOTAL</b>	<b>0</b>	<b>10</b>	<b>3</b>	<b>13</b>	<b>0</b>	<b>18</b>	<b>0</b>	<b>11</b>	<b>2</b>	<b>10</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>1</b>
<b>YEAR: 2018</b>														
REAR-END	0	4	3	7	0	7	0	6	1	6	1	2	1	0
<b>YEAR 2018 TOTAL</b>	<b>0</b>	<b>4</b>	<b>3</b>	<b>7</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>YEAR: 2017</b>														
REAR-END	0	8	3	11	0	13	1	7	4	10	1	5	0	0
TURNING MOVEMENTS	0	3	6	9	0	7	4	8	1	6	3	9	0	0
<b>YEAR 2017 TOTAL</b>	<b>0</b>	<b>11</b>	<b>9</b>	<b>20</b>	<b>0</b>	<b>20</b>	<b>5</b>	<b>15</b>	<b>5</b>	<b>16</b>	<b>4</b>	<b>14</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2016</b>														
HEAD-ON	0	1	0	1	0	2	0	1	0	0	1	1	0	0
REAR-END	0	10	2	12	0	12	1	10	2	8	4	3	5	1
TURNING MOVEMENTS	0	3	3	6	0	4	2	3	3	5	1	6	0	0
<b>YEAR 2016 TOTAL</b>	<b>0</b>	<b>14</b>	<b>5</b>	<b>19</b>	<b>0</b>	<b>18</b>	<b>3</b>	<b>14</b>	<b>5</b>	<b>13</b>	<b>6</b>	<b>10</b>	<b>5</b>	<b>1</b>
<b>YEAR: 2015</b>														
REAR-END	0	8	4	12	0	16	2	8	4	9	3	3	1	0
SIDESWIPE - OVERTAKING	0	0	1	1	0	0	0	1	0	1	0	0	0	0

12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and OREGON ST, City of Sherwood, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	NON-	PROPERTY	TOTAL	PEOPLE	PEOPLE	TRUCKS	DRY	WET	DAY	DARK	INTER-	SECTION	OFF-
	CRASHES	FATAL	DAMAGE	CRASHES	KILLED	INJURED		SURF	SURF			SECTION	RELATED	
TURNING MOVEMENTS	0	2	0	2	0	5	0	2	0	1	1	2	0	0
<b>YEAR 2015 TOTAL</b>	<b>0</b>	<b>10</b>	<b>5</b>	<b>15</b>	<b>0</b>	<b>21</b>	<b>2</b>	<b>11</b>	<b>4</b>	<b>11</b>	<b>4</b>	<b>5</b>	<b>1</b>	<b>0</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>49</b>	<b>25</b>	<b>74</b>	<b>0</b>	<b>84</b>	<b>10</b>	<b>57</b>	<b>17</b>	<b>56</b>	<b>18</b>	<b>37</b>	<b>8</b>	<b>2</b>

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

12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and OREGON ST, City of Sherwood, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
<b>YEAR: 2019</b>										
FIXED / OTHER OBJECT	0	0	0	1	0	1	0	0	0	1
REAR-END	0	0	0	8	2	10	0	0	0	16
SIDESWIPE - OVERTAKING	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	0	1	0	1	0	0	0	1
<b>2019 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>3</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>
<b>YEAR: 2018</b>										
REAR-END	0	0	1	3	3	7	0	0	2	5
<b>2018 TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>5</b>
<b>YEAR: 2017</b>										
REAR-END	0	0	1	7	3	11	0	0	1	12
TURNING MOVEMENTS	0	0	2	1	6	9	0	0	5	2
<b>2017 TOTAL</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>8</b>	<b>9</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>14</b>
<b>YEAR: 2016</b>										
HEAD-ON	0	0	0	1	0	1	0	0	0	2
REAR-END	0	0	2	8	2	12	0	0	2	10
TURNING MOVEMENTS	0	0	2	1	3	6	0	0	2	2
<b>2016 TOTAL</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>10</b>	<b>5</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>14</b>
<b>YEAR: 2015</b>										
REAR-END	0	1	1	6	4	12	0	1	1	14
SIDESWIPE - OVERTAKING	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	1	1	0	2	0	0	2	3
<b>2015 TOTAL</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>7</b>	<b>5</b>	<b>15</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>17</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>1</b>	<b>10</b>	<b>38</b>	<b>25</b>	<b>74</b>	<b>0</b>	<b>1</b>	<b>15</b>	<b>68</b>

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

CITY OF SHERWOOD, WASHINGTON COUNTY

TUALATIN-SHERWOOD and OREGON ST, City of Sherwood, Washington County, 01/01/2015 to 12/31/2019

1 - 4 of 74 Crash records shown.

SER#	P R J S W DATE	CLASS	CITY STREET	INT-TYPE				SPCL USE					A S	G E LICNS	PED	ERROR	ACT	EVENT	CAUSE		
				RD CHAR	LEGS	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE	OWNER								FROM	PRTC
UNLOC?	D C S V L K LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E X RES	LOC				
02200	N N N	04/25/2015	14	SW OREGON ST	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE	0	STRGHT					013	07		
NO RPT	SA	0	SW TUALATIN-SHERWOOD	E		TRF SIGNAL	N	DRY	REAR	PRVTE	E -W							000	00		
N	3P	06	0				N	DAY	INJ	PSNGR CAR			01 DRVR	NONE	21 F	OR-Y		042	000	07	
N	45 22 5.83	-122 48 58.75														OR<25					
										02 NONE	0	STOP							011	013	00
										PRVTE	E -W							000	000	00	
										PSNGR CAR			01 DRVR	NONE	23 M	OR-Y					
																OR<25					00
										03 NONE	0	STOP							022		00
										PRVTE	E -W							000	000	00	
										PSNGR CAR			01 DRVR	INJB	58 F	OR-Y					00
																OR<25					00
05457	N Y N	08/16/2016	14	SW OREGON ST	INTER	3-LEG	N	N	CLR	O-STRGHT	01 NONE	0	STRGHT					013		04	
CITY	TU	0	SW TUALATIN-SHERWOOD	E		TRF SIGNAL	N	DRY	HEAD	PRVTE	W -E							000		00	
N	8P	06	0				N	DUSK	INJ	PSNGR CAR			01 DRVR	INJC	75 M	OR-Y		020	000	04	
N	45 22 5.83	-122 48 58.75														OR<25					
										02 NONE	0	STOP							011	013	00
										PRVTE	E -W							000	000	00	
										PSNGR CAR			01 DRVR	INJC	48 M	OR-Y					00
																OR<25					00
										03 NONE	0	STOP							022		00
										PRVTE	E -W							000	000	00	
										PSNGR CAR			01 DRVR	NONE	22 F	OR-Y					00
																OR<25					00
02711	N N N	04/25/2016	14	SW OREGON ST	INTER	3-LEG	N	N	CLR	ANGL-OTH	01 NONE	9	STRGHT							02	
CITY	MO	0	SW TUALATIN-SHERWOOD	E		TRF SIGNAL	N	DRY	TURN	N/A	W -E							000		00	
N	10A	05	0				N	DAY	PDO	SEMI TOW			01 DRVR	NONE	00 Unk	UNK		000	000	00	
N	45 22 5.83	-122 48 58.75														UNK					
										02 NONE	9	TURN-R							000		00
										N/A	S -E							000	000	00	
										PSNGR CAR			01 DRVR	NONE	00 Unk	UNK		000	000	00	
																UNK					00
08530	N N N	12/12/2016	14	SW OREGON ST	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE	9	STRGHT							29	
NO RPT	MO	0	SW TUALATIN-SHERWOOD	E		TRF SIGNAL	N	DRY	REAR	N/A	E -W							000		00	
N	1P	06	0				N	DAY	PDO	PSNGR CAR			01 DRVR	NONE	00 Unk	UNK		000	000	00	
N	45 22 5.83	-122 48 58.75														UNK					
										02 NONE	9	STOP							011		00
										N/A	E -W							000	000	00	
										PSNGR CAR			01 DRVR	NONE	00 Unk	UNK		000	000	00	
																UNK					00

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CITY OF SHERWOOD, WASHINGTON COUNTY

TUALATIN-SHERWOOD and OREGON ST, City of Sherwood, Washington County, 01/01/2015 to 12/31/2019  
10 - 13 of 74 Crash records shown.

SER#	P R J S W DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE	A S			
INVEST	E A U I C O DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN) INT-REL	OFFRD WTHR CRASH	TRLR QTY	MOVE	A S
RD DPT	E L G N H R TIME	FROM	SECOND STREET	DIRECT	LEGS TRAF-	RNDBT SURF COLL	OWNER	FROM	PRTC INJ G E LICNS PED
UNLOC?	D C S V L K LAT	LONG	LRS	LOCTN	(#LANES) CONTL	DRVWY LIGHT SVRTY	V# TYPE	TO	P# TYPE SVRTY E X RES LOC ERROR ACT EVENT CAUSE
00979	N Y N N N 02/22/2015	16	SW OREGON ST	INTER	3-LEG N	N CLR S-1STOP	01 NONE 0	STRGHT	
CITY	SU	0	SW TUALATIN-SHERWOOD	S		TRF SIGNAL N DRY REAR	PRVTE	S -N	000 00
N	9A			06	0	N DAY PDO	PSNGR CAR	01 DRVR NONE 33 M SUSP	026 000 29
N	45 22 5.83	-122 48 58.75							OR<25
							02 NONE 0	STOP	
							PRVTE	S -N	011 00
							PSNGR CAR	01 DRVR NONE 57 F OR-Y	000 000 00
									OR<25
04231	N N N N N 07/27/2015	16	SW OREGON ST	INTER	3-LEG N	N CLR S-1STOP	01 NONE 0	STRGHT	
CITY	MO	0	SW TUALATIN-SHERWOOD	S		TRF SIGNAL N DRY REAR	PRVTE	S -N	000 00
N	7A			06	0	N DAY PDO	PSNGR CAR	01 DRVR NONE 22 M OR-Y	043 000 07
N	45 22 5.83	-122 48 58.75							OR<25
							02 NONE 0	STOP	
							PRVTE	S -N	011 00
							PSNGR CAR	01 DRVR NONE 23 F OTH-Y	000 000 00
									OR<25
02295	N N N N N 04/07/2016	14	SW OREGON ST	INTER	3-LEG N	N CLR S-1STOP	01 NONE 0	STRGHT	
CITY	TH	0	SW TUALATIN-SHERWOOD	W		TRF SIGNAL N DRY REAR	PRVTE	W -E	000 00
N	8A			06	0	N DAY INJ	PSNGR CAR	01 DRVR NONE 41 F OR-Y	043 000 07
N	45 22 5.83	-122 48 58.75							OR<25
							02 NONE 0	STOP	
							PRVTE	W -E	011 00
							PSNGR CAR	01 DRVR INJC 59 F OR-Y	000 000 00
									OR<25
08136	N N N N N 11/28/2016	14	SW OREGON ST	INTER	3-LEG N	N CLR S-1STOP	01 NONE 0	STRGHT	
CITY	MO	0	SW TUALATIN-SHERWOOD	W		TRF SIGNAL N WET REAR	PRVTE	W -E	000 00
N	8A			06	0	N DAY INJ	PSNGR CAR	01 DRVR NONE 40 M OR-Y	043 000 07
N	45 22 5.83	-122 48 58.75							OR<25
							02 NONE 0	STOP	
							PRVTE	W -E	011 013 00
							PSNGR CAR	01 DRVR INJC 47 F OR-Y	000 000 00
									OR<25
							03 NONE 0	STOP	
							PRVTE	W -E	022 00
							PSNGR CAR	01 DRVR NONE 50 M OR-Y	000 000 00
									OR<25
01296	N N N N N 03/07/2017	14	SW OREGON ST	INTER	3-LEG N	N RAIN S-1STOP	01 NONE 0	STRGHT	
CITY	TU	0	SW TUALATIN-SHERWOOD	W		TRF SIGNAL N WET REAR	PRVTE	W -E	000 00
N	2P			06	0	N DAY INJ	PSNGR CAR	01 DRVR NONE 24 M OR-Y	016,026,052 000 093 27,29,32
N	45 22 5.83	-122 48 58.75							OR<25











URBAN NON-SYSTEM CRASH LISTING

CITY OF SHERWOOD, WASHINGTON COUNTY

TUALATIN-SHERWOOD and OREGON ST, City of Sherwood, Washington County, 01/01/2015 to 12/31/2019

30 - 33 of 74 Crash records shown.

SER#	CLASS	CITY STREET	INT-TYPE	SPCL USE																			
INVEST	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE	A	S											
RD DPT	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM			INJ	G	E	LICNS	PED						
UNLOC?	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE	
				02 NONE					0	TURN-L													
				PRVTE						E -S											000	087	00
				PSNGR						CAR		01	DRVR	NONE	47	M	OR-Y		020	000		04	
05608				02 NONE					0	TURN-L													
				PRVTE						E -S											000	00	
				PSNGR						CAR		01	DRVR	NONE	24	M	OTH-Y		020	000		04	
				02 NONE					0	STRGHT													
				PRVTE						W -E											000	00	
				PSNGR						CAR		01	DRVR	INJB	33	F	OR-Y		000	000		00	
				02 NONE					0	STRGHT													
				PRVTE						W -E											000	00	
				PSNGR						CAR		02	PSNG	INJB	12	F			000	000		00	
				02 NONE					0	STRGHT													
				PRVTE						W -E											000	00	
				PSNGR						CAR		03	PSNG	INJB	11	F			000	000		00	
00714				01 NONE					9	STRGHT													
				N/A						W -E											000	00	
				SEMI						TOW		01	DRVR	NONE	00	Unk	UNK		000	000		00	
				02 NONE					9	TURN-R													
				N/A						S -E											000	00	
				PSNGR						CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00	
01044				01 NONE					9	TURN-R													
				N/A						S -E											000	00	
				SEMI						TOW		01	DRVR	NONE	00	Unk	UNK		000	000		00	
				02 NONE					9	TURN-R													
				N/A						S -E											000	00	
				PSNGR						CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00	
06584				01 NONE					9	TURN-R													
				N/A						S -E											000	00	
				PSNGR						CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00	

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12/06/2021

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF SHERWOOD, WASHINGTON COUNTY

TUALATIN-SHERWOOD and OREGON ST, City of Sherwood, Washington County, 01/01/2015 to 12/31/2019

62 - 65 of 74 Crash records shown.

SER#	P	R J S W DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	MOVE	ACT	EVENT	CAUSE							
INVEST	E A U I C O DAY		DIST	FIRST STREET		(MEDIAN)		RNDBT	SURF	COLL	TRLR QTY											
RD DPT	E L G N H R TIME		FROM	SECOND STREET	DIRECT	LEGS	TRAF-	DRVWY	LIGHT	SVRTY	OWNER	FROM										
UNLOC?	D C S V L K LAT		LONG	LRS	LOCTN	(#LANES)	CONTL				V# TYPE	TO	P# TYPE	SVRTY	LOC							
04572	N N N	07/26/2017	14	SW TUALATIN-SHERWOOD	STRGHT		N	N	CLR	S-STRGHT	01 NONE 0	STRGHT			29							
NONE		WE	200	SW OREGON ST	W	(NONE)	UNKNOWN	N	DRY	REAR	PRVTE	E -W			000	00						
N		5A			07			Y	DAWN	INJ	PSNGR CAR		01 DRVR	NONE	23 M	OR-Y	042	000	29			
N		45 22 5.52	-122 49			(02)										OR<25						
			1.93								02 NONE 0	STRGHT										
											PRVTE	E -W							006	00		
											SEMI TOW		01 DRVR	INJC	48 M	OR-Y		000	000	00		
																OR<25				00		
											02 NONE 0	STRGHT								006	00	
											PRVTE	E -W								000	000	00
											SEMI TOW		02 PSNG	INJC	00 M					000	000	00
01813	N N N	04/13/2018	14	SW TUALATIN-SHERWOOD	STRGHT		N	N	RAIN	S-1STOP	01 NONE 0	STRGHT			29							
NONE		FR	200	SW OREGON ST	W	(RSDMD)	UNKNOWN	N	WET	REAR	PRVTE	W -E			000	00						
N		8A			08			N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	33 M	OR-Y	026	000	000	29		
N		45 22 5.51	-122 49			(02)										OR<25						
			1.96								02 NONE 0	STOP										
											PRVTE	W -E								011	00	
											PSNGR CAR		01 DRVR	INJC	39 F	OR-Y		000	000	000	00	
																OR<25						
81615	N N N	05/11/2018	14	SW TUALATIN-SHERWOOD	STRGHT		N	N	CLR	S-1STOP	01 NONE 9	STRGHT			29							
NONE		FR	250	SW OREGON ST	W	(NONE)	NONE	N	DRY	REAR	N/A	W -E			000	00						
N		5P			08			N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	000	00		
N		45 22 5.59	-122 49			(02)										UNK						
			2.23								02 NONE 9	STOP								011	00	
											N/A	W -E								000	000	00
											PSNGR CAR		01 DRVR	NONE	00	Unk UNK		000	000	000	00	
																UNK						
01498	N N N	03/20/2015	16	SW TUALATIN-SHERWOOD	STRGHT		N	N	CLR	S-STRGHT	01 NONE 0	STRGHT			07							
CITY		FR	270	SW OREGON ST	W	(NONE)	UNKNOWN	N	DRY	REAR	PRVTE	W -E			000	00						
N		12P			08			N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	20 F	OR-Y	043,042	000	000	000	07	
N		45 22 5.43	-122 49			(02)										OR>25						
			2.85								02 NONE 0	STRGHT								006	00	
											PRVTE	W -E								000	000	00
											PSNGR CAR		01 DRVR	INJC	57 F	OR-Y		000	000	000	00	
																OR<25						
06750	N N N	10/06/2016	14	SW TUALATIN-SHERWOOD	STRGHT		N	N	CLR	S-1STOP	01 NONE 0	STRGHT			013	07						
CITY		TH	300	SW OREGON ST	W	(RSDMD)	NONE	N	DRY	REAR	PRVTE	W -E			000	00						
N		8A			08			N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	30 F	OR-Y	043	000	000	000	07	
N		45 22 5.38	-122 49			(02)										OR<25						
			3.3																			

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12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and CIPOLE RD, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
<b>YEAR: 2019</b>														
REAR-END	0	3	1	4	0	3	0	4	0	2	2	1	0	0
<b>YEAR 2019 TOTAL</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2018</b>														
REAR-END	0	1	3	4	0	1	0	3	1	2	2	0	1	0
<b>YEAR 2018 TOTAL</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>
<b>YEAR: 2017</b>														
REAR-END	0	2	0	2	0	2	0	1	1	1	1	0	0	0
<b>YEAR 2017 TOTAL</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2016</b>														
REAR-END	0	7	1	8	0	11	0	6	2	7	1	0	3	0
<b>YEAR 2016 TOTAL</b>	<b>0</b>	<b>7</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>6</b>	<b>2</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>0</b>
<b>YEAR: 2015</b>														
FIXED / OTHER OBJECT	0	1	0	1	0	2	0	0	1	0	1	0	0	1
REAR-END	0	4	1	5	0	6	0	4	1	5	0	0	0	0
<b>YEAR 2015 TOTAL</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>6</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>18</b>	<b>6</b>	<b>24</b>	<b>0</b>	<b>25</b>	<b>0</b>	<b>18</b>	<b>6</b>	<b>17</b>	<b>7</b>	<b>1</b>	<b>4</b>	<b>1</b>

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12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and CIPOLE RD, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
<b>YEAR: 2019</b>										
REAR-END	0	0	0	3	1	4	0	0	0	3
<b>2019 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>
<b>YEAR: 2018</b>										
REAR-END	0	0	0	1	3	4	0	0	0	1
<b>2018 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>YEAR: 2017</b>										
REAR-END	0	0	0	2	0	2	0	0	0	2
<b>2017 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
<b>YEAR: 2016</b>										
REAR-END	0	0	2	5	1	8	0	0	2	9
<b>2016 TOTAL</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>9</b>
<b>YEAR: 2015</b>										
FIXED / OTHER OBJECT	0	1	0	0	0	1	0	2	0	0
REAR-END	0	0	0	4	1	5	0	0	0	6
<b>2015 TOTAL</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>6</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>6</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>15</b>	<b>6</b>	<b>24</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>21</b>

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URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

TUALATIN-SHERWOOD and CIPOLE RD, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

1 - 5 of 24 Crash records shown.

SER#	S P R J S W DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE	A S					
INVEST	E A U I C O DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN) INT-REL	OFFRD WTHR CRASH	TRLR QTY	MOVE	A S		
RD DPT	E L G N H R TIME	FROM	SECOND STREET	DIRECT	LEGS TRAF-	RNDBT SURF COLL	OWNER	FROM	PRTC	INJ	G E LICNS PED
UNLOC?	D C S V L K LAT	LONG	LRS	LOCTN	(#LANES) CONTL	DRVWY LIGHT SVRTY	V# TYPE	TO	P# TYPE	SVRTY	E X RES LOC ERROR ACT EVENT CAUSE
00228	N N N 01/13/2019	14	SW CIPOLE RD	INTER	3-LEG N	N CLR S-1STOP	01 NONE 9	STRGHT			
NONE	SU	0	SW TUALATIN-SHERWOOD	E		TRF SIGNAL N DRY REAR	N/A	E -W			000 00
N	4P			06	0	N DAY PDO	PSNGR CAR		01 DRVR	NONE 00	Unk UNK 000 000
N	45 22 8.5	-122 48 32.72									
							02 NONE 9	STOP			
							N/A	E -W			011 00
							PSNGR CAR		01 DRVR	NONE 00	Unk UNK 000 000
06106	N N N N N 10/17/2015	14	SW CIPOLE RD	STRGHT	N	N CLD S-1STOP	01 NONE 0	STRGHT			
CITY	SA	20	SW TUALATIN-SHERWOOD	E	(NONE) UNKNOWN	N DRY REAR	PRVTE	W -E			000 00
N	1P			05		N DAY INJ	PSNGR CAR		01 DRVR	NONE 21	F OR-Y 043 000
N	45 22 8.57	-122 48 32.02			(02)						
							02 NONE 0	STOP			
							PRVTE	W -E			011 00
							PSNGR CAR		01 DRVR	INJC 31	F OR-Y 000 000
01094	N N N N N 03/04/2019	14	SW TUALATIN-SHERWOOD	STRGHT	N	N CLR S-STRGHT	01 NONE 0	STRGHT			
CITY	MO	40	SW CIPOLE RD	E	(NONE) UNKNOWN	N DRY REAR	PRVTE	W -E			000 00
N	6P			05		N DLIT INJ	PSNGR CAR		01 DRVR	NONE 25	M OR-Y 016,043 038
N	45 22 8.59	-122 48 31.74			(02)						
							02 NONE 0	STRGHT			
							PRVTE	W -E			000 00
							PSNGR CAR		01 DRVR	INJC 48	F OR-Y 000 000
07578	N N N 12/11/2015	14	SW TUALATIN-SHERWOOD	STRGHT	N	N RAIN S-1STOP	01 NONE 0	STRGHT			
NONE	FR	100	SW CIPOLE RD	E	(NONE) UNKNOWN	N WET REAR	PRVTE	E -W			000 00
N	12P			08		N DAY PDO	PSNGR CAR		01 DRVR	NONE 37	M OR-Y 026 000
N	45 22 8.68	-122 48 30.85			(02)						
							02 NONE 0	STOP			
							PRVTE	E -W			011 00
							PSNGR CAR		01 DRVR	NONE 46	F OR-Y 000 000
04026	N N N 06/19/2016	14	SW TUALATIN-SHERWOOD	STRGHT	Y	N CLR S-1STOP	01 NONE 0	STRGHT			
NONE	SU	100	SW CIPOLE RD	E	(NONE) UNKNOWN	N DRY REAR	PRVTE	E -W			000 00
N	2P			08		N DAY INJ	PSNGR CAR		01 DRVR	NONE 18	M OR-Y 026 000
N	45 22 8.69	-122 48 30.79			(02)						
							02 NONE 0	STOP			
							PRVTE	E -W			011 00
							PSNGR CAR		01 DRVR	INJC 23	F OR-Y 000 000

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URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

TUALATIN-SHERWOOD and CIPOLE RD, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

6 - 8 of 24 Crash records shown.

Table with columns: SER#, INVEST RD, UNLOC?, S D M, P R J S W DATE, CLASS, CITY STREET, INT-TYPE, SPCL USE, etc. Rows include crash records for 04920, 03523, 03610, and 03610.

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

**TUALATIN-SHERWOOD and CIPOLE RD, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019**

23 - 24 of 24 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE (MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	SPCL USE TRLR QTY	MOVE	A S		G E	LICNS	PED	ERROR		ACT EVENT		CAUSE	
INVEST	E	A	U	I	C	O	DIST	FIRST STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	E	X	RES	LOC	ERROR		ACT EVENT		CAUSE
RD DPT	E	L	G	N	H	R	FROM	SECOND STREET	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V# TYPE	TO	P# TYPE	SVRTY	E	X	RES	LOC	ERROR		ACT EVENT		CAUSE
UNLOC?	D	C	S	V	L	K	LONG	LRS														ERROR		ACT EVENT		CAUSE	
00576	N	N	N				02/01/2018	14	SW TUALATIN-SHERWOOD	STRGHT	N	N	RAIN	S-1STOP	01 NONE	9	STRGHT									29	
CITY							TH	325	SW CIPOLE RD	E	(NONE)	UNKNOWN	N	WET	REAR	N/A	W -E							000	00	00	
N							6P			07		N	DLIT	PDO	PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK	000	000	00	
N							45 22 8.99	-122 48 27.84		(02)																	
															02 NONE	9	STOP										
															N/A	W -E									011	00	
															PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK	000	000	00	
05224	N	N	N	N	N	N	09/10/2015	14	SW TUALATIN-SHERWOOD	STRGHT	N	N	CLR	S-1STOP	01 NONE	0	STRGHT									07	
COUNTY							TH	400	SW CIPOLE RD	E	(NONE)	UNKNOWN	N	DRY	REAR	PRVTE	W -E							000	00	00	
N							6A			07		N	DAY	INJ	PSNGR	CAR		01	DRVR	INJC	33	M	OR-Y	043	000	07	
N							45 22 9.09	-122 48 26.73		(02)																	
															02 NONE	0	STOP										
															PRVTE	W -E									011	00	
															PSNGR	CAR		01	DRVR	INJC	46	F	OR-Y	000	000	00	

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12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and 124TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
<b>YEAR: 2019</b>														
MISCELLANEOUS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
REAR-END	0	14	16	30	0	19	1	23	7	23	7	11	1	0
TURNING MOVEMENTS	0	3	0	3	0	4	0	3	0	3	0	3	0	0
<b>YEAR 2019 TOTAL</b>	<b>0</b>	<b>17</b>	<b>17</b>	<b>34</b>	<b>0</b>	<b>23</b>	<b>1</b>	<b>27</b>	<b>7</b>	<b>26</b>	<b>8</b>	<b>15</b>	<b>1</b>	<b>0</b>
<b>YEAR: 2018</b>														
REAR-END	0	8	3	11	0	15	1	8	3	7	4	1	1	0
<b>YEAR 2018 TOTAL</b>	<b>0</b>	<b>8</b>	<b>3</b>	<b>11</b>	<b>0</b>	<b>15</b>	<b>1</b>	<b>8</b>	<b>3</b>	<b>7</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>0</b>
<b>YEAR: 2017</b>														
REAR-END	0	7	5	12	0	11	1	8	4	7	5	8	0	0
TURNING MOVEMENTS	0	2	0	2	0	2	0	1	1	2	0	2	0	0
<b>YEAR 2017 TOTAL</b>	<b>0</b>	<b>9</b>	<b>5</b>	<b>14</b>	<b>0</b>	<b>13</b>	<b>1</b>	<b>9</b>	<b>5</b>	<b>9</b>	<b>5</b>	<b>10</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2016</b>														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	1	0	1	0	1
REAR-END	0	7	9	16	0	9	2	16	0	16	0	6	4	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
<b>YEAR 2016 TOTAL</b>	<b>0</b>	<b>8</b>	<b>10</b>	<b>18</b>	<b>0</b>	<b>10</b>	<b>2</b>	<b>18</b>	<b>0</b>	<b>18</b>	<b>0</b>	<b>8</b>	<b>4</b>	<b>1</b>
<b>YEAR: 2015</b>														
REAR-END	0	8	4	12	0	15	0	10	2	12	0	4	1	0

12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and 124TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	NON-	PROPERTY	TOTAL	PEOPLE	PEOPLE	TRUCKS	DRY	WET	DAY	DARK	INTER-	SECTION	OFF-
	CRASHES	FATAL	DAMAGE	CRASHES	KILLED	INJURED		SURF	SURF			SECTION	RELATED	
SIDESWIPE - OVERTAKING	0	0	1	1	0	0	0	0	1	1	0	0	0	0
<b>YEAR 2015 TOTAL</b>	<b>0</b>	<b>8</b>	<b>5</b>	<b>13</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>10</b>	<b>3</b>	<b>13</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>0</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>50</b>	<b>40</b>	<b>90</b>	<b>0</b>	<b>76</b>	<b>5</b>	<b>72</b>	<b>18</b>	<b>73</b>	<b>17</b>	<b>38</b>	<b>7</b>	<b>1</b>

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12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and 124TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
<b>YEAR: 2019</b>										
MISCELLANEOUS	0	0	0	0	1	1	0	0	0	0
REAR-END	0	0	0	14	16	30	0	0	0	19
TURNING MOVEMENTS	0	0	0	3	0	3	0	0	0	4
<b>2019 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>17</b>	<b>34</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>23</b>
<b>YEAR: 2018</b>										
REAR-END	0	0	1	7	3	11	0	0	1	14
<b>2018 TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>7</b>	<b>3</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>14</b>
<b>YEAR: 2017</b>										
REAR-END	0	0	1	6	5	12	0	0	1	10
TURNING MOVEMENTS	0	0	2	0	0	2	0	0	2	0
<b>2017 TOTAL</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>6</b>	<b>5</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>10</b>
<b>YEAR: 2016</b>										
FIXED / OTHER OBJECT	0	0	0	0	1	1	0	0	0	0
REAR-END	0	0	1	6	9	16	0	0	1	8
TURNING MOVEMENTS	0	0	0	1	0	1	0	0	0	1
<b>2016 TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>7</b>	<b>10</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>9</b>
<b>YEAR: 2015</b>										
REAR-END	0	0	2	6	4	12	0	0	3	12
SIDESWIPE - OVERTAKING	0	0	0	0	1	1	0	0	0	0
<b>2015 TOTAL</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>6</b>	<b>5</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>12</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>43</b>	<b>40</b>	<b>90</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>68</b>

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

CITY OF TUALATIN, WASHINGTON COUNTY

TUALATIN-SHERWOOD and 124TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

14 - 18 of 90 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE	TRLR QTY	MOVE	A	S	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE								
INVEST	E	A	U	I	C	O	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED								
RD DPT	E	L	G	N	H	R	TIME	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED								
UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE	
01258	N	N	N	N	N	03/12/2019	14	SW TUALATIN-SHERWOOD	INTER	CROSS	N	N	CLD	S-1STOP	01 NONE 9	STRGHT														
CITY					TU		0	SW 124TH AVE	E		TRF SIGNAL	N	DRY	REAR	N/A	E -W										000			00	
N					4P				06																					00
N					45 22 9.72		-122 48	20.29																						00
																														00
																														00
																														00
																														00
04362	N	N	N	N	N	06/19/2019	16	SW TUALATIN-SHERWOOD	INTER	CROSS	N	N	CLD	S-1STOP	01 NONE 9	STRGHT														
CITY					WE		0	SW 124TH AVE	S		TRF SIGNAL	N	DRY	REAR	N/A	S -N													00	
N					6P				06																				00	
N					45 22 42.84		-122 48	17.93																					00	
																														00
																														00
																														00
05163	N	N	N	N	N	09/08/2015	14	SW TUALATIN-SHERWOOD	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE 0	STRGHT														
CITY					TU		0	SW 124TH AVE	W		TRF SIGNAL	N	DRY	REAR	PRVTE	W -E													000	
N					2P				06																				000	
N					45 22 9.72		-122 48	20.3																					000	
																														000
																														000
																														000
03535	N	N	N	N	N	05/31/2016	14	SW TUALATIN-SHERWOOD	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE 0	STRGHT														
CITY					TU		0	SW 124TH AVE	W		TRF SIGNAL	N	DRY	REAR	PRVTE	W -E													000	
N					2P				06																				000	
N					45 22 9.72		-122 48	20.29																					000	
																														000
																														000
																														000

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

TUALATIN-SHERWOOD and 124TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

49 - 53 of 90 Crash records shown.

SER#	S D M	P R J S W DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE
INVEST	E A U I C O DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN) INT-REL	TRLR QTY MOVE A S
RD DPT	E L G N H R TIME	FROM	SECOND STREET	DIRECT	LEGS TRAF-	OWNER FROM PRTC INJ G E LICNS PED
UNLOC?	D C S V L K LAT	LONG	LRS	LOCTN	(#LANES) CONTL	DRVWY LIGHT SVRTY V# TYPE TO P# TYPE SVRTY E X RES LOC ERROR ACT EVENT CAUSE
03702	N N N	N N 07/22/2019	14	SW TUALATIN-SHERWOOD	STRGHT	N N CLR S-1STOP 01 NONE 9 STRGHT 27,07
		MO	250	SW 124TH AVE	E (NONE) UNKNOWN	N DRY REAR N/A W -E 000 00
N		9A			07	N DAY PDO PSNGR CAR 01 DRVR NONE 00 Unk UNK 000 000 00
N		45 22 10.16	-122 48		(02)	02 NONE 9 STOP N/A W -E 011 00
		15.97				PSNGR CAR 01 DRVR NONE 00 Unk UNK 000 000 00
84730	N N N	11/10/2017	14	SW TUALATIN-SHERWOOD	STRGHT	N N UNK S-1STOP 01 NONE 9 STRGHT 29
		FR	500	SW 124TH AVE	E (NONE) UNKNOWN	N WET REAR N/A E -W 000 00
N		6P			08	N DUSK PDO PSNGR CAR 01 DRVR NONE 00 Unk UNK 000 000 00
N		45 22 10.52	-122 48		(02)	02 NONE 9 STOP N/A E -W 011 00
		12.48				PSNGR CAR 01 DRVR NONE 00 Unk UNK 000 000 00
02064	N N N	N N 04/25/2019	14	SW TUALATIN-SHERWOOD	STRGHT	N N CLR S-1STOP 01 NONE 0 STRGHT 27,07
		TH	500	SW 124TH AVE	E (NONE) NONE	N DRY REAR PRVTE E -W 000 00
N		5P			08	N DAY INJ PSNGR CAR 01 DRVR NONE 17 F OR-Y 016,043 038 27,07
N		45 22 10.52	-122 48		(02)	02 NONE 0 STOP PRVTE E -W 011 00
		12.51				PSNGR CAR 01 DRVR INJC 54 F OR-Y 000 000 00
						OR<25
00134	N N N	N N 01/08/2019	14	SW TUALATIN-SHERWOOD	STRGHT	N N RAIN S-1STOP 01 NONE 9 STRGHT 07
		TU	500	SW 124TH AVE	E (NONE) NONE	N WET REAR N/A E -W 000 00
N		11A			08	N DAY PDO PSNGR CAR 01 DRVR NONE 00 Unk UNK 000 000 00
N		45 22 10.52	-122 48		(02)	02 NONE 9 STOP N/A E -W 011 00
		12.49				PSNGR CAR 01 DRVR NONE 00 Unk UNK 000 000 00
						UNK
06592	Y N N	N N 12/01/2018	14	SW TUALATIN-SHERWOOD	STRGHT	N N CLD S-STRGHT 01 NONE 9 STRGHT 01
		SA	600	SW 124TH AVE	E (NONE) NONE	N WET REAR N/A E -W 000 00
N		11A			08	N DAY PDO PSNGR CAR 01 DRVR NONE 00 Unk UNK 000 000 00
N		45 22 10.66	-122 48		(02)	02 NONE 9 STRGHT N/A E -W 000 00
		11.14				PSNGR CAR 01 DRVR NONE 00 Unk UNK 000 000 00
						UNK

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12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and 120TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
<b>YEAR: 2019</b>														
REAR-END	0	2	1	3	0	2	0	1	2	3	0	0	0	0
<b>YEAR 2019 TOTAL</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2018</b>														
MISCELLANEOUS	0	0	1	1	0	0	0	1	0	0	1	0	0	0
REAR-END	0	0	1	1	0	0	0	1	0	1	0	0	0	0
<b>YEAR 2018 TOTAL</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2017</b>														
BACKING	0	1	0	1	0	3	1	0	1	1	0	1	0	0
REAR-END	0	4	3	7	0	4	0	7	0	7	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
<b>YEAR 2017 TOTAL</b>	<b>0</b>	<b>6</b>	<b>3</b>	<b>9</b>	<b>0</b>	<b>8</b>	<b>1</b>	<b>8</b>	<b>1</b>	<b>9</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2016</b>														
REAR-END	0	1	3	4	0	1	0	3	1	3	1	0	0	0
<b>YEAR 2016 TOTAL</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2015</b>														
REAR-END	0	1	1	2	0	2	0	1	1	1	1	0	0	0
<b>YEAR 2015 TOTAL</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>10</b>	<b>10</b>	<b>20</b>	<b>0</b>	<b>13</b>	<b>1</b>	<b>15</b>	<b>5</b>	<b>17</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>

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12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and 120TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
<b>YEAR: 2019</b>										
REAR-END	0	0	0	2	1	3	0	0	0	2
<b>2019 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
<b>YEAR: 2018</b>										
MISCELLANEOUS	0	0	0	0	1	1	0	0	0	0
REAR-END	0	0	0	0	1	1	0	0	0	0
<b>2018 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2017</b>										
BACKING	0	0	0	1	0	1	0	0	0	3
REAR-END	0	0	0	4	3	7	0	0	0	4
TURNING MOVEMENTS	0	0	1	0	0	1	0	0	1	0
<b>2017 TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>7</b>
<b>YEAR: 2016</b>										
REAR-END	0	0	0	1	3	4	0	0	0	1
<b>2016 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>YEAR: 2015</b>										
REAR-END	0	0	0	1	1	2	0	0	0	2
<b>2015 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>9</b>	<b>10</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>12</b>

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

TUALATIN-SHERWOOD and 120TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

1 - 3 of 20 Crash records shown.

Table with columns: SER#, S D M, INVEST, RD DPT, UNLOC?, CLASS, CITY STREET, INT-TYPE, SPCL USE, etc. Rows include accident details for dates like 03/16/2017, 11/02/2017, 01/04/2017, and 08/26/2019.

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12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and 115TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
<b>YEAR: 2019</b>														
REAR-END	0	2	1	3	0	3	0	3	0	2	1	1	0	0
<b>YEAR 2019 TOTAL</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2018</b>														
REAR-END	0	3	2	5	0	5	0	2	3	3	2	0	2	0
<b>YEAR 2018 TOTAL</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>
<b>YEAR: 2017</b>														
REAR-END	0	4	2	6	0	6	0	4	2	6	0	2	0	0
<b>YEAR 2017 TOTAL</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2016</b>														
REAR-END	0	4	3	7	0	4	1	6	1	4	3	1	1	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
<b>YEAR 2016 TOTAL</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>7</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>YEAR: 2015</b>														
REAR-END	0	7	0	7	0	11	2	6	1	6	1	2	0	0
<b>YEAR 2015 TOTAL</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>11</b>	<b>2</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>20</b>	<b>9</b>	<b>29</b>	<b>0</b>	<b>29</b>	<b>3</b>	<b>22</b>	<b>7</b>	<b>22</b>	<b>7</b>	<b>7</b>	<b>3</b>	<b>0</b>

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12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and 115TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
<b>YEAR: 2019</b>										
REAR-END	0	0	0	2	1	3	0	0	0	3
<b>2019 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>
<b>YEAR: 2018</b>										
REAR-END	0	0	0	3	2	5	0	0	0	5
<b>2018 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>
<b>YEAR: 2017</b>										
REAR-END	0	0	1	3	2	6	0	0	1	5
<b>2017 TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>5</b>
<b>YEAR: 2016</b>										
REAR-END	0	0	0	4	3	7	0	0	0	4
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
<b>2016 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>
<b>YEAR: 2015</b>										
REAR-END	0	0	0	7	0	7	0	0	0	11
<b>2015 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>19</b>	<b>9</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>28</b>

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

TUALATIN-SHERWOOD and 115TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

28 - 29 of 29 Crash records shown.

SER#	S	D	M	P	R	J	S	W	DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE																	
INVEST	E	A	U	I	C	O	DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE	A	S											
RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED							
UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE	
06343	N	N	N				09/19/2016	14	SW TUALATIN-SHERWOOD	STRGHT		N	N	CLR	S-1STOP	01	NONE	0	STRGHT											
NONE							MO	200	SW 115TH AVE	SW	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE	SW-NE									000		00	
N							10A			08			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	27	F	OR-Y		026	000		29	
N							45 22 17.15	-122 47			(02)																			
							41.07									02	NONE	0	STOP											
																	PRVTE	SW-NE									011		00	
																	PSNGR CAR		01	DRVR	INJC	47	M	OR-Y		000	000		00	
08409	N	N	N				Y 12/07/2016	14	SW TUALATIN-SHERWOOD	STRGHT		N	N	CLD	S-1STOP	01	NONE	9	STRGHT											07
CITY							WE	200	SW 115TH AVE	SW	(NONE)	NONE	N	DRY	REAR		N/A	SW-NE									000		00	
N							6P			08			N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00	
N							45 22 14.73	-122 47			(02)																			
							47.33																							
																02	NONE	9	STOP											
																	N/A	SW-NE									011		00	
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00	

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12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and 112TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
<b>YEAR: 2019</b>														
REAR-END	0	6	0	6	0	6	1	4	2	4	2	1	1	0
<b>YEAR 2019 TOTAL</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>
<b>YEAR: 2018</b>														
REAR-END	0	2	1	3	0	3	1	3	0	2	1	1	0	0
<b>YEAR 2018 TOTAL</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2017</b>														
REAR-END	0	6	3	9	0	12	0	6	3	8	1	2	0	0
<b>YEAR 2017 TOTAL</b>	<b>0</b>	<b>6</b>	<b>3</b>	<b>9</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>6</b>	<b>3</b>	<b>8</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2016</b>														
REAR-END	0	4	6	10	0	12	1	6	4	9	1	1	2	0
<b>YEAR 2016 TOTAL</b>	<b>0</b>	<b>4</b>	<b>6</b>	<b>10</b>	<b>0</b>	<b>12</b>	<b>1</b>	<b>6</b>	<b>4</b>	<b>9</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>
<b>YEAR: 2015</b>														
REAR-END	0	2	4	6	0	4	0	5	0	6	0	1	1	0
<b>YEAR 2015 TOTAL</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>20</b>	<b>14</b>	<b>34</b>	<b>0</b>	<b>37</b>	<b>3</b>	<b>24</b>	<b>9</b>	<b>29</b>	<b>5</b>	<b>6</b>	<b>4</b>	<b>0</b>

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12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and AVERY ST, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
<b>YEAR: 2019</b>														
REAR-END	0	3	2	5	0	4	0	5	0	5	0	1	1	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	0	1	0	1	1	0	0
<b>YEAR 2019 TOTAL</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>YEAR: 2018</b>														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	4	2	6	0	5	0	5	1	4	2	1	3	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	0	0	0
<b>YEAR 2018 TOTAL</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>7</b>	<b>1</b>	<b>6</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>0</b>
<b>YEAR: 2017</b>														
REAR-END	0	3	2	5	0	4	3	2	3	3	2	1	0	0
SIDESWIPE - OVERTAKING	0	0	1	1	0	0	0	0	1	1	0	0	1	0
TURNING MOVEMENTS	0	1	5	6	0	1	0	2	4	5	1	6	0	0
<b>YEAR 2017 TOTAL</b>	<b>0</b>	<b>4</b>	<b>8</b>	<b>12</b>	<b>0</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>8</b>	<b>9</b>	<b>3</b>	<b>7</b>	<b>1</b>	<b>0</b>
<b>YEAR: 2016</b>														
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	1	0	1	0	0	0	1
REAR-END	0	4	4	8	0	6	0	6	2	6	2	4	1	0
SIDESWIPE - MEETING	0	0	1	1	0	0	1	1	0	1	0	0	1	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
<b>YEAR 2016 TOTAL</b>	<b>0</b>	<b>5</b>	<b>6</b>	<b>11</b>	<b>0</b>	<b>7</b>	<b>1</b>	<b>8</b>	<b>3</b>	<b>8</b>	<b>3</b>	<b>5</b>	<b>2</b>	<b>1</b>

12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and AVERY ST, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	SECTION RELATED	OFF- ROAD
<b>YEAR: 2015</b>														
REAR-END	0	8	3	11	0	14	0	7	3	9	2	1	0	0
<b>YEAR 2015 TOTAL</b>	<b>0</b>	<b>8</b>	<b>3</b>	<b>11</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>7</b>	<b>3</b>	<b>9</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>25</b>	<b>23</b>	<b>48</b>	<b>0</b>	<b>36</b>	<b>4</b>	<b>31</b>	<b>16</b>	<b>37</b>	<b>11</b>	<b>17</b>	<b>7</b>	<b>1</b>

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## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and 112TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY	INJURY	INJURY	DAMAGE		KILLED	INJURIES	INJURIES	INJURIES
<b>YEAR: 2019</b>										
REAR-END	0	0	0	6	0	6	0	0	0	6
<b>2019 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>
<b>YEAR: 2018</b>										
REAR-END	0	0	0	2	1	3	0	0	0	3
<b>2018 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>
<b>YEAR: 2017</b>										
REAR-END	0	1	1	4	3	9	0	1	2	9
<b>2017 TOTAL</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>9</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>9</b>
<b>YEAR: 2016</b>										
REAR-END	0	0	3	1	6	10	0	0	4	8
<b>2016 TOTAL</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>6</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>8</b>
<b>YEAR: 2015</b>										
REAR-END	0	0	1	1	4	6	0	0	1	3
<b>2015 TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>14</b>	<b>14</b>	<b>34</b>	<b>0</b>	<b>1</b>	<b>7</b>	<b>29</b>

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12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TUALATIN-SHERWOOD and AVERY ST, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
<b>YEAR: 2019</b>										
REAR-END	0	0	0	3	2	5	0	0	0	4
TURNING MOVEMENTS	0	0	0	1	0	1	0	0	0	1
<b>2019 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>
<b>YEAR: 2018</b>										
ANGLE	0	0	0	0	1	1	0	0	0	0
REAR-END	0	0	1	3	2	6	0	0	1	4
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
<b>2018 TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>
<b>YEAR: 2017</b>										
REAR-END	0	0	0	3	2	5	0	0	0	4
SIDESWIPE - OVERTAKING	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	1	0	5	6	0	0	1	0
<b>2017 TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>8</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>
<b>YEAR: 2016</b>										
FIXED / OTHER OBJECT	0	0	0	1	0	1	0	0	0	1
REAR-END	0	0	0	4	4	8	0	0	0	6
SIDESWIPE - MEETING	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
<b>2016 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>6</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>
<b>YEAR: 2015</b>										
REAR-END	0	0	1	7	3	11	0	0	2	12
<b>2015 TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>7</b>	<b>3</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>12</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>22</b>	<b>23</b>	<b>48</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>32</b>

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URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

**TUALATIN-SHERWOOD and 112TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019**

12 - 14 of 34 Crash records shown.

SER#	S D M		CLASS	CITY STREET			INT-TYPE			SPCL USE			A S										
	P	R J S W DATE		FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE	OWNER	FROM	PRTC	INJ	G E LICNS	PED	ERROR	ACT	EVENT	CAUSE	
RD DPT	E L G N H R TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	P#	TYPE	SVRTY	E X RES	LOC	ERROR	ACT	EVENT	CAUSE			
UNLOC?	D C S V L K LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E X RES	LOC	ERROR	ACT	EVENT	CAUSE		
04634	N N N	N N 07/14/2016	14	SW TUALATIN-SHERWOOD	STRGHT		N	CLR	S-STRGHT	01	NONE	9	STRGHT									27,07	
CITY		TH	100	SW 112TH AVE	NE	(NONE)	UNKNOWN	DRY	REAR		N/A	NE-SW									000	00	
N		3P			08			DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk UNK	000			000	00	
N		45 22 22.65	-122 47 30.5			(02)															000	00	
										02	NONE	9	STRGHT										
											N/A	NE-SW										006	00
											PSNGR CAR		01	DRVR	NONE	00	Unk UNK	000			000	00	
																						000	00
																						000	00
03668	N N N	N N 06/20/2017	14	SW TUALATIN-SHERWOOD	STRGHT		N	CLR	S-1STOP	01	NONE	0	STRGHT									013	29
CITY		TU	100	SW 112TH AVE	NE	(NONE)	NONE	DRY	REAR		PRVTE	NE-SW										000	00
N		3P			08			DAY	INJ		PSNGR CAR		01	DRVR	INJA	31	F	OR-Y			026	000	29
N		45 22 22.69	-122 47 30.42			(02)																	026
										01	NONE	0	STRGHT										000
											PRVTE	NE-SW											000
											PSNGR CAR		02	PSNG	INJB	60	M					000	000
										01	NONE	0	STRGHT										000
											PRVTE	NE-SW											000
											PSNGR CAR		03	PSNG	INJC	14	M					000	000
										02	NONE	0	STOP										011
											PRVTE	NE-SW											011
											PSNGR CAR		01	DRVR	NONE	56	M	OR-Y			000	000	00
																							000
										03	NONE	0	STOP										022
											PRVTE	NE-SW											022
											PSNGR CAR		01	DRVR	INJC	25	F	OR-Y			000	000	00
																							000
										03	NONE	0	STOP										022
											PRVTE	NE-SW											022
											PSNGR CAR		02	PSNG	NO<5	01	F					000	000
06625	N N N	N N 10/21/2017	14	SW TUALATIN-SHERWOOD	STRGHT		N	RAIN	S-1STOP	01	NONE	0	STRGHT										07
CITY		SA	100	SW 112TH AVE	NE	(NONE)	UNKNOWN	WET	REAR		PRVTE	NE-SW										000	00
N		6P			08			DLIT	INJ		PSNGR CAR		01	DRVR	NONE	32	M	OR-Y			043	000	07
N		45 22 22.64	-122 47 30.52			(02)																	043
										02	NONE	0	STOP										011
											PRVTE	NE-SW											011
											PSNGR CAR		01	DRVR	INJC	48	M	OR-Y			000	000	00
																							000

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

TUALATIN-SHERWOOD and 112TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

23 - 25 of 34 Crash records shown.

SER#	S P R J S W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	MOVE	A S										
INVEST	E A U I C O	DAY	DIST	FIRST STREET		(MEDIAN)		RNDBT	SURF	COLL	TRLR QTY			PRTC	INJ	G E	LICNS	PED					
RD DPT	E L G N H R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	DRVWY	LIGHT	SVRTY	OWNER	FROM		#	TYPE	SVRTY	E X	RES	LOC	ERROR	ACT	EVENT	CAUSE
UNLOC?	D C S V L K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL				V#	TYPE	TO										
00838	N N N N N	02/14/2015	16	SW TUALATIN-SHERWOOD	STRGHT		N	N	FOG	S-STRGHT	01 NONE	0	STRGHT										07
CITY		SA	634	SW 112TH AVE	NE	(NONE)	CHANNEL	N	DRY	REAR	PRVTE	NE-SW									000		00
N		9A			08			N	DAY	INJ	PSNGR CAR			01	DRVR	NONE	30	F	OR-Y		043	000	07
N		45 22 25.77	-122 47			(02)																	
			24.82								01 NONE	0	STRGHT										
											PRVTE	NE-SW										000	00
											PSNGR CAR			02	PSNG	NO<5	03	M			000	000	00
											02 NONE	0	STRGHT									006	00
											PRVTE	NE-SW										000	00
											PSNGR CAR			01	DRVR	INJC	49	F	OR-Y		000	000	00
											02 NONE	0	STRGHT									006	00
											PRVTE	NE-SW										000	00
											PSNGR CAR			02	PSNG	INJC	07	M			000	000	00
03592	N N N N N	07/15/2019	14	SW TUALATIN-SHERWOOD	STRGHT		N	N	CLD	S-STRGHT	01 NONE	0	STRGHT										16,29
CITY		MO	650	SW 112TH AVE	NE	(NONE)	UNKNOWN	N	DRY	REAR	PRVTE	NE-SW									000		00
N		3P			08			N	DAY	INJ	PSNGR CAR			01	DRVR	NONE	30	F	OR-Y		042	025	16,29
N		45 22 25.98	-122 47			(02)																	
			24.43								02 NONE	0	STRGHT									000	00
											PRVTE	NE-SW										000	00
											PSNGR CAR			01	DRVR	NONE	61	M	OR-Y		000	000	00
											02 NONE	0	STRGHT									000	00
											PRVTE	NE-SW										000	00
											PSNGR CAR			02	PSNG	INJC	60	F			000	000	00
03836	N N N N N	06/11/2016	14	SW TUALATIN-SHERWOOD	STRGHT		N	N	CLR	S-STRGHT	01 NONE	9	STRGHT										27,07
NO RPT		SA	1000	SW 112TH AVE	NE	(NONE)	UNKNOWN	N	DRY	REAR	N/A	NE-SW									000		00
N		9A			08			N	DAY	PDO	TRUCK			01	DRVR	NONE	00	Unk	UNK		000	000	00
N		45 22 28.12	-122 47			(02)																	
			20.54								02 NONE	9	STRGHT									006	00
											N/A	NE-SW										000	00
											PSNGR CAR			01	DRVR	NONE	00	Unk	UNK		000	000	00
02995	N N N N N	06/02/2015	14	SW TUALATIN-SHERWOOD	STRGHT		N	N	UNK	S-1STOP	01 NONE	0	STRGHT										29
NONE		TU	300	SW 112TH AVE	E	(NONE)	UNKNOWN	N	UNK	REAR	PRVTE	NE-SW									000		00
N		3P			08			N	DAY	PDO	PSNGR CAR			01	DRVR	NONE	45	M	OR-Y		026	000	29
N		45 22 23.85	-122 47			(02)																	
			28.32																				

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CITY OF TUALATIN, WASHINGTON COUNTY

TUALATIN-SHERWOOD and 112TH AVE, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

34 - 34 of 34 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	SPCL USE	TRLR QTY	MOVE	A	S	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE	
INVEST	E	A	U	I	C	O	DIST	FIRST STREET		(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	OWNER	FROM	PRTC	INJ						
RD DPT	E	L	G	N	H	R	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL										
UNLOC?	D	C	S	V	L	K	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC
												02	NONE	0	STRGHT									
													PRVTE		NE-SW							000	013	00
													PSNGR	CAR			01	DRVR	INJC	50	F	OR-Y	000	000
												02	NONE	0	STRGHT									
													PRVTE		NE-SW							000	013	00
													PSNGR	CAR			02	PSNG	INJB	60	M	000	000	00
												03	NONE	0	STRGHT									
													PRVTE		NE-SW							022	000	00
													PSNGR	CAR			01	DRVR	INJC	55	F	OTH-Y	000	000
												03	NONE	0	STRGHT									
													PRVTE		NE-SW							022	000	00
													PSNGR	CAR			02	PSNG	INJC	56	F	000	000	00
												03	NONE	0	STRGHT									
													PRVTE		NE-SW							022	000	00
													PSNGR	CAR			03	PSNG	INJC	53	M	000	000	00









CITY OF TUALATIN, WASHINGTON COUNTY

TUALATIN-SHERWOOD and AVERY ST, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

15 - 18 of 48 Crash records shown.

SER#	S P R J S W DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE	A S									
INVEST	E A U I C O DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN) INT-REL	OFFRD WTHR CRASH	TRLR QTY MOVE	PRTC INJ G E LICNS PED		ERROR	ACT EVENT	CAUSE			
RD DPT	E L G N H R TIME	FROM	SECOND STREET	DIRECT	LEGS TRAF-	RNDBT SURF COLL	OWNER FROM	P# TYPE SVRTY E X RES LOC							
UNLOC?	D C S V L K LAT	LONG	LRS	LOCTN	(#LANES) CONTL	DRVWY LIGHT SVRTY	V# TYPE TO	P# TYPE SVRTY E X RES LOC							
04744	N N N N N 08/03/2017	14	SW AVERY ST	INTER	CROSS N	N CLR ANGL-OTH	01 NONE 1	STRGHT				04			
CITY	TH	0	SW TUALATIN-SHERWOOD	CN	TRF SIGNAL	N DRY TURN	PRVTE	NE-SW			000	00			
N	9A			01	0	N DAY INJ	PSNGR CAR		01	DRVR	NONE	29 F OR-Y	020	000	04
N	45 22 21.91 -122 47 31.86											OR<25			
							02 NONE 0	TURN-L							
							PRVTE	SE-SW				000	00		
							PSNGR CAR		01	DRVR	INJB	53 F OR-Y	000	000	00
												OR<25			
07939	N N N N N 12/12/2017	14	SW AVERY ST	INTER	CROSS N	N CLR ANGL-OTH	01 NONE 9	STRGHT				04			
CITY	TU	0	SW TUALATIN-SHERWOOD	CN	TRF SIGNAL	N DRY TURN	N/A	SW-NE			000	00			
N	7P			02	0	N DLIT PDO	PSNGR CAR		01	DRVR	NONE	00 Unk UNK	000	000	00
N	45 22 21.91 -122 47 31.86											UNK			
							02 NONE 9	TURN-L							
							N/A	SE-SW				000	00		
							PSNGR CAR		01	DRVR	NONE	00 Unk UNK	000	000	00
												UNK			
01300	N N N N N 03/14/2018	14	SW AVERY ST	INTER	CROSS N	N CLD ANGL-OTH	01 NONE 9	STRGHT				04			
CITY	WE	0	SW TUALATIN-SHERWOOD	CN	TRF SIGNAL	N DRY ANGL	N/A	NW-SE			000	00			
N	10A			04	0	N DAY PDO	PSNGR CAR		01	DRVR	NONE	00 Unk UNK	000	000	00
N	45 22 21.91 -122 47 31.86											UNK			
							02 NONE 9	STRGHT							
							N/A	SW-NE				000	00		
							PSNGR CAR		01	DRVR	NONE	00 Unk UNK	000	000	00
												UNK			
01283	N N N N N 03/10/2015	16	SW TUALATIN-SHERWOOD	STRGHT	N	N CLR S-1STOP	01 NONE 0	STRGHT				29			
NONE	TU	50	SW AVERY ST	NE	(NONE) UNKNOWN	N DRY REAR	PRVTE	NE-SW			000	00			
N	3P			08		N DAY INJ	PSNGR CAR		01	DRVR	NONE	21 F OR-Y	026	000	29
N	45 22 22.39 -122 47 30.99				(02)							OR<25			
							02 NONE 0	STOP							
							PRVTE	NE-SW				011	00		
							PSNGR CAR		01	DRVR	INJC	79 F OR-Y	000	000	00
												OR<25			
							02 NONE 0	STOP							
							PRVTE	NE-SW				011	00		
							PSNGR CAR		02	PSNG	INJC	00 Unk	000	000	00
06883	N N N N N 11/16/2015	14	SW TUALATIN-SHERWOOD	STRGHT	N	N RAIN S-1STOP	01 NONE 0	STRGHT				013	07		
CITY	MO	100	SW AVERY ST	NE	(NONE) UNKNOWN	N WET REAR	PRVTE	NE-SW			000	00			
N	3P			08		N DAY INJ	PSNGR CAR		01	DRVR	NONE	17 M OR-Y	043	000	07
N	45 22 22.62 -122 47 30.56				(02)							OR<25			

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

TUALATIN-SHERWOOD and AVERY ST, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

23 - 25 of 48 Crash records shown.

SER#	S P R J S W DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE	A S											
INVEST	E A U I C O DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN) INT-REL	OFFRD WTHR CRASH	TRLR QTY	MOVE									
RD DPT	E L G N H R TIME	FROM	SECOND STREET	DIRECT	LEGS TRAF-	RNDBT SURF COLL	OWNER	FROM	PRTC	INJ	G E LICNS	PED					
UNLOC?	D C S V L K LAT	LONG	LRS	LOCTN	(#LANES) CONTL	DRVWY LIGHT SVRTY	V# TYPE	TO	P# TYPE	SVRTY	E X RES	LOC	ERROR	ACT	EVENT	CAUSE	
06768	N N N N N 11/11/2015	14	SW TUALATIN-SHERWOOD	STRGHT	N	N CLR S-1STOP	01 NONE 0	STRGHT								07	
CITY		WE 250	SW AVERY ST	NE	(NONE) UNKNOWN	N DRY REAR	PRVTE	NE-SW							000	00	
N		1P		08		N DAY INJ	PSNGR CAR		01	DRVR	INJC	25	F	OR-Y	043	000	07
N		45 22 23.53 -122 47 28.89			(03)												
							02 NONE 0	STOP									
							PRVTE	NE-SW							011	00	
							PSNGR CAR		01	DRVR	NONE	22	F	OR-Y	000	000	00
							03 NONE 0	STRGHT									
							PRVTE	NE-SW							022	00	
							PSNGR CAR		01	DRVR	INJB	33	F	OR-Y	000	000	00
							03 NONE 0	STRGHT									
							PRVTE	NE-SW							022	00	
							PSNGR CAR		02	PSNG	INJB	10	M		000	000	00
03260	N N N N N 06/13/2015	14	SW TUALATIN-SHERWOOD	STRGHT	N	N CLR S-1STOP	01 NONE 0	STRGHT									29
CITY		SA 264	SW AVERY ST	NE	(NONE) UNKNOWN	N DRY REAR	PRVTE	NE-SW								000	00
N		1P		08		N DAY INJ	PSNGR CAR		01	DRVR	NONE	23	F	OR-Y	026	038	29
N		45 22 23.53 -122 47 28.9			(02)												
							02 NONE 0	STOP									
							PRVTE	NE-SW							011	00	
							PSNGR CAR		01	DRVR	INJC	35	M	OR-Y	000	000	00
							02 NONE 0	STOP									
							PRVTE	NE-SW							011	00	
							PSNGR CAR		02	PSNG	INJC	33	F		000	000	00
07841	N N N N N 12/18/2015	14	SW TUALATIN-SHERWOOD	STRGHT	N	N CLR S-1STOP	01 NONE 0	STRGHT									07
CITY		FR 300	SW AVERY ST	NE	(NONE) UNKNOWN	N DRY REAR	PRVTE	NE-SW								000	00
N		6P		08		N DLIT INJ	PSNGR CAR		01	DRVR	NONE	29	M	OR-Y	043	000	07
N		45 22 23.85 -122 47 28.31			(02)												
							02 NONE 0	STOP									
							PRVTE	NE-SW							011	00	
							PSNGR CAR		01	DRVR	INJC	58	M	OR-Y	000	000	00
00845	N N N N N 02/14/2015	14	SW TUALATIN-SHERWOOD	STRGHT	N	N FOG S-1STOP	01 NONE 0	STRGHT									07
CITY		SA 300	SW AVERY ST	NE	(NONE) UNKNOWN	N DRY REAR	PRVTE	NE-SW								000	00
N		9A		08		N DAY PDO	PSNGR CAR		01	DRVR	NONE	24	M	OR-Y	043	000	07
N		45 22 23.84 -122 47 28.34			(02)												

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF TUALATIN, WASHINGTON COUNTY

TUALATIN-SHERWOOD and AVERY ST, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

38 - 41 of 48 Crash records shown.

SER#	INVEST	RD DPT	UNLOC?	S D M	P R J S W DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	TRLR QTY	MOVE	A S	G E LICNS	PED	ERROR	ACT	EVENT	CAUSE	
					FROM	LONG	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM										
					TIME		LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO									
														02	NONE	9	STRGHT								
														N/A		SW-NE									
															TRUCK			01	DRVR	NONE	00	Unk	UNK		000
																									000
																									000
																									000
05672	N N N				10/23/2018	14	SW TUALATIN-SHERWOOD	STRGHT			Y	N	CLR	S-1STOP	01	NONE	9	STRGHT							29
		NONE			TU	50	SW AVERY ST	SW	(NONE)	UNKNOWN		N	DRY	REAR		N/A		SW-NE							000
		N			5P			06				N	DAY	PDO		PSNGR	CAR							000	000
		N			45 22 21.42	-122 47			(02)																000
															02	NONE	9	STOP							011
															N/A		SW-NE								000
															PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK	000
																									000
																									000
03398	N N N	N N			07/02/2019	14	SW TUALATIN-SHERWOOD	STRGHT			N	N	CLR	S-1STOP	01	NONE	9	STRGHT							07
		CITY			TU	50	SW AVERY ST	SW	(NONE)	NONE		N	DRY	REAR		N/A		NE-SW							000
		N			4P			05				N	DAY	PDO		PSNGR	CAR							000	000
		N			45 22 21.42	-122 47			(02)																000
															02	NONE	9	STOP							011
															N/A		NE-SW								000
															PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK	000
																									000
05942	N N N	N N			09/04/2016	14	SW TUALATIN-SHERWOOD	STRGHT			Y	N	CLD	S-1STOP	01	NONE	0	STRGHT							013
		CITY			SU	75	SW AVERY ST	SW	(NONE)	UNKNOWN		N	DRY	REAR		PRVTE		SW-NE							000
		N			10A			08				N	DAY	INJ		PSNGR	CAR							043	000
		N			45 22 21.3	-122 47			(02)																000
															02	NONE	0	STOP							011
															PRVTE		SW-NE								013
															PSNGR	CAR			01	DRVR	INJC	54	M	OR-Y	000
																									000
															02	NONE	0	STOP							011
															PRVTE		SW-NE								013
															PSNGR	CAR			02	PSNG	INJC	54	F		000
																									000
															03	NONE	0	STOP							022
															PRVTE		SW-NE								000
															PSNGR	CAR			01	DRVR	INJC	57	F	OR-Y	000
																									000
																									013
06743	N N N	N N			12/05/2018	14	SW TUALATIN-SHERWOOD	STRGHT			Y	N	CLR	S-1STOP	01	NONE	0	STRGHT							29
		CITY			WE	75	SW AVERY ST	SW	(NONE)	NONE		N	DRY	REAR		PRVTE		SW-NE							000
		N			4P			08				N	DAY	INJ		PSNGR	CAR							026	000
		N			45 22 21.29	-122 47			(02)																000
																									026
																									000





TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CIPOLE RD and HERMAN RD, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	SECTION RELATED	OFF- ROAD
FINAL TOTAL														

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12/06/2021

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CIPOLE RD and HERMAN RD, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

	FATAL	MAJOR INJURY	MODERATE INJURY	MINOR INJURY	PROP DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	MAJOR INJURIES	MODERATE INJURIES	MINOR INJURIES
COLLISION TYPE	CRASHES	CRASHES	CRASHES	CRASHES	CRASHES	CRASHES	CRASHES	CRASHES	CRASHES	CRASHES
FINAL TOTAL										

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CITY OF TUALATIN, WASHINGTON COUNTY

CIPOLE RD and HERMAN RD, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	SPCL USE	MOVE	A	S	INVEST	E	A	U	I	C	O	DAY	DIST	FIRST STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE	UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS
------	---	---	---	---	---	------	-------	-------------	---------	----------	----------	------	---	---	--------	---	---	---	---	---	---	-----	------	--------------	--------	------	-------	-------	------	------	-------	------	------	-----	---	---	-------	-----	--------	---	---	---	---	---	---	------	------	---------------	-------	----------	-------	-------	-------	-------	----	------	----	----	------	-------	---	---	-----	-----	-------	-----	-------	-------	--------	---	---	---	---	---	---	-----	------	-----

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12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

124TH AVE and CIMINO ST, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	SECTION RELATED	OFF- ROAD
<b>YEAR: 2017</b>														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
<b>YEAR 2017 TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>

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12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

124TH AVE and CIMINO ST, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY	INJURY	INJURY	DAMAGE		KILLED	INJURIES	INJURIES	INJURIES
<b>YEAR: 2017</b>										
REAR-END	0	0	0	0	1	1	0	0	0	0
<b>2017 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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CITY OF TUALATIN, WASHINGTON COUNTY

124TH AVE and CIMINO ST, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

1 - 1 of 1 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	TRLR QTY	MOVE		A	S																			
INVEST	E	A	U	I	C	O	DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN)	RNDBT	SURF	COLL	OWNER	FROM		PRTC	INJ	G	E	LICNS	PED																
RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-																											
UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE										
05345	N	N	N	N	N	08/31/2017	16		SW CIMINO ST	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE	9	STRGHT																			27	
CITY						TH	0		SW 124TH AVE	N		STOP SIGN	N	DRY	REAR	N/A		N -S																				000	00
N						3P				06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000											000	00	
N						45 22 17.75	-122 48 20.26										02	NONE	9	STOP																			
																	N/A		N -S																			011	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000												000	00

12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

124TH AVE at MYSLONY ST, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
<b>YEAR: 2016</b>														
SIDESWIPE - MEETING	0	1	0	1	0	2	0	1	0	0	1	1	0	0
<b>YEAR 2016 TOTAL</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2015</b>														
TURNING MOVEMENTS	0	1	1	2	0	1	2	1	1	1	1	2	0	0
<b>YEAR 2015 TOTAL</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>

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## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

124TH AVE at MYSLONY ST, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY	INJURY	INJURY	DAMAGE		KILLED	INJURIES	INJURIES	INJURIES
<b>YEAR: 2016</b>										
SIDESWIPE - MEETING	0	0	1	0	0	1	0	0	1	1
<b>2016 TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>YEAR: 2015</b>										
TURNING MOVEMENTS	0	0	0	1	1	2	0	0	0	1
<b>2015 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>

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## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

124TH AVE and HERMAN RD, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
<b>YEAR: 2019</b>														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	0	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	1	1	2	0	0
<b>YEAR 2019 TOTAL</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2018</b>														
BACKING	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	0	1	1	0	0	0	1	0	1	0	0	1	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
<b>YEAR 2018 TOTAL</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>YEAR: 2017</b>														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	0	1	1	0	1	0	0
<b>YEAR 2017 TOTAL</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2016</b>														
ANGLE	0	1	0	1	0	3	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
<b>YEAR 2016 TOTAL</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2015</b>														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0

12/06/2021

## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

124TH AVE and HERMAN RD, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	NON-	PROPERTY	TOTAL	PEOPLE	PEOPLE	TRUCKS	DRY	WET	DAY	DARK	INTER-	SECTION	OFF-
	CRASHES	FATAL	DAMAGE	CRASHES	KILLED	INJURED		SURF	SURF			SECTION	RELATED	
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
<b>YEAR 2015 TOTAL</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>3</b>	<b>9</b>	<b>12</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>10</b>	<b>2</b>	<b>11</b>	<b>1</b>	<b>10</b>	<b>1</b>	<b>0</b>

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## TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

## CRASH SUMMARIES BY YEAR BY COLLISION TYPE

124TH AVE and HERMAN RD, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

COLLISION TYPE	FATAL	MAJOR	MODERATE	MINOR	PROP	TOTAL	PEOPLE	MAJOR	MODERATE	MINOR
	CRASHES	INJURY CRASHES	INJURY CRASHES	INJURY CRASHES	DAMAGE ONLY		KILLED	INJURIES	INJURIES	INJURIES
<b>YEAR: 2019</b>										
REAR-END	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	0	1	1	2	0	0	0	1
<b>2019 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>YEAR: 2018</b>										
BACKING	0	0	0	0	1	1	0	0	0	0
REAR-END	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
<b>2018 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>YEAR: 2017</b>										
REAR-END	0	0	0	0	1	1	0	0	0	0
TURNING MOVEMENTS	0	0	0	1	0	1	0	0	0	1
<b>2017 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>YEAR: 2016</b>										
ANGLE	0	1	0	0	0	1	0	1	2	0
TURNING MOVEMENTS	0	0	0	0	1	1	0	0	0	0
<b>2016 TOTAL</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>
<b>YEAR: 2015</b>										
ANGLE	0	0	0	0	1	1	0	0	0	0
REAR-END	0	0	0	0	1	1	0	0	0	0
<b>2015 TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>FINAL TOTAL</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>9</b>	<b>12</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>2</b>

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



CITY OF TUALATIN, WASHINGTON COUNTY

124TH AVE and HERMAN RD, City of Tualatin, Washington County, 01/01/2015 to 12/31/2019

1 - 5 of 12 Crash records shown.

SER#	S	D	M	P	R	J	S	W	DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE	A	S	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE																				
INVEST	E	A	U	I	C	O	DAY			DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE																								
RD DPT	E	L	G	N	H	R	TIME			FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM		PRTC	INJ																					
UNLOC?	D	C	S	V	L	K	LAT			LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC																
01033	N	N	N	N	N	N	02/28/2019			16	SW HERMAN RD	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE	9	TURN-R													27,02									
CITY							TH			0	SW 124TH AVE	N		TRF SIGNAL	N	WET	TURN	N/A		E -N														000	00								
N							1P					00	2		N	DAY	PDO	PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK							000	000	00							
N							45 22 42.84 -122 48			17.93																																	
																		02	NONE	9	STRGHT																						
																		N/A			S -N															000	000	00					
																		PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK										000	000	00				
03529	N	N	N				06/14/2017			16	SW HERMAN RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE	9	TURN-R																29						
NONE							WE			0	SW 124TH AVE	NE		TRF SIGNAL	N	DRY	REAR	N/A		E -N																000	000	00					
N							5P					09	2		N	DAY	PDO	PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK										000	000	00				
N							45 22 42.84 -122 48			17.93																																	
																		02	NONE	9	STOP																						
																		N/A			E -N																	011	000	00			
																		PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK											000	000	00			
03577	N	N	N	N	N	N	06/26/2015			17	SW HERMAN RD	INTER	CROSS	N	N	CLR	S-STRGHT	01	NONE	0	STRGHT																		29				
CITY							FR			0	SW 124TH AVE	E		TRF SIGNAL	N	DRY	REAR	PRVTE		E -W																		000	000	00			
N							12P					06	2		N	DAY	PDO	PSNGR	CAR			01	DRVR	NONE	28	M	OR-Y										026	000	000	29			
N							45 22 42.84 -122 48			17.93																																	
																		02	NONE	0	STOP																						
																		PRVTE			E -W																		011	000	000	00	
																		PSNGR	CAR			01	DRVR	NONE	54	M	OR-Y											000	000	000	00		
01769	N	N	N				04/10/2018			16	SW HERMAN RD	INTER	CROSS	N	N	CLR	O-1STOP	01	NONE	9	BACK																			10			
NONE							TU			0	SW 124TH AVE	W		TRF SIGNAL	N	DRY	BACK	N/A		E -W																			000	000	00		
N							3P					09	2		N	DAY	PDO	PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK											000	000	000	00		
N							45 22 42.84 -122 48			17.93																																	
																		02	NONE	9	STOP																						
																		N/A			W -E																			011	000	000	00
																		PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK												000	000	000	00	
02985	N	N	N	N	N	N	06/02/2015			16	SW HERMAN RD	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE	0	STRGHT																			04			
CITY							TU			0	SW 124TH AVE	CN		TRF SIGNAL	N	DRY	ANGL	PRVTE		E -W																			000	000	00		
N							9A					01	1		N	DAY	PDO	PSNGR	CAR			01	DRVR	NONE	68	M	OR-Y											020	000	000	04		
N							45 22 42.84 -122 48			17.93																																	
																		02	NONE	0	STRGHT																						
																		PUBLC			N -S																		000	000	000	00	
																		SCHL	BUS			01	DRVR	NONE	57	M	OR-Y											000	000	000	00		

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





## Left-Turn Lane Warrant Analysis



Project: 21086 - TLP  
 Intersection: Site Access at Cipole Road - Scenario 1  
 Date: 12/15/2021  
 Scenario: Buildout - AM Peak Hour

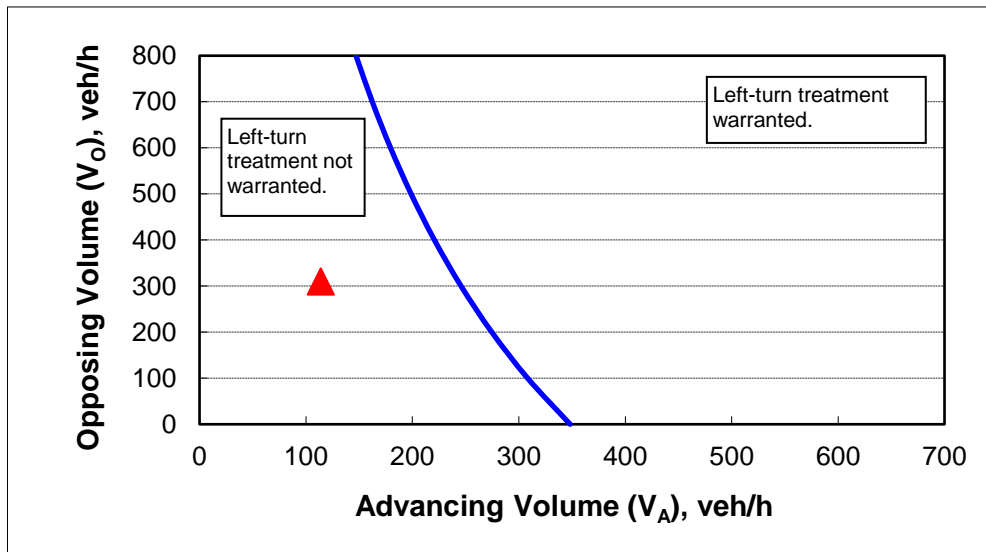
### 2-lane roadway (English)

#### INPUT

Variable	Value
85 <sup>th</sup> percentile speed, mph:	50
Percent of left-turns in advancing volume ( $V_A$ ), %:	25%
Advancing volume ( $V_A$ ), veh/h:	114
Opposing volume ( $V_O$ ), veh/h:	310

#### OUTPUT

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	243
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment NOT warranted.</b>	



#### CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

## Left-Turn Lane Warrant Analysis



Project: 21086 - TLP  
 Intersection: Site Access at Cipole Road - Scenario 1  
 Date: 12/15/2021  
 Scenario: Buildout - PM Peak Hour

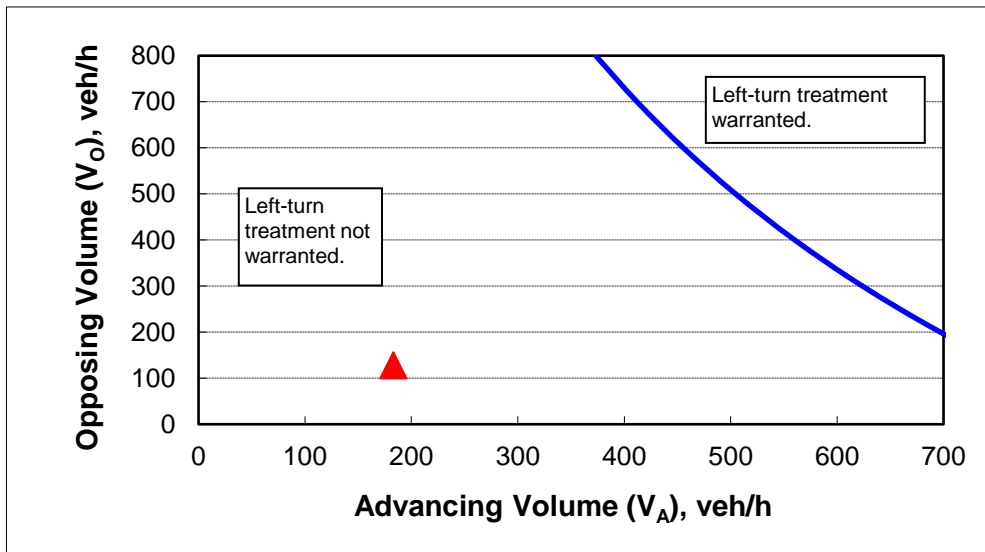
### 2-lane roadway (English)

#### INPUT

Variable	Value
85 <sup>th</sup> percentile speed, mph:	50
Percent of left-turns in advancing volume ( $V_A$ ), %:	3%
Advancing volume ( $V_A$ ), veh/h:	183
Opposing volume ( $V_O$ ), veh/h:	128

#### OUTPUT

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	757
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment NOT warranted.</b>	



#### CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

## Left-Turn Lane Warrant Analysis



Project: 21086 - TLP  
 Intersection: Site Access at Cipole Road - Scenario 2  
 Date: 12/15/2021  
 Scenario: Buildout - AM Peak Hour

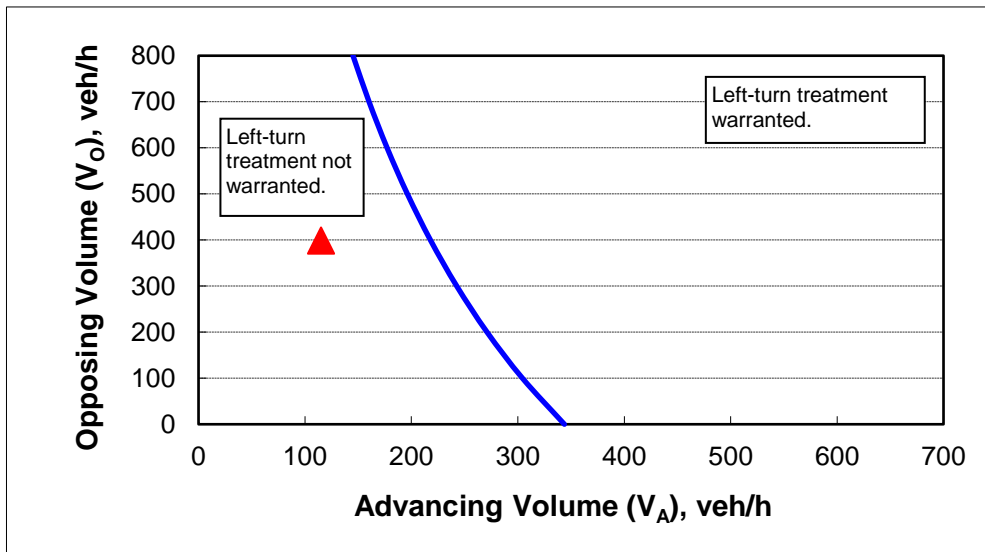
### 2-lane roadway (English)

#### INPUT

Variable	Value
85 <sup>th</sup> percentile speed, mph:	50
Percent of left-turns in advancing volume ( $V_A$ ), %:	26%
Advancing volume ( $V_A$ ), veh/h:	115
Opposing volume ( $V_O$ ), veh/h:	399

#### OUTPUT

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	218
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment NOT warranted.</b>	



#### CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

## Left-Turn Lane Warrant Analysis



Project: 21086 - TLP  
 Intersection: Site Access at Cipole Road - Scenario 2  
 Date: 12/15/2021  
 Scenario: Buildout - PM Peak Hour

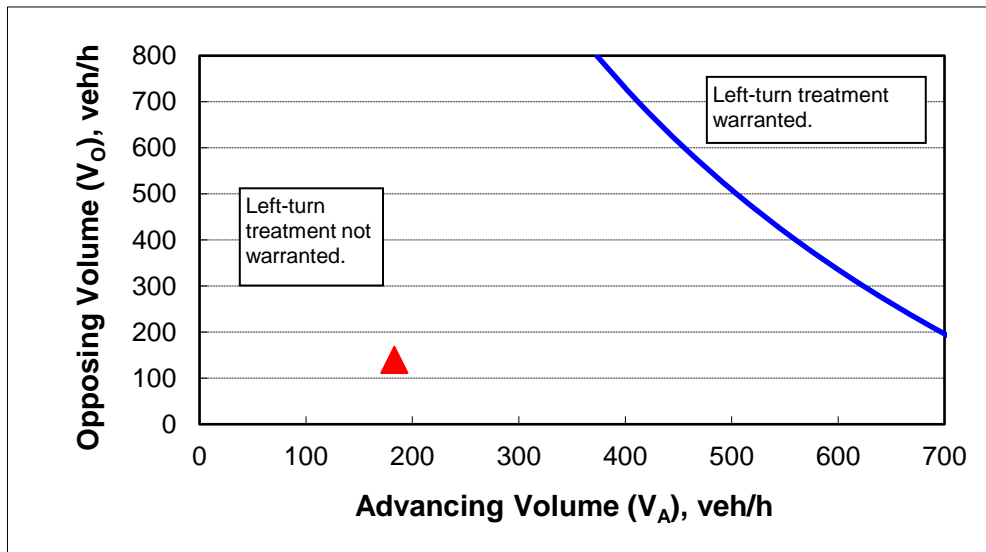
### 2-lane roadway (English)

#### INPUT

Variable	Value
85 <sup>th</sup> percentile speed, mph:	50
Percent of left-turns in advancing volume ( $V_A$ ), %:	3%
Advancing volume ( $V_A$ ), veh/h:	183
Opposing volume ( $V_O$ ), veh/h:	140

#### OUTPUT

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	747
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment NOT warranted.</b>	



#### CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

## Left-Turn Lane Warrant Analysis



Project: 21086 - TLP  
 Intersection: Site Access at Cipole Road - Scenario 3  
 Date: 12/15/2021  
 Scenario: Buildout - AM Peak Hour

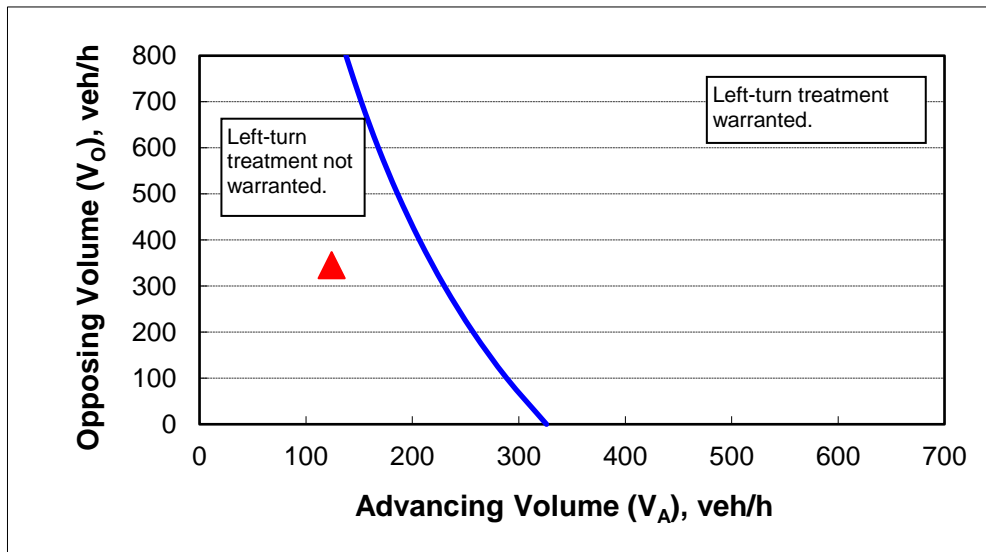
### 2-lane roadway (English)

#### INPUT

Variable	Value
85 <sup>th</sup> percentile speed, mph:	50
Percent of left-turns in advancing volume ( $V_A$ ), %:	31%
Advancing volume ( $V_A$ ), veh/h:	124
Opposing volume ( $V_O$ ), veh/h:	345

#### OUTPUT

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	219
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment NOT warranted.</b>	



#### CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9



## Left-Turn Lane Warrant Analysis



Project: 21086 - TLP  
 Intersection: Site Access at Cipole Road - Scenario 3  
 Date: 12/15/2021  
 Scenario: Buildout - PM Peak Hour

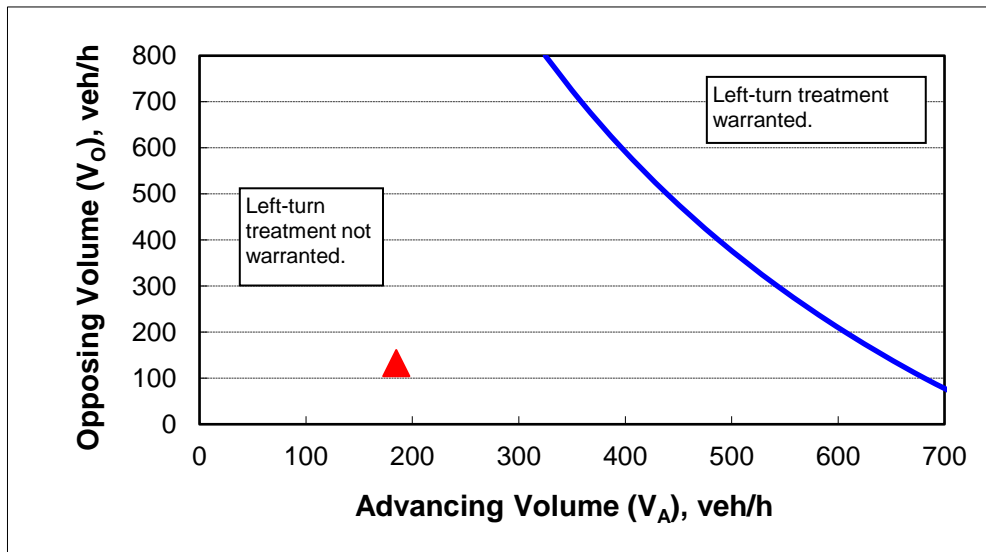
### 2-lane roadway (English)

#### INPUT

Variable	Value
85 <sup>th</sup> percentile speed, mph:	50
Percent of left-turns in advancing volume ( $V_A$ ), %:	4%
Advancing volume ( $V_A$ ), veh/h:	185
Opposing volume ( $V_O$ ), veh/h:	133

#### OUTPUT

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	655
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment NOT warranted.</b>	



#### CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

## Left-Turn Lane Warrant Analysis



Project: 21086 - TLP  
 Intersection: Site Access at Cipole Road - Scenario 4  
 Date: 12/15/2021  
 Scenario: Buildout - AM Peak Hour

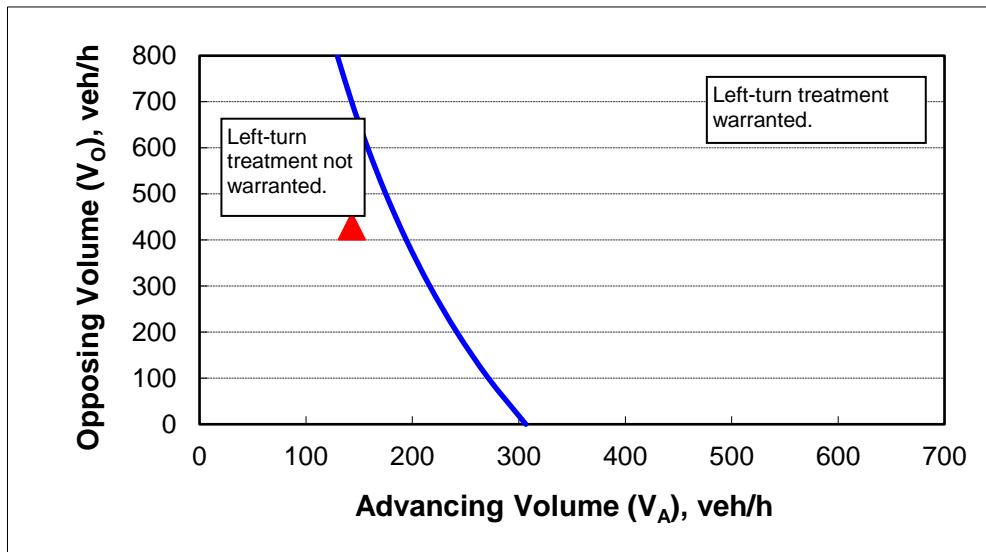
### 2-lane roadway (English)

#### INPUT

Variable	Value
85 <sup>th</sup> percentile speed, mph:	50
Percent of left-turns in advancing volume ( $V_A$ ), %:	41%
Advancing volume ( $V_A$ ), veh/h:	143
Opposing volume ( $V_O$ ), veh/h:	429

#### OUTPUT

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	188
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment NOT warranted.</b>	



#### CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

## Left-Turn Lane Warrant Analysis



Project: 21086 - TLP  
 Intersection: Site Access at Cipole Road - Scenario 4  
 Date: 12/15/2021  
 Scenario: Buildout - PM Peak Hour

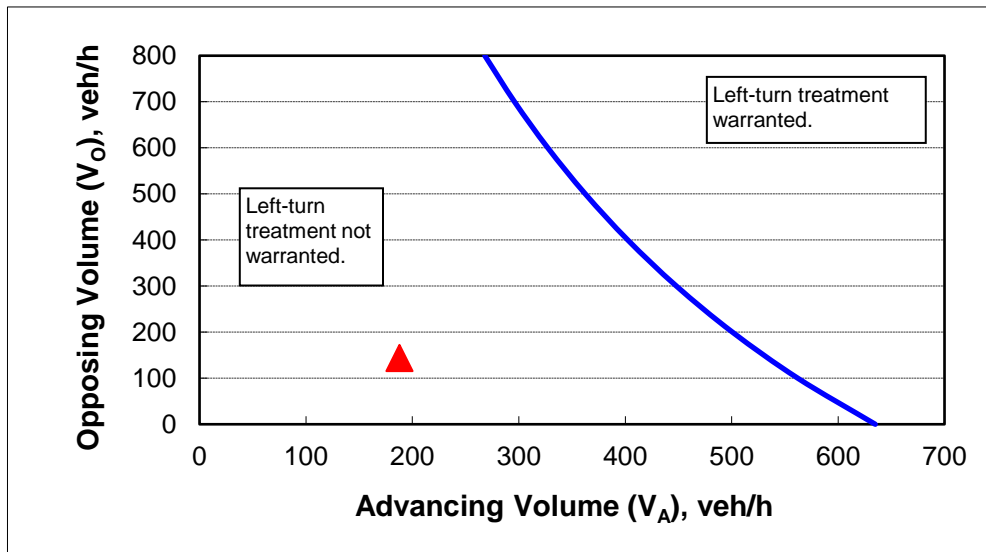
### 2-lane roadway (English)

#### INPUT

Variable	Value
85 <sup>th</sup> percentile speed, mph:	50
Percent of left-turns in advancing volume ( $V_A$ ), %:	6%
Advancing volume ( $V_A$ ), veh/h:	188
Opposing volume ( $V_O$ ), veh/h:	144

#### OUTPUT

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	534
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment NOT warranted.</b>	



#### CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9



## Preliminary Traffic Signal Warrant Analysis

Project: 21086 - Tualatin Logistics Park  
 Date: 12/15/2021  
 Scenario: Year 2025 Buildout Conditions - Scenario 1

Major Street:	SW Cipole Rd	Minor Street:	SW Access	
Number of Lanes:	2	Number of Lanes:	1	
PM Peak Hour Volumes:	311	PM Peak Hour Volumes:	148	Total
			29	Rights
			50%	RT Discount

### Warrant Used:

X 100 percent of standard warrants used  
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	3,110	10,600	
Minor Street*	1,340	2,650	<b>No</b>
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	3,110	15,900	
Minor Street*	1,340	1,350	<b>No</b>
<i>Combination Warrant</i>			
Major Street	3,110	12,720	
Minor Street*	1,340	2,120	<b>No</b>

\* Minor street right-turning traffic volumes reduced by 50%.



## Preliminary Traffic Signal Warrant Analysis

Project: 21086 - Tualatin Logistics Park  
 Date: 12/15/2021  
 Scenario: Year 2025 Buildout Conditions - Scenario 2

Major Street:	SW Cipole Rd	Minor Street:	SW Access	
Number of Lanes:	2	Number of Lanes:	1	
PM Peak Hour Volumes:	323	PM Peak Hour Volumes:	199	Total
			54	Rights
			50%	RT Discount

### Warrant Used:

X 100 percent of standard warrants used  
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	3,230	10,600	
Minor Street*	1,720	2,650	<b>No</b>
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	3,230	15,900	
Minor Street*	1,720	1,350	<b>No</b>
<i>Combination Warrant</i>			
Major Street	3,230	12,720	
Minor Street*	1,720	2,120	<b>No</b>

\* Minor street right-turning traffic volumes reduced by 50%.



## Preliminary Traffic Signal Warrant Analysis

Project: 21086 - Tualatin Logistics Park  
 Date: 12/15/2021  
 Scenario: Year 2025 Buildout Conditions - Scenario 3

Major Street:	SW Cipole Rd	Minor Street:	SW Access	
Number of Lanes:	2	Number of Lanes:	1	
PM Peak Hour Volumes:	318	PM Peak Hour Volumes:	186	Total
			36	Rights
			50%	RT Discount

### Warrant Used:

X 100 percent of standard warrants used  
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	3,180	10,600	
Minor Street*	1,680	2,650	<b>No</b>
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	3,180	15,900	
Minor Street*	1,680	1,350	<b>No</b>
<i>Combination Warrant</i>			
Major Street	3,180	12,720	
Minor Street*	1,680	2,120	<b>No</b>

\* Minor street right-turning traffic volumes reduced by 50%.



## Preliminary Traffic Signal Warrant Analysis

Project: 21086 - Tualatin Logistics Park  
 Date: 12/15/2021  
 Scenario: Year 2025 Buildout Conditions - Scenario 4

Major Street:	SW Cipole Rd	Minor Street:	SW Access	
Number of Lanes:	2	Number of Lanes:	1	
PM Peak Hour Volumes:	311	PM Peak Hour Volumes:	111	Total
			30	Rights
			50%	RT Discount

### Warrant Used:

X 100 percent of standard warrants used  
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
		100%	70%	100%	70%
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<b>WARRANT 1, CONDITION A</b>					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<b>WARRANT 1, CONDITION B</b>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	3,110	10,600	
Minor Street*	960	2,650	<b>No</b>
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	3,110	15,900	
Minor Street*	960	1,350	<b>No</b>
<i>Combination Warrant</i>			
Major Street	3,110	12,720	
Minor Street*	960	2,120	<b>No</b>

\* Minor street right-turning traffic volumes reduced by 50%.



## Preliminary Traffic Signal Warrant Analysis

Project: 21086 - Tualatin Logistics Park  
 Date: 12/15/2021  
 Scenario: Year 2025 Buildout Conditions - Scenario 1

Major Street:	SW Cipole Rd	Minor Street:	SE Access	
Number of Lanes:	2	Number of Lanes:	1	
PM Peak Hour Volumes:	1123	PM Peak Hour Volumes:	127	Total
			101	Rights
			50%	RT Discount

### Warrant Used:

X 100 percent of standard warrants used  
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	11,230	10,600	
Minor Street*	770	2,650	<b>No</b>
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	11,230	15,900	
Minor Street*	770	1,350	<b>No</b>
<i>Combination Warrant</i>			
Major Street	11,230	12,720	
Minor Street*	770	2,120	<b>No</b>

\* Minor street right-turning traffic volumes reduced by 50%.





## Preliminary Traffic Signal Warrant Analysis

Project: 21086 - Tualatin Logistics Park  
 Date: 12/15/2021  
 Scenario: Year 2025 Buildout Conditions - Scenario 4

Major Street:	SW Cipole Rd	Minor Street:	SE Access	
Number of Lanes:	2	Number of Lanes:	1	
PM Peak Hour Volumes:	1193	PM Peak Hour Volumes:	88	Total
			64	Rights
			50%	RT Discount

### Warrant Used:

X 100 percent of standard warrants used  
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	11,930	10,600	
Minor Street*	560	2,650	<b>No</b>
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	11,930	15,900	
Minor Street*	560	1,350	<b>No</b>
<i>Combination Warrant</i>			
Major Street	11,930	12,720	
Minor Street*	560	2,120	<b>No</b>

\* Minor street right-turning traffic volumes reduced by 50%.



## Preliminary Traffic Signal Warrant Analysis

Project: 21086 - Tualatin Logistics Park  
 Date: 12/15/2021  
 Scenario: Year 2025 Buildout Conditions - Scenario 2

Major Street:	SW Cipole Rd	Minor Street:	NE Access	
Number of Lanes:	2	Number of Lanes:	1	
PM Peak Hour Volumes:	1130	PM Peak Hour Volumes:	76	Total Rights RT Discount
			76	
			100%	

**Warrant Used:**

      X       100 percent of standard warrants used  
                   70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	11,300	10,600	
Minor Street*	0	2,650	<b>No</b>
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	11,300	15,900	
Minor Street*	0	1,350	<b>No</b>
<i>Combination Warrant</i>			
Major Street	11,300	12,720	
Minor Street*	0	2,120	<b>No</b>

\* Minor street right-turning traffic volumes reduced by 100%.



## Preliminary Traffic Signal Warrant Analysis

Project: 21086 - Tualatin Logistics Park  
 Date: 12/15/2021  
 Scenario: Year 2025 Buildout Conditions - Scenario 3

Major Street:	SW Cipole Rd	Minor Street:	NE Access	
Number of Lanes:	2	Number of Lanes:	1	
PM Peak Hour Volumes:	1130	PM Peak Hour Volumes:	89	Total
			71	Rights
			50%	RT Discount

### Warrant Used:

X 100 percent of standard warrants used  
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
		100%	70%	100%	70%
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	11,300	10,600	
Minor Street*	540	2,650	<b>No</b>
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	11,300	15,900	
Minor Street*	540	1,350	<b>No</b>
<i>Combination Warrant</i>			
Major Street	11,300	12,720	
Minor Street*	540	2,120	<b>No</b>

\* Minor street right-turning traffic volumes reduced by 50%.



## Preliminary Traffic Signal Warrant Analysis

Project: 21086 - Tualatin Logistics Park  
 Date: 12/15/2021  
 Scenario: Year 2025 Buildout Conditions - Scenario 4

Major Street:	SW Cipole Rd	Minor Street:	NE Access	
Number of Lanes:	2	Number of Lanes:	1	
PM Peak Hour Volumes:	1130	PM Peak Hour Volumes:	76	Total
			76	Rights
			100%	RT Discount

### Warrant Used:

X 100 percent of standard warrants used  
70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
		100%	70%	100%	70%
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
<u>WARRANT 1, CONDITION A</u>					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
<u>WARRANT 1, CONDITION B</u>					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	11,300	10,600	
Minor Street*	0	2,650	<b>No</b>
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	11,300	15,900	
Minor Street*	0	1,350	<b>No</b>
<i>Combination Warrant</i>			
Major Street	11,300	12,720	
Minor Street*	0	2,120	<b>No</b>

\* Minor street right-turning traffic volumes reduced by 100%.

## Appendix D – Operations Analysis

Synchro Reports

SimTraffic Queuing Reports



# HCM Signalized Intersection Capacity Analysis

## 1: SW Oregon Street & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	810	121	114	618	6	87	3	342	4	0	0
Future Volume (vph)	8	810	121	114	618	6	87	3	342	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	
Satd. Flow (prot)	1655	1743	1449	1570	1650			1675	1475		1444	
Flt Permitted	0.40	1.00	1.00	0.18	1.00			0.73	1.00		0.66	
Satd. Flow (perm)	701	1743	1449	300	1650			1283	1475		1003	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	853	127	120	651	6	92	3	360	4	0	0
RTOR Reduction (vph)	0	0	23	0	0	0	0	0	91	0	0	0
Lane Group Flow (vph)	8	853	104	120	657	0	0	95	269	0	4	0
Confl. Peds. (#/hr)	1					1	1					1
Confl. Bikes (#/hr)			4						2			
Heavy Vehicles (%)	9%	9%	9%	15%	15%	15%	8%	8%	8%	25%	25%	25%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	61.3	60.6	60.6	74.0	69.3			12.7	22.1		12.7	
Effective Green, g (s)	61.3	62.1	62.1	74.0	70.8			12.7	22.1		12.7	
Actuated g/C Ratio	0.64	0.65	0.65	0.77	0.74			0.13	0.23		0.13	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5			4.0	4.0		4.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5			1.5	1.5		1.5	
Lane Grp Cap (vph)	453	1125	935	354	1214			169	400		132	
v/s Ratio Prot	0.00	c0.49		0.03	0.40				c0.07			
v/s Ratio Perm	0.01		0.07	0.23				0.07	0.12		0.00	
v/c Ratio	0.02	0.76	0.11	0.34	0.54			0.56	0.67		0.03	
Uniform Delay, d1	6.4	11.8	6.5	9.0	5.6			39.1	33.8		36.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	3.1	0.1	0.2	0.6			2.5	3.5		0.0	
Delay (s)	6.4	14.9	6.6	9.2	6.1			41.7	37.2		36.4	
Level of Service	A	B	A	A	A			D	D		D	
Approach Delay (s)		13.8			6.6			38.2			36.4	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	96.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 1: SW Oregon Street & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	810	121	114	618	6	87	3	342	4	0	0
Future Volume (veh/h)	8	810	121	114	618	6	87	3	342	4	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	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	1767	1767	1767	1678	1678	1678	1781	1781	1781	1530	1530	1530
Adj Flow Rate, veh/h	8	853	101	120	651	6	92	3	265	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	416	1114	923	297	1113	10	346	10	362	208	0	0
Arrive On Green	0.01	0.63	0.63	0.05	0.67	0.67	0.19	0.19	0.19	0.19	0.00	0.00
Sat Flow, veh/h	1682	1767	1463	1598	1660	15	1395	52	1470	685	0	0
Grp Volume(v), veh/h	8	853	101	120	0	657	95	0	265	4	0	0
Grp Sat Flow(s),veh/h/ln	1682	1767	1463	1598	0	1675	1447	0	1470	685	0	0
Q Serve(g_s), s	0.2	33.2	2.6	2.5	0.0	20.5	0.0	0.0	16.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	0.2	33.2	2.6	2.5	0.0	20.5	4.6	0.0	16.0	5.0	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	416	1114	923	297	0	1123	356	0	362	208	0	0
V/C Ratio(X)	0.02	0.77	0.11	0.40	0.00	0.58	0.27	0.00	0.73	0.02	0.00	0.00
Avail Cap(c_a), veh/h	591	1392	1153	814	0	1494	457	0	471	276	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	8.3	12.7	7.1	13.5	0.0	8.6	33.1	0.0	33.6	35.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.2	0.1	0.3	0.0	0.6	0.1	0.0	2.6	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	11.1	0.7	1.0	0.0	5.9	1.9	0.0	5.9	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.3	14.9	7.1	13.8	0.0	9.2	33.2	0.0	36.1	35.2	0.0	0.0
LnGrp LOS	A	B	A	B	A	A	C	A	D	D	A	A
Approach Vol, veh/h		962			777			360				4
Approach Delay, s/veh		14.0			9.9			35.4				35.2
Approach LOS		B			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	64.8		22.8	5.0	68.7		22.8				
Change Period (Y+Rc), s	4.0	5.5		4.0	4.0	5.5		4.0				
Max Green Setting (Gmax), s	36.0	74.5		26.0	11.0	84.5		26.0				
Max Q Clear Time (g_c+I1), s	4.5	35.2		7.0	2.2	22.5		18.0				
Green Ext Time (p_c), s	0.2	24.1		0.0	0.0	19.8		0.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				16.2								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/06/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	110	1055	705	75	47	30
Future Volume (vph)	110	1055	705	75	47	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1671	1759	1667	1388	1399	1252
Flt Permitted	0.31	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	542	1759	1667	1388	1399	1252
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	1099	734	78	49	31
RTOR Reduction (vph)	0	0	0	13	0	28
Lane Group Flow (vph)	115	1099	734	65	49	3
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	8%	8%	14%	14%	29%	29%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	100.0	100.0	90.6	90.6	9.5	9.5
Effective Green, g (s)	100.0	101.5	92.1	92.1	10.5	10.5
Actuated g/C Ratio	0.83	0.85	0.77	0.77	0.09	0.09
Clearance Time (s)	4.0	5.5	5.5	5.5	5.0	5.0
Vehicle Extension (s)	1.5	3.5	3.5	3.5	2.0	2.0
Lane Grp Cap (vph)	502	1487	1279	1065	122	109
v/s Ratio Prot	0.01	c0.62	0.44		c0.04	
v/s Ratio Perm	0.18			0.05		0.00
v/c Ratio	0.23	0.74	0.57	0.06	0.40	0.02
Uniform Delay, d1	3.6	3.8	5.8	3.4	51.8	50.1
Progression Factor	1.00	1.00	0.66	0.36	1.00	1.00
Incremental Delay, d2	0.1	3.3	1.5	0.1	0.8	0.0
Delay (s)	3.7	7.1	5.3	1.3	52.6	50.1
Level of Service	A	A	A	A	D	D
Approach Delay (s)		6.8	4.9		51.6	
Approach LOS		A	A		D	

### Intersection Summary

HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



# HCM 6th Signalized Intersection Summary

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/06/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↗	↑	↑	↖	↗	↖
Traffic Volume (veh/h)	110	1055	705	75	47	30
Future Volume (veh/h)	110	1055	705	75	47	30
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1781	1781	1693	1693	1470	1470
Adj Flow Rate, veh/h	115	1099	734	62	49	31
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	8	8	14	14	29	29
Cap, veh/h	642	1561	1358	1127	80	71
Arrive On Green	0.04	0.88	1.00	1.00	0.06	0.06
Sat Flow, veh/h	1697	1781	1693	1405	1400	1246
Grp Volume(v), veh/h	115	1099	734	62	49	31
Grp Sat Flow(s),veh/h/ln	1697	1781	1693	1405	1400	1246
Q Serve(g_s), s	1.3	23.9	0.0	0.0	4.1	2.9
Cycle Q Clear(g_c), s	1.3	23.9	0.0	0.0	4.1	2.9
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	642	1561	1358	1127	80	71
V/C Ratio(X)	0.18	0.70	0.54	0.06	0.61	0.44
Avail Cap(c_a), veh/h	655	1561	1358	1127	268	239
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.00	1.00
Upstream Filter(I)	0.51	0.51	0.74	0.74	1.00	1.00
Uniform Delay (d), s/veh	1.5	2.4	0.0	0.0	55.3	54.7
Incr Delay (d2), s/veh	0.0	1.4	1.1	0.1	2.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.2	0.4	0.0	1.5	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.5	3.8	1.1	0.1	58.1	56.3
LnGrp LOS	A	A	A	A	E	E
Approach Vol, veh/h		1214	796		80	
Approach Delay, s/veh		3.6	1.1		57.4	
Approach LOS		A	A		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		109.2		10.8	8.9	100.3
Change Period (Y+Rc), s		5.5		5.0	4.0	5.5
Max Green Setting (Gmax), s		87.5		22.0	5.8	77.7
Max Q Clear Time (g_c+I1), s		25.9		6.1	3.3	2.0
Green Ext Time (p_c), s		54.1		0.2	0.0	38.9
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			4.7			
HCM 6th LOS			A			

# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖	↑	↗
Traffic Volume (vph)	68	942	92	24	558	189	170	208	70	167	185	52
Future Volume (vph)	68	942	92	24	558	189	170	208	70	167	185	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1612	1696	1408	1583	1667	1401	1625	1712	1455	1583	1667	1391
Flt Permitted	0.29	1.00	1.00	0.06	1.00	1.00	0.38	1.00	1.00	0.31	1.00	1.00
Satd. Flow (perm)	499	1696	1408	98	1667	1401	642	1712	1455	522	1667	1391
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	73	1013	99	26	600	203	183	224	75	180	199	56
RTOR Reduction (vph)	0	0	35	0	0	74	0	0	62	0	0	44
Lane Group Flow (vph)	73	1013	64	26	600	129	183	224	13	180	199	12
Confl. Peds. (#/hr)			2	2			1					1
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	12%	12%	12%	14%	14%	14%	11%	11%	11%	14%	14%	14%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	74.4	69.6	77.6	71.2	68.0	76.0	28.2	20.2	20.2	28.2	20.2	25.0
Effective Green, g (s)	74.4	71.1	77.6	71.2	69.5	76.0	28.2	21.7	20.2	28.2	21.7	25.0
Actuated g/C Ratio	0.62	0.59	0.65	0.59	0.58	0.63	0.23	0.18	0.17	0.23	0.18	0.21
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5	5.5	4.0	5.5	4.0
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0	2.0	1.5	2.0	1.5
Lane Grp Cap (vph)	353	1004	910	97	965	887	216	309	244	193	301	289
v/s Ratio Prot	c0.01	c0.60	0.00	0.01	0.36	0.01	0.06	0.13		c0.06	0.12	0.00
v/s Ratio Perm	0.12		0.04	0.15		0.08	0.14		0.01	c0.16		0.01
v/c Ratio	0.21	1.01	0.07	0.27	0.62	0.14	0.85	0.72	0.05	0.93	0.66	0.04
Uniform Delay, d1	11.5	24.5	7.8	24.4	16.6	8.9	42.5	46.3	41.9	43.4	45.7	37.9
Progression Factor	1.03	0.97	1.36	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	26.4	0.0	0.5	3.0	0.0	24.3	7.0	0.0	45.3	4.2	0.0
Delay (s)	11.9	50.1	10.7	24.9	19.6	8.9	66.8	53.3	41.9	88.6	49.9	37.9
Level of Service	B	D	B	C	B	A	E	D	D	F	D	D
Approach Delay (s)		44.4			17.2			56.7			64.4	
Approach LOS		D			B			E			E	

### Intersection Summary

HCM 2000 Control Delay	41.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	942	92	24	558	189	170	208	70	167	185	52
Future Volume (veh/h)	68	942	92	24	558	189	170	208	70	167	185	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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	1722	1722	1722	1693	1693	1693	1737	1737	1737	1693	1693	1693
Adj Flow Rate, veh/h	73	1013	83	26	600	128	183	224	53	180	199	34
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, %	12	12	12	14	14	14	11	11	11	14	14	14
Cap, veh/h	360	1043	942	113	1002	916	220	295	231	202	288	280
Arrive On Green	0.04	0.61	0.59	0.02	0.59	0.58	0.07	0.17	0.16	0.07	0.17	0.16
Sat Flow, veh/h	1640	1722	1423	1612	1693	1415	1654	1737	1467	1612	1693	1430
Grp Volume(v), veh/h	73	1013	83	26	600	128	183	224	53	180	199	34
Grp Sat Flow(s),veh/h/ln	1640	1722	1423	1612	1693	1415	1654	1737	1467	1612	1693	1430
Q Serve(g_s), s	2.1	67.6	2.5	0.8	26.9	4.2	8.0	14.7	3.8	8.0	13.3	2.4
Cycle Q Clear(g_c), s	2.1	67.6	2.5	0.8	26.9	4.2	8.0	14.7	3.8	8.0	13.3	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	360	1043	942	113	1002	916	220	295	231	202	288	280
V/C Ratio(X)	0.20	0.97	0.09	0.23	0.60	0.14	0.83	0.76	0.23	0.89	0.69	0.12
Avail Cap(c_a), veh/h	380	1043	942	155	1002	916	220	420	336	202	409	382
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)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	22.6	7.4	28.7	15.5	8.3	45.4	47.5	44.2	45.9	46.8	39.8
Incr Delay (d2), s/veh	0.1	16.4	0.1	0.4	2.6	0.3	21.6	2.7	0.2	34.3	1.1	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	0.7	28.3	0.7	0.4	10.1	1.2	3.1	6.4	1.4	3.7	5.5	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.6	39.0	7.5	29.1	18.1	8.6	67.0	50.1	44.4	80.3	48.0	39.8
LnGrp LOS	B	D	A	C	B	A	E	D	D	F	D	D
Approach Vol, veh/h		1169			754			460				413
Approach Delay, s/veh		35.1			16.9			56.2				61.4
Approach LOS		D			B			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	76.7	12.0	24.4	8.6	75.0	12.0	24.4				
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	59.5	8.0	27.5	6.0	59.5	8.0	27.5				
Max Q Clear Time (g_c+I1), s	2.8	69.6	10.0	15.3	4.1	28.9	10.0	16.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.7	0.1	17.2	0.0	1.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				37.5								
HCM 6th LOS				D								

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	↙
Traffic Vol, veh/h	1139	39	11	771	17	15
Future Vol, veh/h	1139	39	11	771	17	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	130	440	-	0	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	13	13	93	93
Mvmt Flow	1199	41	12	812	18	16

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	1240	0	2035
Stage 1	-	-	-	-	1199
Stage 2	-	-	-	-	836
Critical Hdwy	-	-	4.23	-	7.33
Critical Hdwy Stg 1	-	-	-	-	6.33
Critical Hdwy Stg 2	-	-	-	-	6.33
Follow-up Hdwy	-	-	2.317	-	4.337
Pot Cap-1 Maneuver	-	-	525	-	35
Stage 1	-	-	-	-	191
Stage 2	-	-	-	-	303
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	525	-	34
Mov Cap-2 Maneuver	-	-	-	-	121
Stage 1	-	-	-	-	191
Stage 2	-	-	-	-	296

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	41
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	133	-	-	525	-
HCM Lane V/C Ratio	0.253	-	-	0.022	-
HCM Control Delay (s)	41	-	-	12	-
HCM Lane LOS	E	-	-	B	-
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

# HCM Signalized Intersection Capacity Analysis

## 5: SW 115th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1020	129	197	740	10	40	0	84	3	1	2
Future Volume (vph)	5	1020	129	197	740	10	40	0	84	3	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00			1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00			1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00	0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1640	1727	1449	3127	1692			1337	1182	1534	1462	
Flt Permitted	0.35	1.00	1.00	0.95	1.00			0.76	1.00	0.73	1.00	
Satd. Flow (perm)	605	1727	1449	3127	1692			1064	1182	1177	1462	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1085	137	210	787	11	43	0	89	3	1	2
RTOR Reduction (vph)	0	0	23	0	0	0	0	0	31	0	2	0
Lane Group Flow (vph)	5	1085	114	210	798	0	0	43	58	3	1	0
Confl. Peds. (#/hr)	2					2			2	2		
Confl. Bikes (#/hr)			4			2						
Heavy Vehicles (%)	10%	10%	10%	12%	12%	12%	35%	35%	35%	17%	17%	17%
Turn Type	pm+pt	NA	Perm	Prot	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Actuated Green, G (s)	101.0	100.0	100.0	13.7	112.7			11.8	25.5	11.8	11.8	
Effective Green, g (s)	102.0	101.5	101.5	14.2	114.2			12.3	26.5	12.3	12.3	
Actuated g/C Ratio	0.73	0.72	0.72	0.10	0.82			0.09	0.19	0.09	0.09	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5			4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	451	1252	1050	317	1380			93	257	103	128	
v/s Ratio Prot	0.00	c0.63		c0.07	0.47				0.02		0.00	
v/s Ratio Perm	0.01		0.08					c0.04	0.03	0.00		
v/c Ratio	0.01	0.87	0.11	0.66	0.58			0.46	0.23	0.03	0.01	
Uniform Delay, d1	5.2	14.2	5.7	60.6	4.5			60.7	48.1	58.4	58.3	
Progression Factor	1.00	1.00	1.00	1.05	0.59			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	8.2	0.2	2.3	1.0			1.3	0.2	0.0	0.0	
Delay (s)	5.2	22.5	6.0	65.8	3.7			62.0	48.2	58.4	58.3	
Level of Service	A	C	A	E	A			E	D	E	E	
Approach Delay (s)		20.5			16.6			52.7			58.4	
Approach LOS		C			B			D			E	

### Intersection Summary

HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

# HCM 6th Signalized Intersection Summary

## 5: SW 115th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷	↷	↶↷	↷			↶	↷	↷	↷	↷
Traffic Volume (veh/h)	5	1020	129	197	740	10	40	0	84	3	1	2
Future Volume (veh/h)	5	1020	129	197	740	10	40	0	84	3	1	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	0.99		0.99	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	1752	1752	1752	1722	1722	1722	1381	1381	1381	1648	1648	1648
Adj Flow Rate, veh/h	5	1085	110	210	787	11	43	0	57	3	1	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
Percent Heavy Veh, %	10	10	10	12	12	12	35	35	35	17	17	17
Cap, veh/h	500	1323	1106	272	1407	20	125	0	185	88	36	71
Arrive On Green	0.01	0.76	0.76	0.09	0.83	0.82	0.07	0.00	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1668	1752	1464	3182	1694	24	1001	0	1155	1176	486	971
Grp Volume(v), veh/h	5	1085	110	210	0	798	43	0	57	3	0	3
Grp Sat Flow(s),veh/h/ln	1668	1752	1464	1591	0	1717	1001	0	1155	1176	0	1457
Q Serve(g_s), s	0.1	55.7	2.8	9.0	0.0	20.5	5.7	0.0	6.1	0.3	0.0	0.3
Cycle Q Clear(g_c), s	0.1	55.7	2.8	9.0	0.0	20.5	6.0	0.0	6.1	6.3	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	500	1323	1106	272	0	1427	121	0	185	88	0	107
V/C Ratio(X)	0.01	0.82	0.10	0.77	0.00	0.56	0.35	0.00	0.31	0.03	0.00	0.03
Avail Cap(c_a), veh/h	555	1323	1106	477	0	1427	384	0	479	304	0	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	0.47	0.00	0.47	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.5	11.0	4.5	62.7	0.0	3.7	63.2	0.0	52.1	65.9	0.0	60.4
Incr Delay (d2), s/veh	0.0	5.8	0.2	0.8	0.0	0.7	0.7	0.0	0.3	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	0.0	19.1	0.8	3.6	0.0	4.8	1.5	0.0	1.8	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.5	16.8	4.7	63.5	0.0	4.5	63.9	0.0	52.4	66.0	0.0	60.4
LnGrp LOS	A	B	A	E	A	A	E	A	D	E	A	E
Approach Vol, veh/h		1200			1008			100				6
Approach Delay, s/veh		15.6			16.8			57.4				63.2
Approach LOS		B			B			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	109.8		14.3	5.4	120.3		14.3				
Change Period (Y+Rc), s	4.5	5.5		4.5	4.5	5.5		4.5				
Max Green Setting (Gmax), s	20.5	59.5		35.5	5.5	59.5		45.5				
Max Q Clear Time (g_c+I1), s	11.0	57.7		8.3	2.1	22.5		8.1				
Green Ext Time (p_c), s	0.4	1.7		0.0	0.0	20.7		0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				18.1								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↗		↖	↗	
Traffic Volume (vph)	72	770	274	19	676	101	253	49	16	25	9	15
Future Volume (vph)	72	770	274	19	676	101	253	49	16	25	9	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.4	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1626	1712	1422	1570	1652	1370	1703	1718		1347	1287	
Flt Permitted	0.19	1.00	1.00	0.14	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	317	1712	1422	235	1652	1370	1703	1718		1347	1287	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	78	837	298	21	735	110	275	53	17	27	10	16
RTOR Reduction (vph)	0	0	43	0	0	49	0	9	0	0	15	0
Lane Group Flow (vph)	78	837	255	21	735	61	275	61	0	27	11	0
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)			4			2						
Heavy Vehicles (%)	11%	11%	11%	15%	15%	15%	6%	6%	6%	34%	34%	34%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						
Actuated Green, G (s)	92.9	83.8	83.8	76.9	73.3	73.3	26.3	29.9		4.7	8.3	
Effective Green, g (s)	92.9	85.3	83.9	76.9	74.8	74.8	26.3	30.4		4.7	8.8	
Actuated g/C Ratio	0.66	0.61	0.60	0.55	0.53	0.53	0.19	0.22		0.03	0.06	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	342	1043	852	163	882	731	319	373		45	80	
v/s Ratio Prot	c0.02	c0.49		0.00	c0.44		c0.16	c0.04		0.02	0.01	
v/s Ratio Perm	0.13		0.18	0.07		0.04						
v/c Ratio	0.23	0.80	0.30	0.13	0.83	0.08	0.86	0.16		0.60	0.14	
Uniform Delay, d1	31.4	20.9	13.7	42.1	27.4	15.9	55.1	44.5		66.7	62.0	
Progression Factor	0.61	0.69	0.85	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	4.0	0.5	0.4	9.1	0.2	20.6	0.2		19.7	0.8	
Delay (s)	19.3	18.3	12.2	42.5	36.5	16.1	75.7	44.7		86.4	62.8	
Level of Service	B	B	B	D	D	B	E	D		F	E	
Approach Delay (s)		16.9			34.0			69.4			74.8	
Approach LOS		B			C			E			E	

### Intersection Summary

HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	770	274	19	676	101	253	49	16	25	9	15
Future Volume (veh/h)	72	770	274	19	676	101	253	49	16	25	9	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1737	1737	1737	1678	1678	1678	1811	1811	1811	1396	1396	1396
Adj Flow Rate, veh/h	78	837	249	21	735	61	275	53	12	27	10	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	15	15	15	6	6	6	34	34	34
Cap, veh/h	433	831	673	379	792	656	271	256	58	31	27	30
Arrive On Green	0.42	0.96	0.94	0.21	0.47	0.47	0.16	0.18	0.18	0.02	0.04	0.04
Sat Flow, veh/h	1654	1737	1436	1598	1678	1390	1725	1428	323	1330	603	664
Grp Volume(v), veh/h	78	837	249	21	735	61	275	0	65	27	0	21
Grp Sat Flow(s),veh/h/ln	1654	1737	1436	1598	1678	1390	1725	0	1752	1330	0	1267
Q Serve(g_s), s	0.0	67.0	1.3	0.0	57.6	2.7	22.0	0.0	4.4	2.8	0.0	2.3
Cycle Q Clear(g_c), s	0.0	67.0	1.3	0.0	57.6	2.7	22.0	0.0	4.4	2.8	0.0	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.18	1.00		0.52
Lane Grp Cap(c), veh/h	433	831	673	379	792	656	271	0	313	31	0	57
V/C Ratio(X)	0.18	1.01	0.37	0.06	0.93	0.09	1.01	0.00	0.21	0.87	0.00	0.37
Avail Cap(c_a), veh/h	433	831	673	379	815	675	271	0	526	66	0	253
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.47	0.47	0.47	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.4	3.0	0.8	44.2	34.7	13.3	59.0	0.0	49.1	68.2	0.0	65.0
Incr Delay (d2), s/veh	0.1	23.1	0.7	0.1	18.6	0.3	58.4	0.0	0.3	47.7	0.0	3.9
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	1.6	6.5	0.7	0.6	26.3	1.1	13.9	0.0	2.0	1.4	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	26.1	1.5	44.3	53.3	13.6	117.4	0.0	49.4	115.8	0.0	69.0
LnGrp LOS	C	F	A	D	D	B	F	A	D	F	A	E
Approach Vol, veh/h		1164			817			340				48
Approach Delay, s/veh		21.1			50.1			104.4				95.3
Approach LOS		C			D			F				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.7	71.0	26.0	10.3	33.6	70.1	7.3	29.0				
Change Period (Y+Rc), s	4.0	5.5	4.0	4.5	4.0	5.5	4.0	4.5				
Max Green Setting (Gmax), s	7.0	65.5	22.0	27.5	6.0	66.5	7.0	41.5				
Max Q Clear Time (g_c+I1), s	2.0	69.0	24.0	4.3	2.0	59.6	4.8	6.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	5.0	0.0	0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			44.6									
HCM 6th LOS			D									



HCM 6th TWSC  
7: SW Cipole Road & Project Driveway #3

12/06/2021

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	FF		FB			FB
Traffic Vol, veh/h	5	1	179	6	2	72
Future Vol, veh/h	5	1	179	6	2	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	5	5	10	10	17	17
Mvmt Flow	7	1	242	8	3	97

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	349	246	0	0	250
Stage 1	246	-	-	-	-
Stage 2	103	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.27
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.353
Pot Cap-1 Maneuver	642	785	-	-	1233
Stage 1	788	-	-	-	-
Stage 2	914	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	640	785	-	-	1233
Mov Cap-2 Maneuver	640	-	-	-	-
Stage 1	788	-	-	-	-
Stage 2	911	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	660	1233
HCM Lane V/C Ratio	-	-	0.012	0.002
HCM Control Delay (s)	-	-	10.5	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	165	39	38	113	1	84	1	95	2	0	0
Future Vol, veh/h	2	165	39	38	113	1	84	1	95	2	0	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	20	20	20	9	9	9	14	14	14	0	0	0
Mvmt Flow	3	223	53	51	153	1	114	1	128	3	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.3	10.3	10.9	8.8
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	47%	1%	25%	100%
Vol Thru, %	1%	80%	74%	0%
Vol Right, %	53%	19%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	180	206	152	2
LT Vol	84	2	38	2
Through Vol	1	165	113	0
RT Vol	95	39	1	0
Lane Flow Rate	243	278	205	3
Geometry Grp	1	1	1	1
Degree of Util (X)	0.344	0.389	0.29	0.004
Departure Headway (Hd)	5.098	5.027	5.089	5.782
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	701	710	700	623
Service Time	3.173	3.097	3.166	3.782
HCM Lane V/C Ratio	0.347	0.392	0.293	0.005
HCM Control Delay	10.9	11.3	10.3	8.8
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	1.5	1.8	1.2	0

HCM 6th TWSC  
 9: SW 124th Avenue & SW Cimino Street

12/06/2021

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	5	0	2	0	431	34	14	399	0
Future Vol, veh/h	0	0	0	5	0	2	0	431	34	14	399	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	43	43	43	17	17	17	20	20	20
Mvmt Flow	0	0	0	6	0	2	0	479	38	16	443	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	715	992	222	752	973	259	443	0	0	517	0	0
Stage 1	475	475	-	498	498	-	-	-	-	-	-	-
Stage 2	240	517	-	254	475	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	8.36	7.36	7.76	4.44	-	-	4.5	-	-
Critical Hdwy Stg 1	6.6	5.6	-	7.36	6.36	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	7.36	6.36	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.93	4.43	3.73	2.37	-	-	2.4	-	-
Pot Cap-1 Maneuver	312	239	772	234	191	630	1014	-	-	929	-	-
Stage 1	532	548	-	429	451	-	-	-	-	-	-	-
Stage 2	733	525	-	624	464	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	307	235	772	231	188	630	1014	-	-	929	-	-
Mov Cap-2 Maneuver	307	235	-	231	188	-	-	-	-	-	-	-
Stage 1	532	539	-	429	451	-	-	-	-	-	-	-
Stage 2	730	525	-	613	456	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	18.1	0	0.3
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1014	-	-	-	282	929	-
HCM Lane V/C Ratio	-	-	-	-	0.028	0.017	-
HCM Control Delay (s)	0	-	-	0	18.1	8.9	-
HCM Lane LOS	A	-	-	A	C	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	433	413	0
Future Vol, veh/h	0	0	0	433	413	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	17	17	20	20
Mvmt Flow	0	0	0	481	459	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	700	230	459	0	0
Stage 1	459	-	-	-	-
Stage 2	241	-	-	-	-
Critical Hdwy	6.9	7	4.44	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-
Follow-up Hdwy	3.55	3.35	2.37	-	-
Pot Cap-1 Maneuver	367	763	999	-	-
Stage 1	594	-	-	-	-
Stage 2	768	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	367	763	999	-	-
Mov Cap-2 Maneuver	367	-	-	-	-
Stage 1	594	-	-	-	-
Stage 2	768	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	999	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC  
 11: SW 124th Avenue & SW Myslony Street

12/06/2021

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	1	3	28	1	18	17	378	38	42	382	24
Future Vol, veh/h	4	1	3	28	1	18	17	378	38	42	382	24
Conflicting Peds, #/hr	3	0	1	1	0	3	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	13	13	13	41	41	41	18	18	18	17	17	17
Mvmt Flow	5	1	4	33	1	21	20	450	45	50	455	29

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	840	1106	244	842	1098	251	485	0	0	495	0	0
Stage 1	571	571	-	513	513	-	-	-	-	-	-	-
Stage 2	269	535	-	329	585	-	-	-	-	-	-	-
Critical Hdwy	7.76	6.76	7.16	8.32	7.32	7.72	4.46	-	-	4.44	-	-
Critical Hdwy Stg 1	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.63	4.13	3.43	3.91	4.41	3.71	2.38	-	-	2.37	-	-
Pot Cap-1 Maneuver	240	193	724	201	159	643	969	-	-	967	-	-
Stage 1	446	477	-	423	447	-	-	-	-	-	-	-
Stage 2	683	496	-	561	409	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	217	179	723	188	147	641	968	-	-	967	-	-
Mov Cap-2 Maneuver	217	179	-	188	147	-	-	-	-	-	-	-
Stage 1	436	452	-	414	438	-	-	-	-	-	-	-
Stage 2	643	486	-	527	387	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18.1		23		0.3		0.8	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	968	-	-	284	256	967	-	-
HCM Lane V/C Ratio	0.021	-	-	0.034	0.219	0.052	-	-
HCM Control Delay (s)	8.8	-	-	18.1	23	8.9	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.8	0.2	-	-

# HCM Signalized Intersection Capacity Analysis

## 12: SW 124th Avenue & SW Herman Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (vph)	30	219	55	52	152	38	37	301	62	173	341	63
Future Volume (vph)	30	219	55	52	152	38	37	301	62	173	341	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1631		1597	1627		1504	2919		1702	3315	
Flt Permitted	0.60	1.00		0.38	1.00		0.49	1.00		0.37	1.00	
Satd. Flow (perm)	1006	1631		632	1627		776	2919		659	3315	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	34	246	62	58	171	43	42	338	70	194	383	71
RTOR Reduction (vph)	0	11	0	0	10	0	0	20	0	0	16	0
Lane Group Flow (vph)	34	297	0	58	204	0	42	388	0	194	438	0
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	6%	6%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	20.5	18.5		23.3	19.9		20.8	17.5		28.2	21.2	
Effective Green, g (s)	22.5	20.0		25.3	21.4		22.8	19.0		30.2	22.7	
Actuated g/C Ratio	0.33	0.30		0.38	0.32		0.34	0.28		0.45	0.34	
Clearance Time (s)	5.0	5.5		5.0	5.5		5.0	5.5		5.0	5.5	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	362	483		300	516		308	822		419	1116	
v/s Ratio Prot	0.00	c0.18		c0.01	0.13		0.01	0.13		c0.05	0.13	
v/s Ratio Perm	0.03			0.06			0.04			c0.15		
v/c Ratio	0.09	0.62		0.19	0.39		0.14	0.47		0.46	0.39	
Uniform Delay, d1	15.3	20.4		14.1	17.9		15.2	20.0		12.0	17.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	2.3		0.1	0.5		0.1	0.4		0.3	0.2	
Delay (s)	15.3	22.7		14.2	18.4		15.3	20.5		12.3	17.3	
Level of Service	B	C		B	B		B	C		B	B	
Approach Delay (s)		22.0			17.5			20.0			15.8	
Approach LOS		C			B			B			B	

### Intersection Summary

HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	67.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 12: SW 124th Avenue & SW Herman Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	30	219	55	52	152	38	37	301	62	173	341	63
Future Volume (veh/h)	30	219	55	52	152	38	37	301	62	173	341	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
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	1707	1707	1707	1707	1707	1707	1604	1604	1604	1811	1811	1811
Adj Flow Rate, veh/h	34	246	0	58	171	0	42	338	64	194	383	60
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	13	13	13	13	13	13	20	20	20	6	6	6
Cap, veh/h	418	404		370	434		394	596	112	471	894	139
Arrive On Green	0.06	0.24	0.00	0.08	0.25	0.00	0.06	0.23	0.20	0.13	0.30	0.27
Sat Flow, veh/h	1626	1707	0	1626	1707	0	1527	2550	477	1725	2974	462
Grp Volume(v), veh/h	34	246	0	58	171	0	42	200	202	194	220	223
Grp Sat Flow(s),veh/h/ln	1626	1707	0	1626	1707	0	1527	1523	1504	1725	1721	1715
Q Serve(g_s), s	0.8	6.4	0.0	1.3	4.1	0.0	1.0	5.7	5.9	3.9	5.1	5.2
Cycle Q Clear(g_c), s	0.8	6.4	0.0	1.3	4.1	0.0	1.0	5.7	5.9	3.9	5.1	5.2
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.32	1.00		0.27
Lane Grp Cap(c), veh/h	418	404		370	434		394	356	352	471	517	516
V/C Ratio(X)	0.08	0.61		0.16	0.39		0.11	0.56	0.57	0.41	0.43	0.43
Avail Cap(c_a), veh/h	635	1016		558	1016		542	860	849	523	971	968
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	16.9	0.0	13.0	15.3	0.0	13.0	16.8	17.0	11.4	13.9	14.1
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.1	0.6	0.0	0.0	1.4	1.5	0.2	0.6	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	0.2	2.4	0.0	0.4	1.5	0.0	0.3	1.7	1.8	1.1	1.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	18.4	0.0	13.0	15.9	0.0	13.0	18.1	18.5	11.6	14.5	14.7
LnGrp LOS	B	B		B	B		B	B	B	B	B	B
Approach Vol, veh/h		280	A		229	A		444			637	
Approach Delay, s/veh		17.7			15.2			17.8			13.7	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	15.6	7.8	15.7	7.2	18.9	6.9	16.6				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5	5.0	5.5	5.0	5.5				
Max Green Setting (Gmax), s	7.0	26.5	8.5	28.0	7.0	26.5	8.5	28.0				
Max Q Clear Time (g_c+I1), s	5.9	7.9	3.3	8.4	3.0	7.2	2.8	6.1				
Green Ext Time (p_c), s	0.0	2.0	0.0	1.3	0.0	2.2	0.0	0.9				

Intersection Summary

HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

Notes

- User approved pedestrian interval to be less than phase max green.
- Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

# HCM Signalized Intersection Capacity Analysis

## 1: SW Oregon Street & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	786	118	356	945	8	126	1	172	11	10	8
Future Volume (vph)	7	786	118	356	945	8	126	1	172	11	10	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1736	1827	1512	1752	1842			1741	1539		1793	
Flt Permitted	0.25	1.00	1.00	0.10	1.00			0.78	1.00		0.89	
Satd. Flow (perm)	462	1827	1512	188	1842			1430	1539		1620	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	8	845	127	383	1016	9	135	1	185	12	11	9
RTOR Reduction (vph)	0	0	29	0	0	0	0	0	77	0	8	0
Lane Group Flow (vph)	8	845	98	383	1025	0	0	136	108	0	24	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			3						
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	66.1	65.3	65.3	96.0	91.2			16.7	43.4		16.7	
Effective Green, g (s)	66.1	66.8	66.8	96.0	92.7			16.7	43.4		16.7	
Actuated g/C Ratio	0.54	0.55	0.55	0.79	0.76			0.14	0.36		0.14	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5			4.0	4.0		4.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5			1.5	1.5		1.5	
Lane Grp Cap (vph)	258	998	826	489	1397			195	596		221	
v/s Ratio Prot	0.00	c0.46		c0.17	0.56				0.04			
v/s Ratio Perm	0.02		0.06	0.44				c0.10	0.03		0.01	
v/c Ratio	0.03	0.85	0.12	0.78	0.73			0.70	0.18		0.11	
Uniform Delay, d1	17.7	23.4	13.4	31.5	8.0			50.3	27.2		46.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	6.9	0.1	7.4	2.1			8.5	0.1		0.1	
Delay (s)	17.7	30.3	13.5	38.9	10.1			58.8	27.2		46.3	
Level of Service	B	C	B	D	B			E	C		D	
Approach Delay (s)		28.0			18.0			40.6			46.3	
Approach LOS		C			B			D			D	

### Intersection Summary

HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	122.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



# HCM 6th Signalized Intersection Summary

## 1: SW Oregon Street & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	786	118	356	945	8	126	1	172	11	10	8
Future Volume (veh/h)	7	786	118	356	945	8	126	1	172	11	10	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1841	1841	1841	1900	1900	1900
Adj Flow Rate, veh/h	8	845	95	383	1016	9	135	1	110	12	11	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	235	1025	849	412	1266	11	216	1	535	52	46	22
Arrive On Green	0.01	0.56	0.56	0.14	0.69	0.69	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1753	1841	1525	1767	1836	16	779	6	1556	55	229	111
Grp Volume(v), veh/h	8	845	95	383	0	1025	136	0	110	32	0	0
Grp Sat Flow(s),veh/h/ln	1753	1841	1525	1767	0	1852	784	0	1556	396	0	0
Q Serve(g_s), s	0.2	45.3	3.5	14.6	0.0	46.3	0.0	0.0	6.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	0.2	45.3	3.5	14.6	0.0	46.3	21.9	0.0	6.0	22.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	0.99		1.00	0.37		0.28
Lane Grp Cap(c), veh/h	235	1025	849	412	0	1278	217	0	535	121	0	0
V/C Ratio(X)	0.03	0.82	0.11	0.93	0.00	0.80	0.63	0.00	0.21	0.27	0.00	0.00
Avail Cap(c_a), veh/h	379	1162	962	688	0	1323	238	0	559	144	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	15.9	21.9	12.6	29.9	0.0	13.0	47.2	0.0	27.9	40.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.7	0.1	8.3	0.0	3.7	2.9	0.0	0.1	0.4	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	18.9	1.2	11.7	0.0	16.9	4.2	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	26.5	12.7	38.1	0.0	16.6	50.1	0.0	28.0	41.0	0.0	0.0
LnGrp LOS	B	C	B	D	A	B	D	A	C	D	A	A
Approach Vol, veh/h		948			1408			246			32	
Approach Delay, s/veh		25.1			22.5			40.2			41.0	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.3	71.1		28.3	5.2	87.2		28.3				
Change Period (Y+Rc), s	4.0	5.5		4.0	4.0	5.5		4.0				
Max Green Setting (Gmax), s	36.0	74.5		26.0	11.0	84.5		26.0				
Max Q Clear Time (g_c+I1), s	16.6	47.3		24.3	2.2	48.3		23.9				
Green Ext Time (p_c), s	0.7	18.4		0.0	0.0	27.4		0.1				

### Intersection Summary

HCM 6th Ctrl Delay	25.3
HCM 6th LOS	C

# HCM Signalized Intersection Capacity Analysis

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/06/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	37	959	1183	14	63	124
Future Volume (vph)	37	959	1183	14	63	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1736	1827	1845	1530	1736	1553
Flt Permitted	0.06	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	107	1827	1845	1530	1736	1553
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	1042	1286	15	68	135
RTOR Reduction (vph)	0	0	0	1	0	122
Lane Group Flow (vph)	40	1042	1286	14	68	14
Confl. Peds. (#/hr)	1			1		
Confl. Bikes (#/hr)				4		
Heavy Vehicles (%)	4%	4%	3%	3%	4%	4%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	98.5	98.5	90.4	90.4	11.0	11.0
Effective Green, g (s)	98.5	100.0	91.9	91.9	12.0	12.0
Actuated g/C Ratio	0.82	0.83	0.77	0.77	0.10	0.10
Clearance Time (s)	4.0	5.5	5.5	5.5	5.0	5.0
Vehicle Extension (s)	1.5	3.5	3.5	3.5	2.0	2.0
Lane Grp Cap (vph)	143	1522	1412	1171	173	155
v/s Ratio Prot	0.01	c0.57	c0.70		c0.04	
v/s Ratio Perm	0.22			0.01		0.01
v/c Ratio	0.28	0.68	0.91	0.01	0.39	0.09
Uniform Delay, d1	24.7	3.9	10.9	3.3	50.6	49.0
Progression Factor	1.00	1.00	0.67	0.46	1.00	1.00
Incremental Delay, d2	0.4	2.5	7.3	0.0	0.5	0.1
Delay (s)	25.1	6.4	14.6	1.5	51.1	49.1
Level of Service	C	A	B	A	D	D
Approach Delay (s)		7.1	14.5		49.8	
Approach LOS		A	B		D	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

# HCM 6th Signalized Intersection Summary

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/06/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↕	↑	↑	↕	↕	↕
Traffic Volume (veh/h)	37	959	1183	14	63	124
Future Volume (veh/h)	37	959	1183	14	63	124
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1841	1841	1856	1856	1841	1841
Adj Flow Rate, veh/h	40	1042	1286	15	68	81
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	3	3	4	4
Cap, veh/h	438	1575	1469	1217	137	122
Arrive On Green	0.03	0.86	1.00	1.00	0.08	0.08
Sat Flow, veh/h	1753	1841	1856	1537	1753	1560
Grp Volume(v), veh/h	40	1042	1286	15	68	81
Grp Sat Flow(s),veh/h/ln	1753	1841	1856	1537	1753	1560
Q Serve(g_s), s	0.5	22.6	0.0	0.0	4.5	6.1
Cycle Q Clear(g_c), s	0.5	22.6	0.0	0.0	4.5	6.1
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	438	1575	1469	1217	137	122
V/C Ratio(X)	0.09	0.66	0.88	0.01	0.50	0.67
Avail Cap(c_a), veh/h	472	1575	1469	1217	336	299
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.54	0.54	1.00	1.00
Uniform Delay (d), s/veh	1.9	2.9	0.0	0.0	53.1	53.8
Incr Delay (d2), s/veh	0.0	1.2	4.3	0.0	1.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.6	1.8	0.0	2.0	5.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.9	4.1	4.3	0.0	54.1	56.1
LnGrp LOS	A	A	A	A	D	E
Approach Vol, veh/h		1082	1301		149	
Approach Delay, s/veh		4.0	4.3		55.2	
Approach LOS		A	A		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		106.7		13.3	7.7	99.0
Change Period (Y+Rc), s		5.5		5.0	4.0	5.5
Max Green Setting (Gmax), s		87.5		22.0	6.0	77.5
Max Q Clear Time (g_c+I1), s		24.6		8.1	2.5	2.0
Green Ext Time (p_c), s		52.6		0.3	0.0	71.9
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			7.2			
HCM 6th LOS			A			

# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖	↑	↗
Traffic Volume (vph)	47	824	151	58	885	118	112	174	31	195	277	200
Future Volume (vph)	47	824	151	58	885	118	112	174	31	195	277	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1518	1770	1863	1564	1719	1810	1501	1769	1863	1551
Flt Permitted	0.09	1.00	1.00	0.14	1.00	1.00	0.22	1.00	1.00	0.42	1.00	1.00
Satd. Flow (perm)	158	1827	1518	256	1863	1564	401	1810	1501	775	1863	1551
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	48	849	156	60	912	122	115	179	32	201	286	206
RTOR Reduction (vph)	0	0	59	0	0	46	0	0	26	0	0	95
Lane Group Flow (vph)	48	849	97	60	912	76	115	179	6	201	286	111
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			1			2			1			2
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	5%	5%	5%	2%	2%	2%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	73.2	67.8	74.3	71.4	66.9	74.5	27.6	21.1	21.1	29.8	22.2	27.6
Effective Green, g (s)	73.2	69.3	74.3	71.4	68.4	74.5	27.6	22.6	21.1	29.8	23.7	27.6
Actuated g/C Ratio	0.61	0.58	0.62	0.60	0.57	0.62	0.23	0.19	0.18	0.25	0.20	0.23
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5	5.5	4.0	5.5	4.0
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0	2.0	1.5	2.0	1.5
Lane Grp Cap (vph)	167	1055	939	209	1061	970	163	340	263	255	367	356
v/s Ratio Prot	0.01	0.46	0.01	0.01	c0.49	0.00	0.04	0.10		c0.05	c0.15	c0.01
v/s Ratio Perm	0.16		0.06	0.16		0.04	0.12		0.00	0.15		0.06
v/c Ratio	0.29	0.80	0.10	0.29	0.86	0.08	0.71	0.53	0.02	0.79	0.78	0.31
Uniform Delay, d1	20.7	20.0	9.3	17.7	21.8	9.1	39.1	43.9	40.9	41.3	45.7	38.3
Progression Factor	1.09	0.91	1.15	0.41	0.80	1.36	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	5.0	0.0	0.2	6.6	0.0	10.8	0.7	0.0	13.8	9.2	0.2
Delay (s)	22.8	23.1	10.7	7.5	24.0	12.3	49.9	44.6	40.9	55.1	54.9	38.5
Level of Service	C	C	B	A	C	B	D	D	D	E	D	D
Approach Delay (s)		21.3			21.8			46.1			50.1	
Approach LOS		C			C			D			D	

### Intersection Summary

HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

# HCM 6th Signalized Intersection Summary

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	824	151	58	885	118	112	174	31	195	277	200
Future Volume (veh/h)	47	824	151	58	885	118	112	174	31	195	277	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.97
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	1870	1870	1870	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	48	849	94	60	912	81	115	179	11	201	286	113
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	2	2	2	5	5	5	2	2	2
Cap, veh/h	272	1079	953	465	1102	980	182	355	275	261	364	333
Arrive On Green	0.07	1.00	1.00	0.05	0.78	0.77	0.05	0.19	0.18	0.05	0.19	0.18
Sat Flow, veh/h	1753	1841	1525	1781	1870	1563	1739	1826	1509	1781	1870	1543
Grp Volume(v), veh/h	48	849	94	60	912	81	115	179	11	201	286	113
Grp Sat Flow(s),veh/h/ln	1753	1841	1525	1781	1870	1563	1739	1826	1509	1781	1870	1543
Q Serve(g_s), s	1.3	0.0	0.0	1.6	36.1	1.4	6.0	10.5	0.7	6.0	17.5	7.4
Cycle Q Clear(g_c), s	1.3	0.0	0.0	1.6	36.1	1.4	6.0	10.5	0.7	6.0	17.5	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	1079	953	465	1102	980	182	355	275	261	364	333
V/C Ratio(X)	0.18	0.79	0.10	0.13	0.83	0.08	0.63	0.50	0.04	0.77	0.79	0.34
Avail Cap(c_a), veh/h	302	1079	953	490	1102	980	182	441	346	261	452	406
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	0.0	9.3	9.2	4.8	40.6	43.2	40.5	45.8	46.0	39.9
Incr Delay (d2), s/veh	0.1	4.1	0.1	0.0	7.2	0.2	5.3	0.4	0.0	11.8	5.6	0.2
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	0.5	1.2	0.0	0.6	8.8	0.5	3.0	4.7	0.3	3.7	8.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.9	4.1	0.1	9.4	16.4	4.9	45.9	43.6	40.5	57.6	51.6	40.1
LnGrp LOS	B	A	A	A	B	A	D	D	D	E	D	D
Approach Vol, veh/h		991			1053			305			600	
Approach Delay, s/veh		4.2			15.2			44.3			51.4	
Approach LOS		A			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	74.3	10.0	27.3	8.0	74.7	10.0	27.3				
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	61.5	6.0	27.5	6.0	61.5	6.0	27.5				
Max Q Clear Time (g_c+I1), s	3.6	2.0	8.0	19.5	3.3	38.1	8.0	12.5				
Green Ext Time (p_c), s	0.1	37.9	0.0	2.2	0.1	19.5	0.0	1.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				21.9								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	↙
Traffic Vol, veh/h	1030	22	3	1014	27	17
Future Vol, veh/h	1030	22	3	1014	27	17
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	130	440	-	0	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	4	4	2	2	0	0
Mvmt Flow	1096	23	3	1079	29	18

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1121	0	2183
Stage 1	-	-	-	-	1098
Stage 2	-	-	-	-	1085
Critical Hdwy	-	-	4.12	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.218	-	3.5
Pot Cap-1 Maneuver	-	-	623	-	51
Stage 1	-	-	-	-	322
Stage 2	-	-	-	-	327
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	622	-	51
Mov Cap-2 Maneuver	-	-	-	-	171
Stage 1	-	-	-	-	321
Stage 2	-	-	-	-	325

Approach	EB	WB	NB
HCM Control Delay, s	0	0	28.9
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	197	-	-	622	-
HCM Lane V/C Ratio	0.238	-	-	0.005	-
HCM Control Delay (s)	28.9	-	-	10.8	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.9	-	-	0	-

# HCM Signalized Intersection Capacity Analysis

## 5: SW 115th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	975	60	52	891	16	111	0	229	16	1	15
Future Volume (vph)	12	975	60	52	891	16	111	0	229	16	1	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00			1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	1.00			1.00	0.98	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1736	1827	1530	3400	1839			1716	1510	1766	1567	
Flt Permitted	0.15	1.00	1.00	0.95	1.00			0.75	1.00	0.62	1.00	
Satd. Flow (perm)	268	1827	1530	3400	1839			1348	1510	1161	1567	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	12	1016	62	54	928	17	116	0	239	17	1	16
RTOR Reduction (vph)	0	0	21	0	0	0	0	0	84	0	12	0
Lane Group Flow (vph)	13	1016	42	54	945	0	0	116	155	17	5	0
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	Prot	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1			4
Permitted Phases	2		2				8		8	4		
Actuated Green, G (s)	75.0	72.9	72.9	5.4	76.2			27.2	32.6	27.2	27.2	
Effective Green, g (s)	76.0	74.4	74.4	5.9	77.7			27.7	33.6	27.7	27.7	
Actuated g/C Ratio	0.63	0.62	0.62	0.05	0.65			0.23	0.28	0.23	0.23	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5			4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	201	1132	948	167	1190			311	473	267	361	
v/s Ratio Prot	0.00	c0.56		0.02	c0.51				c0.02		0.00	
v/s Ratio Perm	0.04		0.03					c0.09	0.09	0.01		
v/c Ratio	0.06	0.90	0.04	0.32	0.79			0.37	0.33	0.06	0.01	
Uniform Delay, d1	14.8	19.5	8.9	55.1	15.3			38.8	34.2	36.0	35.6	
Progression Factor	0.50	0.94	0.27	1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	6.8	0.0	0.4	3.8			3.4	0.1	0.5	0.1	
Delay (s)	7.4	25.1	2.4	55.5	19.2			42.2	34.4	36.5	35.7	
Level of Service	A	C	A	E	B			D	C	D	D	
Approach Delay (s)		23.6			21.1			37.0			36.1	
Approach LOS		C			C			D			D	

### Intersection Summary

HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

# HCM 6th Signalized Intersection Summary

## 5: SW 115th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	975	60	52	891	16	111	0	229	16	1	15
Future Volume (veh/h)	12	975	60	52	891	16	111	0	229	16	1	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	12	1016	41	54	928	17	116	0	150	17	1	11
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	5	5	5	2	2	2
Cap, veh/h	203	1081	904	134	1105	20	426	0	483	307	37	402
Arrive On Green	0.02	0.78	0.78	0.04	0.61	0.60	0.27	0.00	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1753	1841	1538	3428	1816	33	1339	0	1545	1236	134	1469
Grp Volume(v), veh/h	12	1016	41	54	0	945	116	0	150	17	0	12
Grp Sat Flow(s),veh/h/ln	1753	1841	1538	1714	0	1849	1339	0	1545	1236	0	1603
Q Serve(g_s), s	0.3	54.5	0.7	1.8	0.0	49.1	8.2	0.0	8.9	1.3	0.0	0.7
Cycle Q Clear(g_c), s	0.3	54.5	0.7	1.8	0.0	49.1	8.9	0.0	8.9	10.2	0.0	0.7
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	203	1081	904	134	0	1125	421	0	483	307	0	439
V/C Ratio(X)	0.06	0.94	0.05	0.40	0.00	0.84	0.28	0.00	0.31	0.06	0.00	0.03
Avail Cap(c_a), veh/h	259	1112	929	171	0	1125	421	0	483	307	0	439
HCM Platoon Ratio	1.33	1.33	1.33	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	0.65	0.00	0.65	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.9	11.4	5.5	56.3	0.0	18.8	35.3	0.0	31.4	38.9	0.0	32.1
Incr Delay (d2), s/veh	0.0	14.7	0.0	0.5	0.0	3.9	1.6	0.0	1.7	0.3	0.0	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	0.1	14.2	0.2	0.8	0.0	19.6	3.0	0.0	3.5	0.4	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	26.1	5.5	56.8	0.0	22.8	36.9	0.0	33.1	39.3	0.0	32.2
LnGrp LOS	B	C	A	E	A	C	D	A	C	D	A	C
Approach Vol, veh/h		1069			999			266				29
Approach Delay, s/veh		25.2			24.6			34.8				36.3
Approach LOS		C			C			C				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	74.5		36.8	6.1	77.0		36.8				
Change Period (Y+Rc), s	4.5	5.5		4.5	4.5	5.5		4.5				
Max Green Setting (Gmax), s	5.5	71.0		29.0	5.5	71.0		29.0				
Max Q Clear Time (g_c+I1), s	3.8	56.5		12.2	2.3	51.1		10.9				
Green Ext Time (p_c), s	0.0	12.5		0.0	0.0	15.5		0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				26.2								
HCM 6th LOS				C								



# HCM Signalized Intersection Capacity Analysis

## 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	832	351	5	700	37	193	19	14	100	42	63
Future Volume (vph)	29	832	351	5	700	37	193	19	14	100	42	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.4	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1827	1520	1719	1810	1504	1770	1726		1736	1640	
Flt Permitted	0.20	1.00	1.00	0.11	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	362	1827	1520	205	1810	1504	1770	1726		1736	1640	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	31	876	369	5	737	39	203	20	15	105	44	66
RTOR Reduction (vph)	0	0	61	0	0	18	0	13	0	0	49	0
Lane Group Flow (vph)	31	876	308	5	737	21	203	22	0	105	61	0
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)			2			3						
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6						
Actuated Green, G (s)	78.1	72.3	72.3	68.7	67.6	67.6	20.0	15.0		19.1	14.1	
Effective Green, g (s)	78.1	73.8	72.4	68.7	69.1	69.1	20.0	15.5		19.1	14.6	
Actuated g/C Ratio	0.62	0.59	0.58	0.55	0.55	0.55	0.16	0.12		0.15	0.12	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	288	1074	876	125	996	828	282	213		264	190	
v/s Ratio Prot	c0.00	c0.48		0.00	0.41		c0.11	0.01		0.06	c0.04	
v/s Ratio Perm	0.06		0.20	0.02		0.01						
v/c Ratio	0.11	0.82	0.35	0.04	0.74	0.03	0.72	0.10		0.40	0.32	
Uniform Delay, d1	28.4	20.5	14.1	41.6	21.4	12.9	50.1	48.8		48.0	50.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	6.8	1.1	0.1	4.9	0.1	8.5	0.2		1.0	1.0	
Delay (s)	28.5	27.3	15.2	41.8	26.3	12.9	58.6	49.0		49.0	51.9	
Level of Service	C	C	B	D	C	B	E	D		D	D	
Approach Delay (s)		23.8			25.8			57.2			50.5	
Approach LOS		C			C			E			D	

### Intersection Summary

HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	125.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	832	351	5	700	37	193	19	14	100	42	63
Future Volume (veh/h)	29	832	351	5	700	37	193	19	14	100	42	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1841	1841	1841	1826	1826	1826	1870	1870	1870	1841	1841	1841
Adj Flow Rate, veh/h	31	876	306	5	737	18	203	20	10	105	44	61
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, %	4	4	4	5	5	5	2	2	2	4	4	4
Cap, veh/h	476	891	722	372	831	688	212	193	97	77	62	86
Arrive On Green	0.21	0.48	0.47	0.18	0.46	0.46	0.12	0.16	0.16	0.04	0.09	0.09
Sat Flow, veh/h	1753	1841	1526	1739	1826	1513	1781	1175	587	1753	696	965
Grp Volume(v), veh/h	31	876	306	5	737	18	203	0	30	105	0	105
Grp Sat Flow(s),veh/h/ln	1753	1841	1526	1739	1826	1513	1781	0	1762	1753	0	1660
Q Serve(g_s), s	0.0	59.0	10.5	0.0	46.5	0.6	14.3	0.0	1.8	5.5	0.0	7.8
Cycle Q Clear(g_c), s	0.0	59.0	10.5	0.0	46.5	0.6	14.3	0.0	1.8	5.5	0.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.58
Lane Grp Cap(c), veh/h	476	891	722	372	831	688	212	0	290	77	0	148
V/C Ratio(X)	0.07	0.98	0.42	0.01	0.89	0.03	0.96	0.00	0.10	1.37	0.00	0.71
Avail Cap(c_a), veh/h	476	891	722	372	884	732	212	0	518	77	0	362
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)	0.45	0.45	0.45	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.9	32.0	8.7	42.3	31.4	10.9	55.2	0.0	44.8	60.3	0.0	56.0
Incr Delay (d2), s/veh	0.0	16.6	0.8	0.0	13.4	0.1	49.6	0.0	0.2	230.5	0.0	6.2
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	28.3	3.4	0.1	22.3	0.3	9.3	0.0	0.8	7.3	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.9	48.6	9.5	42.3	44.8	11.0	104.8	0.0	45.0	290.7	0.0	62.1
LnGrp LOS	C	D	A	D	D	B	F	A	D	F	A	E
Approach Vol, veh/h		1213			760			233				210
Approach Delay, s/veh		38.3			44.0			97.1				176.4
Approach LOS		D			D			F				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.8	65.0	19.0	15.2	30.4	61.3	9.5	24.7				
Change Period (Y+Rc), s	4.0	5.5	4.0	4.5	4.0	5.5	4.0	4.5				
Max Green Setting (Gmax), s	6.0	59.5	15.0	27.0	6.0	59.5	5.5	36.5				
Max Q Clear Time (g_c+I1), s	2.0	61.0	16.3	9.8	2.0	48.5	7.5	3.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	7.4	0.0	0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			57.8									
HCM 6th LOS			E									

HCM 6th TWSC  
7: SW Cipole Road & Project Driveway #3

12/06/2021

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	5	86	17	4	165
Future Vol, veh/h	22	5	86	17	4	165
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	5	5	11	11	5	5
Mvmt Flow	27	6	105	21	5	201

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	327	116	0	0	126	0
Stage 1	116	-	-	-	-	-
Stage 2	211	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	661	928	-	-	1442	-
Stage 1	902	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	658	928	-	-	1442	-
Mov Cap-2 Maneuver	658	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	814	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	695	1442
HCM Lane V/C Ratio	-	-	0.047	0.003
HCM Control Delay (s)	-	-	10.4	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	117	72	115	240	1	45	0	61	1	0	0
Future Vol, veh/h	0	117	72	115	240	1	45	0	61	1	0	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	7	7	7	7	7	7	5	5	5	0	0	0
Mvmt Flow	0	139	86	137	286	1	54	0	73	1	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	13.3	9.4	8.9
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	42%	0%	32%	100%
Vol Thru, %	0%	62%	67%	0%
Vol Right, %	58%	38%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	189	356	1
LT Vol	45	0	115	1
Through Vol	0	117	240	0
RT Vol	61	72	1	0
Lane Flow Rate	126	225	424	1
Geometry Grp	1	1	1	1
Degree of Util (X)	0.182	0.288	0.549	0.002
Departure Headway (Hd)	5.192	4.601	4.663	5.792
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	686	779	771	612
Service Time	3.256	2.651	2.706	3.88
HCM Lane V/C Ratio	0.184	0.289	0.55	0.002
HCM Control Delay	9.4	9.5	13.3	8.9
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.7	1.2	3.4	0

HCM 6th TWSC  
9: SW 124th Avenue & SW Cimino Street

12/06/2021

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	36	0	20	0	332	7	3	636	0
Future Vol, veh/h	0	0	0	36	0	20	0	332	7	3	636	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	2	2	2	4	4	4	4	4	4
Mvmt Flow	0	0	0	41	0	23	0	377	8	3	723	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	918	1115	362	750	1111	194	723	0	0	386	0	0
Stage 1	729	729	-	382	382	-	-	-	-	-	-	-
Stage 2	189	386	-	368	729	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.54	6.54	6.94	4.18	-	-	4.18	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.24	-	-	2.24	-	-
Pot Cap-1 Maneuver	222	202	626	300	208	815	862	-	-	1155	-	-
Stage 1	374	419	-	612	611	-	-	-	-	-	-	-
Stage 2	786	601	-	624	426	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	215	201	626	299	207	814	862	-	-	1154	-	-
Mov Cap-2 Maneuver	215	201	-	299	207	-	-	-	-	-	-	-
Stage 1	374	418	-	611	610	-	-	-	-	-	-	-
Stage 2	764	600	-	622	425	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	16.2	0	0
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	862	-	-	-	386	1154	-
HCM Lane V/C Ratio	-	-	-	-	0.165	0.003	-
HCM Control Delay (s)	0	-	-	0	16.2	8.1	-
HCM Lane LOS	A	-	-	A	C	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	
Traffic Vol, veh/h	0	0	0	352	639	0
Future Vol, veh/h	0	0	0	352	639	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	4	4	4	4
Mvmt Flow	0	0	0	400	726	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	926	363	726	0	0
Stage 1	726	-	-	-	-
Stage 2	200	-	-	-	-
Critical Hdwy	6.9	7	4.18	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-
Follow-up Hdwy	3.55	3.35	2.24	-	-
Pot Cap-1 Maneuver	262	625	860	-	-
Stage 1	432	-	-	-	-
Stage 2	805	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	262	625	860	-	-
Mov Cap-2 Maneuver	262	-	-	-	-
Stage 1	432	-	-	-	-
Stage 2	805	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	860	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	17	1	19	63	0	30	0	341	11	8	557	1
Future Vol, veh/h	17	1	19	63	0	30	0	341	11	8	557	1
Conflicting Peds, #/hr	3	0	1	1	0	3	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	13	13	13	41	41	41	18	18	18	17	17	17
Mvmt Flow	20	1	23	75	0	36	0	406	13	10	663	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	891	1104	334	766	1098	213	665	0	0	419	0	0
Stage 1	685	685	-	413	413	-	-	-	-	-	-	-
Stage 2	206	419	-	353	685	-	-	-	-	-	-	-
Critical Hdwy	7.76	6.76	7.16	8.32	7.32	7.72	4.46	-	-	4.44	-	-
Critical Hdwy Stg 1	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.63	4.13	3.43	3.91	4.41	3.71	2.38	-	-	2.37	-	-
Pot Cap-1 Maneuver	220	193	631	231	159	684	820	-	-	1037	-	-
Stage 1	379	421	-	493	504	-	-	-	-	-	-	-
Stage 2	746	562	-	541	362	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	206	191	630	220	157	682	819	-	-	1037	-	-
Mov Cap-2 Maneuver	206	191	-	220	157	-	-	-	-	-	-	-
Stage 1	379	416	-	493	504	-	-	-	-	-	-	-
Stage 2	705	562	-	515	358	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18.3		25.8		0		0.1	
HCM LOS	C		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	819	-	-	314	282	1037	-	-
HCM Lane V/C Ratio	-	-	-	0.14	0.393	0.009	-	-
HCM Control Delay (s)	0	-	-	18.3	25.8	8.5	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	1.8	0	-	-

# HCM Signalized Intersection Capacity Analysis

## 12: SW 124th Avenue & SW Herman Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕	↗	↖	↗	
Traffic Volume (vph)	82	178	31	146	322	173	15	309	64	93	389	28
Future Volume (vph)	82	178	31	146	322	173	15	309	64	93	389	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.95		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1644		1597	1586		1504	2920		1702	3366	
Flt Permitted	0.20	1.00		0.47	1.00		0.48	1.00		0.33	1.00	
Satd. Flow (perm)	338	1644		795	1586		765	2920		583	3366	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	92	200	35	164	362	194	17	347	72	104	437	31
RTOR Reduction (vph)	0	5	0	0	15	0	0	18	0	0	5	0
Lane Group Flow (vph)	92	230	0	164	541	0	17	401	0	104	463	0
Confl. Peds. (#/hr)	1						1			1	1	
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	6%	6%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	33.1	27.1		39.1	30.1		20.1	19.1		30.3	24.3	
Effective Green, g (s)	35.1	28.6		41.1	31.6		22.1	20.6		31.3	25.8	
Actuated g/C Ratio	0.43	0.35		0.50	0.38		0.27	0.25		0.38	0.31	
Clearance Time (s)	5.0	5.5		5.0	5.5		5.0	5.5		5.0	5.5	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	250	570		493	608		223	730		319	1053	
v/s Ratio Prot	0.03	0.14		c0.04	c0.34		0.00	c0.14		c0.03	0.14	
v/s Ratio Perm	0.12			0.13			0.02			0.10		
v/c Ratio	0.37	0.40		0.33	0.89		0.08	0.55		0.33	0.44	
Uniform Delay, d1	16.1	20.4		11.9	23.8		22.3	26.9		17.4	22.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.5		0.1	15.1		0.1	0.8		0.2	0.3	
Delay (s)	16.4	20.9		12.0	38.9		22.4	27.7		17.6	22.8	
Level of Service	B	C		B	D		C	C		B	C	
Approach Delay (s)		19.6			32.8			27.5			21.9	
Approach LOS		B			C			C			C	

### Intersection Summary

HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	82.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



HCM 6th Signalized Intersection Summary  
 12: SW 124th Avenue & SW Herman Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	82	178	31	146	322	173	15	309	64	93	389	28
Future Volume (veh/h)	82	178	31	146	322	173	15	309	64	93	389	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
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	1707	1707	1707	1707	1707	1707	1604	1604	1604	1811	1811	1811
Adj Flow Rate, veh/h	92	200	0	164	362	0	17	347	55	104	437	25
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	13	13	13	13	13	13	20	20	20	6	6	6
Cap, veh/h	367	450		497	504		321	598	94	387	923	53
Arrive On Green	0.09	0.26	0.00	0.12	0.30	0.00	0.04	0.23	0.20	0.09	0.28	0.25
Sat Flow, veh/h	1626	1707	0	1626	1707	0	1527	2637	414	1725	3303	188
Grp Volume(v), veh/h	92	200	0	164	362	0	17	199	203	104	227	235
Grp Sat Flow(s),veh/h/ln	1626	1707	0	1626	1707	0	1527	1523	1528	1725	1721	1771
Q Serve(g_s), s	2.1	5.2	0.0	3.8	10.2	0.0	0.4	6.2	6.4	2.3	5.9	5.9
Cycle Q Clear(g_c), s	2.1	5.2	0.0	3.8	10.2	0.0	0.4	6.2	6.4	2.3	5.9	5.9
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.27	1.00		0.11
Lane Grp Cap(c), veh/h	367	450		497	504		321	346	347	387	481	495
V/C Ratio(X)	0.25	0.44		0.33	0.72		0.05	0.58	0.59	0.27	0.47	0.48
Avail Cap(c_a), veh/h	723	938		803	938		603	1022	1024	613	1154	1187
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	16.5	0.0	12.0	16.9	0.0	15.1	18.5	18.7	13.6	16.1	16.1
Incr Delay (d2), s/veh	0.1	0.7	0.0	0.1	1.9	0.0	0.0	1.5	1.6	0.1	0.7	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	0.7	1.9	0.0	1.2	3.8	0.0	0.1	2.0	2.0	0.7	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	17.2	0.0	12.2	18.9	0.0	15.1	20.0	20.3	13.7	16.8	16.9
LnGrp LOS	B	B		B	B		B	B	C	B	B	B
Approach Vol, veh/h		292	A		526	A		419			566	
Approach Delay, s/veh		15.9			16.8			19.9			16.2	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	16.2	10.4	18.2	6.1	19.0	8.7	19.8				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5	5.0	5.5	5.0	5.5				
Max Green Setting (Gmax), s	11.0	34.5	15.5	28.0	11.0	34.5	15.5	28.0				
Max Q Clear Time (g_c+I1), s	4.3	8.4	5.8	7.2	2.4	7.9	4.1	12.2				
Green Ext Time (p_c), s	0.1	2.2	0.2	1.1	0.0	2.5	0.1	2.0				

Intersection Summary

HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

# HCM Signalized Intersection Capacity Analysis

## 1: SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	936	128	123	673	6	92	3	378	4	0	0
Future Volume (vph)	8	936	128	123	673	6	92	3	378	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	
Satd. Flow (prot)	1655	3312	1449	1570	3135			1676	1486		1444	
Flt Permitted	0.38	1.00	1.00	0.22	1.00			0.73	1.00		0.58	
Satd. Flow (perm)	662	3312	1449	372	3135			1283	1486		888	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	985	135	129	708	6	97	3	398	4	0	0
RTOR Reduction (vph)	0	0	46	0	0	0	0	0	40	0	0	0
Lane Group Flow (vph)	8	985	89	129	714	0	0	100	358	0	4	0
Confl. Peds. (#/hr)	1					1	1					1
Confl. Bikes (#/hr)			4						2			
Heavy Vehicles (%)	9%	9%	9%	15%	15%	15%	8%	8%	8%	25%	25%	25%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	75.5	74.5	74.5	96.3	91.3			14.2	32.0		14.2	
Effective Green, g (s)	75.5	76.0	76.0	96.3	92.8			14.2	32.0		14.2	
Actuated g/C Ratio	0.63	0.63	0.63	0.80	0.77			0.12	0.27		0.12	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5			4.0	4.0		4.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5			1.5	1.5		1.5	
Lane Grp Cap (vph)	424	2097	917	476	2424			151	445		105	
v/s Ratio Prot	0.00	c0.30		0.04	0.23				c0.12			
v/s Ratio Perm	0.01		0.06	0.18				0.08	0.12		0.00	
v/c Ratio	0.02	0.47	0.10	0.27	0.29			0.66	0.80		0.04	
Uniform Delay, d1	8.3	11.5	8.6	4.4	4.0			50.6	41.1		46.9	
Progression Factor	1.00	1.00	1.00	3.24	1.29			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.8	0.2	0.1	0.3			8.2	9.6		0.1	
Delay (s)	8.3	12.2	8.8	14.2	5.4			58.8	50.6		46.9	
Level of Service	A	B	A	B	A			E	D		D	
Approach Delay (s)		11.8			6.8			52.3			46.9	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

# HCM 6th Signalized Intersection Summary

## 1: SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	936	128	123	673	6	92	3	378	4	0	0
Future Volume (veh/h)	8	936	128	123	673	6	92	3	378	4	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	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	1767	1767	1767	1678	1678	1678	1781	1781	1781	1530	1530	1530
Adj Flow Rate, veh/h	8	985	109	129	708	6	97	3	303	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	517	2170	945	358	2210	19	350	10	378	199	0	0
Arrive On Green	0.01	0.65	0.65	0.09	1.00	1.00	0.21	0.21	0.21	0.21	0.00	0.00
Sat Flow, veh/h	1682	3357	1463	1598	3239	27	1398	48	1486	668	0	0
Grp Volume(v), veh/h	8	985	109	129	348	366	100	0	303	4	0	0
Grp Sat Flow(s),veh/h/ln	1682	1678	1463	1598	1594	1673	1446	0	1486	668	0	0
Q Serve(g_s), s	0.2	17.6	3.4	3.3	0.0	0.0	0.0	0.0	22.9	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.2	17.6	3.4	3.3	0.0	0.0	5.9	0.0	22.9	6.4	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	517	2170	945	358	1088	1141	360	0	378	199	0	0
V/C Ratio(X)	0.02	0.45	0.12	0.36	0.32	0.32	0.28	0.00	0.80	0.02	0.00	0.00
Avail Cap(c_a), veh/h	585	2170	945	685	1088	1141	360	0	379	199	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	10.6	8.1	7.8	0.0	0.0	40.0	0.0	42.0	42.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.2	0.2	0.7	0.7	0.2	0.0	10.9	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	5.9	1.0	0.9	0.2	0.2	2.5	0.0	9.5	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	11.3	8.4	8.0	0.7	0.7	40.2	0.0	52.8	42.7	0.0	0.0
LnGrp LOS	A	B	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		1102			843			403				4
Approach Delay, s/veh		11.0			1.8			49.7				42.7
Approach LOS		B			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	81.6		28.9	5.2	85.9		28.9				
Change Period (Y+Rc), s	4.0	5.5		4.0	4.0	5.5		4.0				
Max Green Setting (Gmax), s	30.0	51.5		25.0	6.0	75.5		25.0				
Max Q Clear Time (g_c+I1), s	5.3	19.6		8.4	2.2	2.0		24.9				
Green Ext Time (p_c), s	0.2	21.4		0.0	0.0	19.7		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				14.4								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↗		↖	↗↗		↖	↗		↖	↗	
Traffic Volume (vph)	117	1142	68	62	752	80	15	2	11	50	9	32
Future Volume (vph)	117	1142	68	62	752	80	15	2	11	50	9	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.5	4.0		4.5	4.5		4.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.87		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	3310		1583	3115		1805	1659		1399	1299	
Flt Permitted	0.29	1.00		0.17	1.00		0.73	1.00		0.49	1.00	
Satd. Flow (perm)	502	3310		282	3115		1386	1659		716	1299	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	122	1190	71	65	783	83	16	2	11	52	9	33
RTOR Reduction (vph)	0	2	0	0	4	0	0	10	0	0	29	0
Lane Group Flow (vph)	122	1259	0	65	862	0	16	3	0	52	13	0
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	8%	8%	8%	14%	14%	14%	0%	0%	0%	29%	29%	29%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	85.2	79.1		83.5	78.5		8.9	6.9		20.9	14.4	
Effective Green, g (s)	85.2	80.6		83.5	80.0		8.9	6.9		21.9	14.4	
Actuated g/C Ratio	0.71	0.67		0.70	0.67		0.07	0.06		0.18	0.12	
Clearance Time (s)	4.0	5.5		4.5	5.5		4.5	4.5		5.0	5.0	
Vehicle Extension (s)	1.5	3.5		3.0	3.5		3.0	3.0		2.0	2.0	
Lane Grp Cap (vph)	415	2223		250	2076		109	95		190	155	
v/s Ratio Prot	c0.01	c0.38		0.01	0.28		0.00	0.00		c0.02	0.01	
v/s Ratio Perm	0.19			0.17			0.01			c0.03		
v/c Ratio	0.29	0.57		0.26	0.42		0.15	0.03		0.27	0.08	
Uniform Delay, d1	6.0	10.4		7.5	9.2		51.9	53.4		41.7	46.9	
Progression Factor	1.17	0.89		0.88	0.55		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.9		0.5	0.6		0.6	0.1		0.3	0.1	
Delay (s)	7.1	10.2		7.1	5.7		52.5	53.5		42.0	47.0	
Level of Service	A	B		A	A		D	D		D	D	
Approach Delay (s)		10.0			5.8			53.0			44.2	
Approach LOS		A			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary  
 2: SW Tualatin Sherwood Road & SW Cipole Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Volume (veh/h)	117	1142	68	62	752	80	15	2	11	50	9	32
Future Volume (veh/h)	117	1142	68	62	752	80	15	2	11	50	9	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1781	1781	1781	1693	1693	1693	1900	1900	1900	1470	1470	1470
Adj Flow Rate, veh/h	122	1190	71	65	783	67	16	2	11	52	9	33
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, %	8	8	8	14	14	14	0	0	0	29	29	29
Cap, veh/h	567	2337	139	402	2158	185	144	10	53	184	21	76
Arrive On Green	0.08	1.00	1.00	0.07	1.00	1.00	0.02	0.04	0.04	0.06	0.07	0.08
Sat Flow, veh/h	1697	3241	193	1612	2992	256	1810	254	1395	1400	276	1012
Grp Volume(v), veh/h	122	621	640	65	421	429	16	0	13	52	0	42
Grp Sat Flow(s),veh/h/ln	1697	1692	1741	1612	1608	1640	1810	0	1649	1400	0	1288
Q Serve(g_s), s	2.4	0.0	0.0	1.3	0.0	0.0	1.0	0.0	0.9	4.1	0.0	3.7
Cycle Q Clear(g_c), s	2.4	0.0	0.0	1.3	0.0	0.0	1.0	0.0	0.9	4.1	0.0	3.7
Prop In Lane	1.00		0.11	1.00		0.16	1.00		0.85	1.00		0.79
Lane Grp Cap(c), veh/h	567	1221	1256	402	1160	1183	144	0	62	184	0	96
V/C Ratio(X)	0.22	0.51	0.51	0.16	0.36	0.36	0.11	0.00	0.21	0.28	0.00	0.44
Avail Cap(c_a), veh/h	615	1221	1256	413	1160	1183	189	0	385	371	0	482
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	0.90	0.90	0.90	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.9	0.0	0.0	3.9	0.0	0.0	54.1	0.0	56.0	48.2	0.0	52.7
Incr Delay (d2), s/veh	0.1	1.2	1.1	0.2	0.8	0.8	0.3	0.0	1.6	0.3	0.0	1.2
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	0.4	0.4	0.3	0.3	0.3	0.5	0.0	0.4	1.4	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.9	1.2	1.1	4.1	0.8	0.8	54.4	0.0	57.6	48.5	0.0	53.9
LnGrp LOS	A	A	A	A	A	A	D	A	E	D	A	D
Approach Vol, veh/h		1383			915			29				94
Approach Delay, s/veh		1.4			1.0			55.9				50.9
Approach LOS		A			A			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	90.5	6.6	14.0	8.9	90.6	11.0	9.5				
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.0	5.5	5.0	* 5				
Max Green Setting (Gmax), s	5.3	45.2	5.1	44.9	8.3	42.7	22.0	* 28				
Max Q Clear Time (g_c+I1), s	3.3	2.0	3.0	5.7	4.4	2.0	6.1	2.9				
Green Ext Time (p_c), s	0.0	38.0	0.0	0.1	0.1	27.0	0.1	0.0				

Intersection Summary

HCM 6th Ctrl Delay	3.8
HCM 6th LOS	A

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔↔	↑↑	↔	↔↔	↑↔		↔↔	↑	↔
Traffic Volume (vph)	75	1007	122	127	635	200	185	229	101	177	228	73
Future Volume (vph)	75	1007	122	127	635	200	185	229	101	177	228	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3127	3223	1422	3072	3167	1402	3155	3102		3072	1667	1402
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3127	3223	1422	3072	3167	1402	3155	3102		3072	1667	1402
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	1083	131	137	683	215	199	246	109	190	245	78
RTOR Reduction (vph)	0	0	54	0	0	85	0	45	0	0	0	60
Lane Group Flow (vph)	81	1083	77	137	683	130	199	310	0	190	245	18
Confl. Peds. (#/hr)			2	2			1					1
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	12%	12%	12%	14%	14%	14%	11%	11%	11%	14%	14%	14%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Actuated Green, G (s)	6.6	59.4	70.7	8.8	61.6	72.7	11.3	21.7		11.1	21.5	28.1
Effective Green, g (s)	6.6	60.9	70.7	8.8	63.1	72.7	11.3	23.2		11.1	23.0	28.1
Actuated g/C Ratio	0.05	0.51	0.59	0.07	0.53	0.61	0.09	0.19		0.09	0.19	0.23
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	4.0
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	1.5
Lane Grp Cap (vph)	171	1635	837	225	1665	849	297	599		284	319	328
v/s Ratio Prot	0.03	c0.34	0.01	c0.04	0.22	0.01	c0.06	0.10		0.06	c0.15	0.00
v/s Ratio Perm			0.05			0.08						0.01
v/c Ratio	0.47	0.66	0.09	0.61	0.41	0.15	0.67	0.52		0.67	0.77	0.06
Uniform Delay, d1	55.0	21.9	10.7	53.9	17.2	10.3	52.5	43.4		52.7	46.0	35.7
Progression Factor	1.16	0.49	0.78	1.05	0.93	2.75	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	1.9	0.0	3.0	0.7	0.0	4.6	0.3		4.6	9.6	0.0
Delay (s)	64.7	12.7	8.3	59.7	16.7	28.3	57.2	43.7		57.2	55.6	35.7
Level of Service	E	B	A	E	B	C	E	D		E	E	D
Approach Delay (s)		15.5			24.8			48.5			53.2	
Approach LOS		B			C			D			D	

### Intersection Summary

HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑		↔↔	↑	↗
Traffic Volume (veh/h)	75	1007	122	127	635	200	185	229	101	177	228	73
Future Volume (veh/h)	75	1007	122	127	635	200	185	229	101	177	228	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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	1722	1722	1722	1693	1693	1693	1737	1737	1737	1693	1693	1693
Adj Flow Rate, veh/h	81	1083	115	137	683	140	199	246	87	190	245	56
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, %	12	12	12	14	14	14	11	11	11	14	14	14
Cap, veh/h	125	1759	875	194	1802	891	265	449	155	252	312	302
Arrive On Green	0.08	1.00	1.00	0.02	0.18	0.18	0.08	0.19	0.17	0.08	0.18	0.17
Sat Flow, veh/h	3182	3272	1437	3127	3216	1415	3209	2407	829	3127	1693	1432
Grp Volume(v), veh/h	81	1083	115	137	683	140	199	167	166	190	245	56
Grp Sat Flow(s),veh/h/ln	1591	1636	1437	1564	1608	1415	1605	1650	1586	1564	1693	1432
Q Serve(g_s), s	3.0	0.0	0.0	5.2	22.3	8.3	7.3	11.0	11.5	7.1	16.6	3.9
Cycle Q Clear(g_c), s	3.0	0.0	0.0	5.2	22.3	8.3	7.3	11.0	11.5	7.1	16.6	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	125	1759	875	194	1802	891	265	308	296	252	312	302
V/C Ratio(X)	0.65	0.62	0.13	0.71	0.38	0.16	0.75	0.54	0.56	0.75	0.79	0.19
Avail Cap(c_a), veh/h	186	1759	875	266	1802	891	369	408	393	341	409	385
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.0	57.7	30.6	17.8	53.8	44.2	44.7	54.0	46.7	38.9
Incr Delay (d2), s/veh	1.8	1.4	0.3	2.4	0.6	0.4	3.0	0.6	0.6	3.9	5.3	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	1.2	0.3	0.1	2.1	9.7	2.8	3.0	4.4	4.5	2.9	7.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	1.4	0.3	60.1	31.2	18.2	56.8	44.7	45.4	57.9	51.9	39.0
LnGrp LOS	E	A	A	E	C	B	E	D	D	E	D	D
Approach Vol, veh/h		1279			960			532			491	
Approach Delay, s/veh		4.7			33.4			49.5			52.8	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	68.5	13.9	26.1	8.7	71.2	13.7	26.4				
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	10.2	49.5	13.8	27.5	7.0	52.7	13.1	28.2				
Max Q Clear Time (g_c+I1), s	7.2	2.0	9.3	18.6	5.0	24.3	9.1	13.5				
Green Ext Time (p_c), s	0.3	36.2	0.7	1.8	0.1	17.4	0.6	3.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				27.7								
HCM 6th LOS				C								



Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1242	41	0	981	0	16
Future Vol, veh/h	1242	41	0	981	0	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	-	130	-	-	-	0
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	13	13	93	93
Mvmt Flow	1307	43	0	1033	0	17

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	654
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	8.76
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	4.23
Pot Cap-1 Maneuver	-	-	0	-	248
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	248
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	248	-	-	-
HCM Lane V/C Ratio	0.068	-	-	-
HCM Control Delay (s)	20.6	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-



# HCM Signalized Intersection Capacity Analysis

## 5: SW 115th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1116	137	220	919	11	60	0	89	3	1	2
Future Volume (vph)	5	1116	137	220	919	11	60	0	89	3	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.5		4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00		0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1641	3282	1449	3127	3216		1337		1187	1538	1462	
Flt Permitted	0.29	1.00	1.00	0.95	1.00		0.76		1.00	0.76	1.00	
Satd. Flow (perm)	500	3282	1449	3127	3216		1064		1187	1226	1462	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1187	146	234	978	12	64	0	95	3	1	2
RTOR Reduction (vph)	0	0	43	0	0	0	0	0	40	0	2	0
Lane Group Flow (vph)	5	1187	103	234	990	0	64	0	55	3	1	0
Confl. Peds. (#/hr)	2					2			2	2		
Confl. Bikes (#/hr)			4			2						
Heavy Vehicles (%)	10%	10%	10%	12%	12%	12%	35%	35%	35%	17%	17%	17%
Turn Type	pm+pt	NA	Perm	Prot	NA		Perm		pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Actuated Green, G (s)	80.8	79.8	79.8	12.9	91.7		12.8		25.7	12.8	12.8	
Effective Green, g (s)	81.8	81.3	81.3	13.4	93.2		12.8		26.7	13.3	13.3	
Actuated g/C Ratio	0.68	0.68	0.68	0.11	0.78		0.11		0.22	0.11	0.11	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5		4.5	4.5	4.5	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	355	2223	981	349	2497		113		303	135	162	
v/s Ratio Prot	0.00	c0.36		c0.07	0.31				0.02		0.00	
v/s Ratio Perm	0.01		0.07				c0.06		0.03	0.00		
v/c Ratio	0.01	0.53	0.11	0.67	0.40		0.57		0.18	0.02	0.01	
Uniform Delay, d1	6.1	9.8	6.7	51.2	4.3		51.0		37.8	47.6	47.5	
Progression Factor	0.45	0.48	0.24	0.96	0.98		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.7	0.2	3.0	0.4		3.8		0.1	0.0	0.0	
Delay (s)	2.7	5.4	1.8	51.9	4.6		54.8		37.9	47.6	47.5	
Level of Service	A	A	A	D	A		D		D	D	D	
Approach Delay (s)		5.0			13.7			44.7			47.5	
Approach LOS		A			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			11.3				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			57.8%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary  
 5: SW 115th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	5	1116	137	220	919	11	60	0	89	3	1	2
Future Volume (veh/h)	5	1116	137	220	919	11	60	0	89	3	1	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	0.99		0.99	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	1752	1752	1752	1722	1722	1722	1381	1381	1381	1648	1648	1648
Adj Flow Rate, veh/h	5	1187	119	234	978	12	64	0	63	3	1	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
Percent Heavy Veh, %	10	10	10	12	12	12	35	35	35	17	17	17
Cap, veh/h	452	2371	1043	303	2637	32	150	128	219	168	45	90
Arrive On Green	0.01	0.71	0.71	0.10	0.80	0.78	0.09	0.00	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1668	3328	1464	3182	3309	41	1037	1381	1163	1173	488	976
Grp Volume(v), veh/h	5	1187	119	234	484	506	64	0	63	3	0	3
Grp Sat Flow(s),veh/h/ln	1668	1664	1464	1591	1636	1714	1037	1381	1163	1173	0	1464
Q Serve(g_s), s	0.1	19.1	3.1	8.6	10.2	10.2	7.2	0.0	5.6	0.3	0.0	0.2
Cycle Q Clear(g_c), s	0.1	19.1	3.1	8.6	10.2	10.2	7.4	0.0	5.6	0.3	0.0	0.2
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	452	2371	1043	303	1304	1366	150	128	219	168	0	135
V/C Ratio(X)	0.01	0.50	0.11	0.77	0.37	0.37	0.43	0.00	0.29	0.02	0.00	0.02
Avail Cap(c_a), veh/h	511	2371	1043	424	1304	1366	309	340	397	348	0	360
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	0.70	0.70	0.70	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.9	7.7	5.4	53.0	3.5	3.5	53.4	0.0	41.9	49.5	0.0	49.7
Incr Delay (d2), s/veh	0.0	0.8	0.2	2.4	0.6	0.5	0.7	0.0	0.3	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	0.0	5.8	0.8	3.5	2.4	2.5	1.9	0.0	1.6	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.9	8.5	5.6	55.4	4.1	4.1	54.1	0.0	42.1	49.6	0.0	49.7
LnGrp LOS	A	A	A	E	A	A	D	A	D	D	A	D
Approach Vol, veh/h		1311			1224			127				6
Approach Delay, s/veh		8.2			13.9			48.2				49.6
Approach LOS		A			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.4	89.5		15.1	5.3	99.6		15.1				
Change Period (Y+Rc), s	4.5	5.5		4.5	4.5	5.5		4.5				
Max Green Setting (Gmax), s	15.5	61.0		29.0	5.0	71.5		29.0				
Max Q Clear Time (g_c+I1), s	10.6	21.1		2.3	2.1	12.2		9.4				
Green Ext Time (p_c), s	0.3	30.0		0.0	0.0	29.5		0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				12.8								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	847	294	20	845	107	286	52	17	27	10	16
Future Volume (vph)	76	847	294	20	845	107	286	52	17	27	10	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.4	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.96		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1626	3252	1422	1570	3078		1703	1722		1347	1289	
Flt Permitted	0.19	1.00	1.00	0.23	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	323	3252	1422	379	3078		1703	1722		1347	1289	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	921	320	22	918	116	311	57	18	29	11	17
RTOR Reduction (vph)	0	0	150	0	6	0	0	11	0	0	16	0
Lane Group Flow (vph)	83	921	170	22	1028	0	311	64	0	29	12	0
Confl. Peds. (#/hr)	1						1		1	1		
Confl. Bikes (#/hr)			4			2						
Heavy Vehicles (%)	11%	11%	11%	15%	15%	15%	6%	6%	6%	34%	34%	34%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								
Actuated Green, G (s)	69.8	63.6	63.6	67.8	62.6		24.9	27.9		5.3	8.3	
Effective Green, g (s)	69.8	65.1	63.7	67.8	64.1		24.9	28.4		5.3	8.8	
Actuated g/C Ratio	0.58	0.54	0.53	0.56	0.53		0.21	0.24		0.04	0.07	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	255	1764	754	265	1644		353	407		59	94	
v/s Ratio Prot	c0.02	0.28		0.00	c0.33		c0.18	c0.04		0.02	0.01	
v/s Ratio Perm	0.17		0.12	0.04								
v/c Ratio	0.33	0.52	0.23	0.08	0.63		0.88	0.16		0.49	0.13	
Uniform Delay, d1	25.0	17.5	15.0	20.4	19.5		46.1	36.3		56.0	52.0	
Progression Factor	0.40	0.39	0.35	1.00	1.00		1.00	1.00		0.90	1.09	
Incremental Delay, d2	0.7	1.0	0.6	0.1	1.8		21.7	0.2		6.3	0.6	
Delay (s)	10.8	7.9	5.9	20.5	21.4		67.8	36.5		56.7	57.2	
Level of Service	B	A	A	C	C		E	D		E	E	
Approach Delay (s)		7.6			21.3			61.7			57.0	
Approach LOS		A			C			E			E	

### Intersection Summary

HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	847	294	20	845	107	286	52	17	27	10	16
Future Volume (veh/h)	76	847	294	20	845	107	286	52	17	27	10	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	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	1737	1737	1737	1678	1678	1678	1811	1811	1811	1396	1396	1396
Adj Flow Rate, veh/h	83	921	271	22	918	67	311	57	13	29	11	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	15	15	15	6	6	6	34	34	34
Cap, veh/h	523	1183	498	511	1081	79	339	317	72	34	31	34
Arrive On Green	0.17	0.24	0.23	0.26	0.36	0.36	0.20	0.22	0.22	0.03	0.05	0.05
Sat Flow, veh/h	1654	3300	1434	1598	3006	219	1725	1427	325	1330	608	663
Grp Volume(v), veh/h	83	921	271	22	487	498	311	0	70	29	0	23
Grp Sat Flow(s),veh/h/ln	1654	1650	1434	1598	1594	1632	1725	0	1752	1330	0	1272
Q Serve(g_s), s	0.0	31.3	11.5	0.0	33.8	33.8	21.2	0.0	3.9	2.6	0.0	2.1
Cycle Q Clear(g_c), s	0.0	31.3	11.5	0.0	33.8	33.8	21.2	0.0	3.9	2.6	0.0	2.1
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.19	1.00		0.52
Lane Grp Cap(c), veh/h	523	1183	498	511	573	587	339	0	389	34	0	65
V/C Ratio(X)	0.16	0.78	0.54	0.04	0.85	0.85	0.92	0.00	0.18	0.84	0.00	0.35
Avail Cap(c_a), veh/h	523	1238	521	511	594	608	374	0	647	102	0	291
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.1	41.1	12.5	27.1	35.4	35.4	47.2	0.0	37.8	58.2	0.0	55.1
Incr Delay (d2), s/veh	0.1	4.3	3.6	0.0	14.6	14.3	25.5	0.0	0.2	39.4	0.0	3.2
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	2.0	13.7	4.4	0.4	14.8	15.1	11.4	0.0	1.7	1.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	45.5	16.1	27.2	50.0	49.7	72.7	0.0	38.1	97.6	0.0	58.3
LnGrp LOS	D	D	B	C	D	D	E	A	D	F	A	E
Approach Vol, veh/h		1275			1007			381				52
Approach Delay, s/veh		38.6			49.3			66.3				80.2
Approach LOS		D			D			E				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.2	47.0	27.6	10.2	35.1	47.2	7.1	30.7				
Change Period (Y+Rc), s	4.0	5.5	4.0	4.5	4.0	5.5	4.0	4.5				
Max Green Setting (Gmax), s	5.5	43.5	26.0	27.0	5.8	43.2	9.2	43.8				
Max Q Clear Time (g_c+I1), s	2.0	33.3	23.2	4.1	2.0	35.8	4.6	5.9				
Green Ext Time (p_c), s	0.0	8.2	0.4	0.1	0.1	5.9	0.0	0.3				

Intersection Summary												
HCM 6th Ctrl Delay			47.3									
HCM 6th LOS			D									

HCM 6th TWSC  
7: SW Cipole Road & Project Driveway #3

12/06/2021

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	1	192	6	2	85
Future Vol, veh/h	5	1	192	6	2	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	5	5	10	10	17	17
Mvmt Flow	7	1	259	8	3	115

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	384	263	0	0	267	0
Stage 1	263	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.27	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.353	-
Pot Cap-1 Maneuver	613	768	-	-	1215	-
Stage 1	774	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	611	768	-	-	1215	-
Mov Cap-2 Maneuver	611	-	-	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	894	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	633	1215
HCM Lane V/C Ratio	-	-	0.013	0.002
HCM Control Delay (s)	-	-	10.8	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	175	50	40	120	1	91	1	101	2	0	0
Future Vol, veh/h	2	175	50	40	120	1	91	1	101	2	0	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	20	20	20	9	9	9	14	14	14	0	0	0
Mvmt Flow	3	236	68	54	162	1	123	1	136	3	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.1	10.7	11.5	9
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	47%	1%	25%	100%
Vol Thru, %	1%	77%	75%	0%
Vol Right, %	52%	22%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	193	227	161	2
LT Vol	91	2	40	2
Through Vol	1	175	120	0
RT Vol	101	50	1	0
Lane Flow Rate	261	307	218	3
Geometry Grp	1	1	1	1
Degree of Util (X)	0.377	0.434	0.314	0.004
Departure Headway (Hd)	5.206	5.088	5.19	5.962
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	683	699	685	604
Service Time	3.296	3.172	3.281	3.962
HCM Lane V/C Ratio	0.382	0.439	0.318	0.005
HCM Control Delay	11.5	12.1	10.7	9
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	1.8	2.2	1.3	0

HCM 6th TWSC  
 9: SW 124th Avenue & SW Cimino Street

12/06/2021

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	5	0	2	0	469	36	15	473	0
Future Vol, veh/h	0	0	0	5	0	2	0	469	36	15	473	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	43	43	43	17	17	17	20	20	20
Mvmt Flow	0	0	0	6	0	2	0	521	40	17	526	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	821	1121	263	838	1101	281	526	0	0	561	0	0
Stage 1	560	560	-	541	541	-	-	-	-	-	-	-
Stage 2	261	561	-	297	560	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	8.36	7.36	7.76	4.44	-	-	4.5	-	-
Critical Hdwy Stg 1	6.6	5.6	-	7.36	6.36	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	7.36	6.36	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.93	4.43	3.73	2.37	-	-	2.4	-	-
Pot Cap-1 Maneuver	261	200	726	200	156	607	939	-	-	892	-	-
Stage 1	473	501	-	401	428	-	-	-	-	-	-	-
Stage 2	713	501	-	584	418	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	256	196	726	197	153	607	939	-	-	892	-	-
Mov Cap-2 Maneuver	256	196	-	197	153	-	-	-	-	-	-	-
Stage 1	473	491	-	401	428	-	-	-	-	-	-	-
Stage 2	710	501	-	573	410	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	20.2	0	0.3
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	939	-	-	-	244	892	-
HCM Lane V/C Ratio	-	-	-	-	0.032	0.019	-
HCM Control Delay (s)	0	-	-	0	20.2	9.1	-
HCM Lane LOS	A	-	-	A	C	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	471	488	0
Future Vol, veh/h	0	0	0	471	488	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	17	17	20	20
Mvmt Flow	0	0	0	523	542	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	804	271	542	0	0
Stage 1	542	-	-	-	-
Stage 2	262	-	-	-	-
Critical Hdwy	6.9	7	4.44	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-
Follow-up Hdwy	3.55	3.35	2.37	-	-
Pot Cap-1 Maneuver	315	718	926	-	-
Stage 1	539	-	-	-	-
Stage 2	749	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	315	718	926	-	-
Mov Cap-2 Maneuver	315	-	-	-	-
Stage 1	539	-	-	-	-
Stage 2	749	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	926	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-



HCM 6th TWSC  
 11: SW 124th Avenue & SW Myslony Street

12/06/2021

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	1	3	30	1	19	18	413	40	45	455	25
Future Vol, veh/h	4	1	3	30	1	19	18	413	40	45	455	25
Conflicting Peds, #/hr	3	0	1	1	0	3	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	13	13	13	41	41	41	18	18	18	17	17	17
Mvmt Flow	5	1	4	36	1	23	21	492	48	54	542	30

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	958	1248	288	939	1239	273	573	0	0	540	0	0
Stage 1	666	666	-	558	558	-	-	-	-	-	-	-
Stage 2	292	582	-	381	681	-	-	-	-	-	-	-
Critical Hdwy	7.76	6.76	7.16	8.32	7.32	7.72	4.46	-	-	4.44	-	-
Critical Hdwy Stg 1	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.63	4.13	3.43	3.91	4.41	3.71	2.38	-	-	2.37	-	-
Pot Cap-1 Maneuver	196	157	677	168	128	620	893	-	-	927	-	-
Stage 1	390	430	-	395	423	-	-	-	-	-	-	-
Stage 2	662	471	-	518	364	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	175	144	676	156	118	618	892	-	-	927	-	-
Mov Cap-2 Maneuver	175	144	-	156	118	-	-	-	-	-	-	-
Stage 1	381	405	-	386	413	-	-	-	-	-	-	-
Stage 2	619	460	-	483	343	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21	27.9	0.3	0.8
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	892	-	-	234	216	927	-
HCM Lane V/C Ratio	0.024	-	-	0.041	0.276	0.058	-
HCM Control Delay (s)	9.1	-	-	21	27.9	9.1	-
HCM Lane LOS	A	-	-	C	D	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	1.1	0.2	-

# HCM Signalized Intersection Capacity Analysis

## 12: SW 124th Avenue & SW Herman Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (vph)	32	232	58	55	161	40	39	331	66	183	411	67
Future Volume (vph)	32	232	58	55	161	40	39	331	66	183	411	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1631		1597	1627		1504	2922		1702	3325	
Flt Permitted	0.58	1.00		0.33	1.00		0.45	1.00		0.33	1.00	
Satd. Flow (perm)	967	1631		560	1627		716	2922		585	3325	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	36	261	65	62	181	45	44	372	74	206	462	75
RTOR Reduction (vph)	0	8	0	0	8	0	0	14	0	0	11	0
Lane Group Flow (vph)	36	318	0	62	218	0	44	432	0	206	526	0
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	6%	6%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	25.0	22.4		29.2	24.5		23.9	20.5		36.5	28.1	
Effective Green, g (s)	27.0	23.9		31.2	26.0		25.9	22.0		37.5	29.6	
Actuated g/C Ratio	0.34	0.30		0.39	0.33		0.33	0.28		0.47	0.37	
Clearance Time (s)	5.0	5.5		5.0	5.5		5.0	5.5		5.0	5.5	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	356	489		293	531		276	807		443	1236	
v/s Ratio Prot	0.00	c0.20		c0.02	0.13		0.01	c0.15		c0.07	0.16	
v/s Ratio Perm	0.03			0.07			0.04			0.15		
v/c Ratio	0.10	0.65		0.21	0.41		0.16	0.54		0.47	0.43	
Uniform Delay, d1	17.8	24.2		16.0	20.8		18.7	24.5		13.3	18.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	3.1		0.1	0.5		0.1	0.7		0.3	0.2	
Delay (s)	17.8	27.3		16.2	21.4		18.8	25.1		13.6	18.9	
Level of Service	B	C		B	C		B	C		B	B	
Approach Delay (s)		26.4			20.2			24.6			17.4	
Approach LOS		C			C			C			B	

### Intersection Summary

HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 12: SW 124th Avenue & SW Herman Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	32	232	58	55	161	40	39	331	66	183	411	67
Future Volume (veh/h)	32	232	58	55	161	40	39	331	66	183	411	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
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	1707	1707	1707	1707	1707	1707	1604	1604	1604	1811	1811	1811
Adj Flow Rate, veh/h	36	261	0	62	181	0	44	372	74	206	462	75
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	13	13	13	13	13	13	20	20	20	6	6	6
Cap, veh/h	406	408		354	439		368	621	122	465	939	151
Arrive On Green	0.06	0.24	0.00	0.08	0.26	0.00	0.06	0.25	0.22	0.14	0.32	0.29
Sat Flow, veh/h	1626	1707	0	1626	1707	0	1527	2526	497	1725	2956	477
Grp Volume(v), veh/h	36	261	0	62	181	0	44	223	223	206	268	269
Grp Sat Flow(s),veh/h/ln	1626	1707	0	1626	1707	0	1527	1523	1500	1725	1721	1712
Q Serve(g_s), s	0.9	7.2	0.0	1.5	4.6	0.0	1.1	6.8	7.0	4.2	6.6	6.8
Cycle Q Clear(g_c), s	0.9	7.2	0.0	1.5	4.6	0.0	1.1	6.8	7.0	4.2	6.6	6.8
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.33	1.00		0.28
Lane Grp Cap(c), veh/h	406	408		354	439		368	375	369	465	546	544
V/C Ratio(X)	0.09	0.64		0.18	0.41		0.12	0.59	0.61	0.44	0.49	0.50
Avail Cap(c_a), veh/h	497	1361		478	1425		502	925	911	951	1502	1494
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	18.0	0.0	13.7	16.3	0.0	13.4	17.6	17.8	11.5	14.5	14.7
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.1	0.6	0.0	0.1	1.5	1.6	0.2	0.7	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	0.3	2.7	0.0	0.5	1.7	0.0	0.3	2.1	2.1	1.2	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	19.7	0.0	13.8	16.9	0.0	13.4	19.1	19.5	11.8	15.2	15.4
LnGrp LOS	B	B		B	B		B	B	B	B	B	B
Approach Vol, veh/h		297	A		243	A		490			743	
Approach Delay, s/veh		19.0			16.1			18.7			14.3	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	17.0	8.0	16.6	7.4	20.7	7.0	17.5				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5	5.0	5.5	5.0	5.5				
Max Green Setting (Gmax), s	21.0	30.5	7.0	40.5	7.0	44.5	5.0	42.5				
Max Q Clear Time (g_c+I1), s	6.2	9.0	3.5	9.2	3.1	8.8	2.9	6.6				
Green Ext Time (p_c), s	0.2	2.4	0.0	1.6	0.0	3.1	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

# HCM Signalized Intersection Capacity Analysis

## 1: SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	852	125	386	1080	8	134	1	186	12	11	8
Future Volume (vph)	7	852	125	386	1080	8	134	1	186	12	11	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1736	3471	1512	1752	3500			1740	1545		1797	
Flt Permitted	0.24	1.00	1.00	0.22	1.00			0.78	1.00		0.88	
Satd. Flow (perm)	442	3471	1512	411	3500			1420	1545		1612	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	8	916	134	415	1161	9	144	1	200	13	12	9
RTOR Reduction (vph)	0	0	55	0	0	0	0	0	30	0	8	0
Lane Group Flow (vph)	8	916	79	415	1170	0	0	145	170	0	26	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			3						
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	65.9	64.9	64.9	93.9	88.9			16.6	41.6		16.6	
Effective Green, g (s)	65.9	66.4	66.4	93.9	90.4			16.6	41.6		16.6	
Actuated g/C Ratio	0.55	0.55	0.55	0.78	0.75			0.14	0.35		0.14	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5			4.0	4.0		4.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5			1.5	1.5		1.5	
Lane Grp Cap (vph)	253	1920	836	600	2636			196	587		222	
v/s Ratio Prot	0.00	0.26		c0.14	0.33				0.06			
v/s Ratio Perm	0.02		0.05	c0.40				c0.10	0.05		0.02	
v/c Ratio	0.03	0.48	0.09	0.69	0.44			0.74	0.29		0.12	
Uniform Delay, d1	12.4	16.3	12.6	9.7	5.5			49.6	28.5		45.3	
Progression Factor	1.00	1.00	1.00	0.71	0.84			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.9	0.2	2.3	0.5			11.9	0.1		0.1	
Delay (s)	12.4	17.1	12.9	9.2	5.1			61.5	28.6		45.4	
Level of Service	B	B	B	A	A			E	C		D	
Approach Delay (s)		16.5			6.1			42.4			45.4	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 1: SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗			↖	↗		↕	
Traffic Volume (veh/h)	7	852	125	386	1080	8	134	1	186	12	11	8
Future Volume (veh/h)	7	852	125	386	1080	8	134	1	186	12	11	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1841	1841	1841	1900	1900	1900
Adj Flow Rate, veh/h	8	916	102	415	1161	9	144	1	125	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	284	2007	875	485	2428	19	226	1	508	54	47	21
Arrive On Green	0.01	0.57	0.57	0.08	0.45	0.45	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1753	3497	1525	1767	3585	28	782	5	1558	57	220	100
Grp Volume(v), veh/h	8	916	102	415	571	599	145	0	125	34	0	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1525	1767	1763	1850	787	0	1558	377	0	0
Q Serve(g_s), s	0.2	18.1	3.7	10.8	27.1	27.1	0.0	0.0	7.1	0.4	0.0	0.0
Cycle Q Clear(g_c), s	0.2	18.1	3.7	10.8	27.1	27.1	23.1	0.0	7.1	23.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.99		1.00	0.38		0.26
Lane Grp Cap(c), veh/h	284	2007	875	485	1194	1253	227	0	508	122	0	0
V/C Ratio(X)	0.03	0.46	0.12	0.86	0.48	0.48	0.64	0.00	0.25	0.28	0.00	0.00
Avail Cap(c_a), veh/h	349	2007	875	801	1194	1253	233	0	514	127	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.77	0.77	0.77	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.0	14.8	11.7	15.2	18.0	18.0	46.3	0.0	29.6	39.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.3	1.9	1.1	1.0	4.2	0.0	0.1	0.5	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	6.8	1.2	4.4	11.9	12.5	4.5	0.0	2.7	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.0	15.5	11.9	17.1	19.0	19.0	50.4	0.0	29.7	40.0	0.0	0.0
LnGrp LOS	B	B	B	B	B	B	D	A	C	D	A	A
Approach Vol, veh/h		1026			1585			270				34
Approach Delay, s/veh		15.1			18.5			40.8				40.0
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.6	72.9		29.6	5.2	85.3		29.6				
Change Period (Y+Rc), s	4.0	5.5		4.0	4.0	5.5		4.0				
Max Green Setting (Gmax), s	35.0	45.5		26.0	5.6	74.9		26.0				
Max Q Clear Time (g_c+I1), s	12.8	20.1		25.5	2.2	29.1		25.1				
Green Ext Time (p_c), s	0.8	17.0		0.0	0.0	31.0		0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				19.6								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑		↘	↑↑		↘	↑		↘	↑	
Traffic Volume (vph)	39	1022	18	17	1281	15	60	9	45	67	2	131
Future Volume (vph)	39	1022	18	17	1281	15	60	9	45	67	2	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.5	4.0		4.5	4.5		4.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.88		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3460		1752	3498		1805	1663		1736	1557	
Flt Permitted	0.12	1.00		0.20	1.00		0.67	1.00		0.53	1.00	
Satd. Flow (perm)	227	3460		375	3498		1264	1663		970	1557	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	1111	20	18	1392	16	65	10	49	73	2	142
RTOR Reduction (vph)	0	1	0	0	0	0	0	45	0	0	123	0
Lane Group Flow (vph)	42	1130	0	18	1408	0	65	14	0	73	21	0
Confl. Peds. (#/hr)	1		2	2		1						
Confl. Bikes (#/hr)			6			4						
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	0%	0%	0%	4%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	82.0	77.8		78.5	76.3		15.0	10.8		25.0	16.3	
Effective Green, g (s)	82.0	79.3		78.5	77.8		15.0	10.8		26.0	16.3	
Actuated g/C Ratio	0.68	0.66		0.65	0.65		0.12	0.09		0.22	0.14	
Clearance Time (s)	4.0	5.5		4.5	5.5		4.5	4.5		5.0	5.0	
Vehicle Extension (s)	1.5	3.5		3.0	3.5		3.0	3.0		2.0	2.0	
Lane Grp Cap (vph)	207	2286		270	2267		176	149		278	211	
v/s Ratio Prot	c0.01	0.33		0.00	c0.40		0.01	0.01		c0.02	0.01	
v/s Ratio Perm	0.13			0.04			c0.03			0.03		
v/c Ratio	0.20	0.49		0.07	0.62		0.37	0.10		0.26	0.10	
Uniform Delay, d1	9.6	10.3		8.2	12.4		47.7	50.1		38.5	45.4	
Progression Factor	0.49	0.96		0.71	0.62		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.7		0.1	1.1		1.3	0.3		0.2	0.1	
Delay (s)	4.9	10.5		5.9	8.8		49.0	50.4		38.7	45.5	
Level of Service	A	B		A	A		D	D		D	D	
Approach Delay (s)		10.3			8.8			49.7			43.2	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

# HCM 6th Signalized Intersection Summary

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑		↘	↑↑		↘	↑		↘	↑	
Traffic Volume (veh/h)	39	1022	18	17	1281	15	60	9	45	67	2	131
Future Volume (veh/h)	39	1022	18	17	1281	15	60	9	45	67	2	131
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1900	1900	1900	1841	1841	1841
Adj Flow Rate, veh/h	42	1111	20	18	1392	16	65	10	49	73	2	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	3	3	3	0	0	0	4	4	4
Cap, veh/h	375	2498	45	305	2508	29	166	17	83	217	3	116
Arrive On Green	0.01	0.23	0.23	0.04	1.00	1.00	0.04	0.06	0.06	0.06	0.08	0.08
Sat Flow, veh/h	1753	3513	63	1767	3569	41	1810	280	1373	1753	35	1530
Grp Volume(v), veh/h	42	553	578	18	687	721	65	0	59	73	0	90
Grp Sat Flow(s),veh/h/ln	1753	1749	1827	1767	1763	1847	1810	0	1653	1753	0	1565
Q Serve(g_s), s	0.8	32.4	32.4	0.4	0.0	0.0	4.0	0.0	4.2	4.5	0.0	6.8
Cycle Q Clear(g_c), s	0.8	32.4	32.4	0.4	0.0	0.0	4.0	0.0	4.2	4.5	0.0	6.8
Prop In Lane	1.00		0.03	1.00		0.02	1.00		0.83	1.00		0.98
Lane Grp Cap(c), veh/h	375	1244	1300	305	1239	1298	166	0	100	217	0	119
V/C Ratio(X)	0.11	0.44	0.44	0.06	0.55	0.56	0.39	0.00	0.59	0.34	0.00	0.76
Avail Cap(c_a), veh/h	401	1244	1300	347	1239	1298	166	0	387	441	0	584
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.83	0.83	0.83	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.9	25.7	25.7	9.2	0.0	0.0	50.0	0.0	54.9	47.2	0.0	53.9
Incr Delay (d2), s/veh	0.0	1.0	1.0	0.1	1.5	1.4	1.5	0.0	5.5	0.3	0.0	3.7
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	0.3	15.4	16.1	0.1	0.5	0.5	1.9	0.0	1.9	2.0	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.9	26.7	26.7	9.3	1.5	1.4	51.5	0.0	60.4	47.5	0.0	57.6
LnGrp LOS	A	C	C	A	A	A	D	A	E	D	A	E
Approach Vol, veh/h		1173			1426			124				163
Approach Delay, s/veh		25.9			1.6			55.7				53.1
Approach LOS		C			A			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	89.3	9.8	14.1	7.8	88.3	11.7	12.3				
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.0	5.5	5.0	* 5				
Max Green Setting (Gmax), s	5.1	45.3	5.3	44.8	5.6	45.3	22.0	* 28				
Max Q Clear Time (g_c+I1), s	2.4	34.4	6.0	8.8	2.8	2.0	6.5	6.2				
Green Ext Time (p_c), s	0.0	10.1	0.0	0.4	0.0	40.1	0.1	0.2				

### Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

### Notes































\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 		
Traffic Volume (vph)	63	905	165	81	950	125	146	225	160	207	301	217
Future Volume (vph)	63	905	165	81	950	125	146	225	160	207	301	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3471	1533	3433	3539	1565	3335	3204		3433	1863	1565
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3471	1533	3433	3539	1565	3335	3204		3433	1863	1565
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	65	933	170	84	979	129	151	232	165	213	310	224
RTOR Reduction (vph)	0	0	69	0	0	51	0	115	0	0	0	45
Lane Group Flow (vph)	65	933	101	84	979	78	151	282	0	213	310	179
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			1			2			1			2
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	5%	5%	5%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Actuated Green, G (s)	6.6	62.3	71.4	5.5	61.2	72.3	9.1	22.1		11.1	24.1	30.7
Effective Green, g (s)	6.6	63.8	71.4	5.5	62.7	72.3	9.1	23.6		11.1	25.6	30.7
Actuated g/C Ratio	0.05	0.53	0.60	0.05	0.52	0.60	0.08	0.20		0.09	0.21	0.26
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	4.0
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	1.5
Lane Grp Cap (vph)	185	1845	912	157	1849	942	252	630		317	397	400
v/s Ratio Prot	0.02	0.27	0.01	0.02	c0.28	0.01	0.05	0.09		c0.06	c0.17	c0.02
v/s Ratio Perm			0.06			0.04						0.09
v/c Ratio	0.35	0.51	0.11	0.54	0.53	0.08	0.60	0.45		0.67	0.78	0.45
Uniform Delay, d1	54.6	18.0	10.5	56.0	18.9	10.0	53.7	42.5		52.7	44.6	37.5
Progression Factor	1.37	0.50	0.15	1.16	0.57	1.49	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	0.9	0.0	1.6	1.0	0.0	2.5	0.2		4.4	8.9	0.3
Delay (s)	75.4	9.9	1.6	66.6	11.7	14.9	56.2	42.6		57.0	53.4	37.8
Level of Service	E	A	A	E	B	B	E	D		E	D	D
Approach Delay (s)		12.3			15.9			46.4			49.8	
Approach LOS		B			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			26.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)			16.0					
Intersection Capacity Utilization			64.9%	ICU Level of Service			C					
Analysis Period (min)			15									
c Critical Lane Group												



# HCM 6th Signalized Intersection Summary

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑		↔↔	↑	↔
Traffic Volume (veh/h)	63	905	165	81	950	125	146	225	160	207	301	217
Future Volume (veh/h)	63	905	165	81	950	125	146	225	160	207	301	217
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.98
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	1870	1870	1870	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	65	933	108	84	979	88	151	232	144	213	310	131
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	2	2	2	5	5	5	2	2	2
Cap, veh/h	125	1938	932	135	1977	980	214	398	237	283	393	367
Arrive On Green	0.07	1.00	1.00	0.05	0.74	0.72	0.06	0.19	0.18	0.08	0.21	0.20
Sat Flow, veh/h	3401	3497	1539	3456	3554	1563	3374	2079	1236	3456	1870	1560
Grp Volume(v), veh/h	65	933	108	84	979	88	151	192	184	213	310	131
Grp Sat Flow(s),veh/h/ln	1700	1749	1539	1728	1777	1563	1687	1735	1581	1728	1870	1560
Q Serve(g_s), s	2.2	0.0	0.0	2.9	13.6	1.7	5.3	12.1	12.9	7.2	18.8	8.4
Cycle Q Clear(g_c), s	2.2	0.0	0.0	2.9	13.6	1.7	5.3	12.1	12.9	7.2	18.8	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.78	1.00		1.00
Lane Grp Cap(c), veh/h	125	1938	932	135	1977	980	214	332	303	283	393	367
V/C Ratio(X)	0.52	0.48	0.12	0.62	0.50	0.09	0.71	0.58	0.61	0.75	0.79	0.36
Avail Cap(c_a), veh/h	317	1938	932	202	1977	980	309	434	395	374	499	455
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.0	56.0	8.7	5.3	55.1	44.1	45.0	53.9	44.9	38.4
Incr Delay (d2), s/veh	1.1	0.8	0.2	1.7	0.9	0.2	1.6	0.6	0.7	3.8	4.9	0.2
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	0.9	0.2	0.1	1.2	4.1	0.5	2.2	5.1	5.0	3.2	9.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.8	0.2	57.7	9.6	5.5	56.7	44.7	45.7	57.7	49.8	38.6
LnGrp LOS	E	A	A	E	A	A	E	D	D	E	D	D
Approach Vol, veh/h		1106			1151			527			654	
Approach Delay, s/veh		3.9			12.8			48.5			50.1	
Approach LOS		A			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	70.5	11.6	29.2	8.4	70.8	13.8	27.0				
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	7.0	52.5	11.0	30.5	11.2	48.3	13.0	28.5				
Max Q Clear Time (g_c+I1), s	4.9	2.0	7.3	20.8	4.2	15.6	9.2	14.9				
Green Ext Time (p_c), s	0.1	33.1	0.4	2.8	0.2	24.8	0.6	3.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				22.5								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1251	23	0	1135	0	18
Future Vol, veh/h	1251	23	0	1135	0	18
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	130	-	-	-	0
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	4	4	2	2	0	0
Mvmt Flow	1331	24	0	1207	0	19

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	668
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	405
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	404
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	404	-	-	-
HCM Lane V/C Ratio	0.047	-	-	-
HCM Control Delay (s)	14.4	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

# HCM Signalized Intersection Capacity Analysis

## 5: SW 115th Ave & SW T-S Rd

12/13/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	1193	64	58	973	17	146	0	243	17	1	16
Future Volume (vph)	13	1193	64	58	973	17	146	0	243	17	1	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.5		4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00		0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1735	3471	1530	3400	3494		1717		1520	1767	1579	
Flt Permitted	0.20	1.00	1.00	0.95	1.00		0.75		1.00	0.76	1.00	
Satd. Flow (perm)	367	3471	1530	3400	3494		1348		1520	1408	1579	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	14	1243	67	60	1014	18	152	0	253	18	1	17
RTOR Reduction (vph)	0	0	34	0	1	0	0	0	23	0	11	0
Lane Group Flow (vph)	14	1243	33	60	1031	0	152	0	230	18	7	0
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	Prot	NA		Perm		pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Actuated Green, G (s)	59.7	57.6	57.6	6.5	62.0		41.4		47.9	41.4	41.4	
Effective Green, g (s)	60.7	59.1	59.1	7.0	63.5		41.4		48.9	41.9	41.9	
Actuated g/C Ratio	0.51	0.49	0.49	0.06	0.53		0.34		0.41	0.35	0.35	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5		4.5	4.5	4.5	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	215	1709	753	198	1848		465		670	491	551	
v/s Ratio Prot	0.00	c0.36		0.02	c0.30				c0.02		0.00	
v/s Ratio Perm	0.03		0.02				0.11		0.13	0.01		
v/c Ratio	0.07	0.73	0.04	0.30	0.56		0.33		0.34	0.04	0.01	
Uniform Delay, d1	15.9	24.1	15.8	54.2	18.9		29.0		24.5	25.7	25.5	
Progression Factor	0.51	0.89	1.98	1.08	0.72		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.0	1.5	0.0	0.3	0.4		1.9		0.1	0.1	0.0	
Delay (s)	8.1	23.0	31.4	58.9	14.0		30.9		24.6	25.9	25.6	
Level of Service	A	C	C	E	B		C		C	C	C	
Approach Delay (s)		23.3			16.5			27.0			25.7	
Approach LOS		C			B			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			21.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			63.8%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary  
 5: SW 115th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘↗	↑↑		↘	↑	↗	↘	↗	
Traffic Volume (veh/h)	13	1193	64	58	973	17	146	0	243	17	1	16
Future Volume (veh/h)	13	1193	64	58	973	17	146	0	243	17	1	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	14	1243	46	60	1014	18	152	0	164	18	1	12
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	5	5	5	2	2	2
Cap, veh/h	250	1672	735	138	1767	31	569	697	652	526	47	565
Arrive On Green	0.01	0.32	0.32	0.04	0.50	0.49	0.38	0.00	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1753	3497	1538	3428	3544	63	1367	1826	1546	1221	123	1479
Grp Volume(v), veh/h	14	1243	46	60	504	528	152	0	164	18	0	13
Grp Sat Flow(s),veh/h/ln	1753	1749	1538	1714	1763	1844	1367	1826	1546	1221	0	1603
Q Serve(g_s), s	0.5	38.0	2.5	2.1	24.1	24.1	9.4	0.0	8.2	1.1	0.0	0.6
Cycle Q Clear(g_c), s	0.5	38.0	2.5	2.1	24.1	24.1	10.0	0.0	8.2	1.1	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	250	1672	735	138	879	919	569	697	652	526	0	612
V/C Ratio(X)	0.06	0.74	0.06	0.44	0.57	0.57	0.27	0.00	0.25	0.03	0.00	0.02
Avail Cap(c_a), veh/h	310	1749	769	431	1008	1054	569	697	652	526	0	612
HCM Platoon Ratio	0.67	0.67	0.67	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	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	34.2	22.1	56.3	21.1	21.2	26.6	0.0	22.4	23.3	0.0	23.3
Incr Delay (d2), s/veh	0.0	1.8	0.0	0.7	0.6	0.6	1.1	0.0	0.9	0.1	0.0	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	0.2	16.9	0.9	0.9	9.4	9.9	3.3	0.0	3.2	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	36.0	22.2	56.9	21.7	21.7	27.7	0.0	23.4	23.4	0.0	23.3
LnGrp LOS	B	D	C	E	C	C	C	A	C	C	A	C
Approach Vol, veh/h		1303			1092			316				31
Approach Delay, s/veh		35.3			23.7			25.5				23.4
Approach LOS		D			C			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	61.4		49.8	6.4	63.8		49.8				
Change Period (Y+Rc), s	4.5	5.5		4.5	4.5	5.5		4.5				
Max Green Setting (Gmax), s	14.6	58.5		32.4	6.0	67.1		32.4				
Max Q Clear Time (g_c+I1), s	4.1	40.0		3.1	2.5	26.1		12.0				
Green Ext Time (p_c), s	0.1	15.8		0.1	0.0	25.1		0.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.4								
HCM 6th LOS				C								

# HCM Signalized Intersection Capacity Analysis

## 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	1024	389	5	769	39	210	20	15	106	45	67
Future Volume (vph)	31	1024	389	5	769	39	210	20	15	106	45	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.4	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3471	1520	1719	3410		1770	1732		1736	1649	
Flt Permitted	0.26	1.00	1.00	0.18	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	474	3471	1520	328	3410		1770	1732		1736	1649	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	1078	409	5	809	41	221	21	16	112	47	71
RTOR Reduction (vph)	0	0	179	0	2	0	0	14	0	0	52	0
Lane Group Flow (vph)	33	1078	230	5	848	0	221	23	0	112	66	0
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)			2			3						
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								
Actuated Green, G (s)	74.0	67.4	67.4	62.9	61.8		19.3	14.3		19.2	14.2	
Effective Green, g (s)	74.0	68.9	67.5	62.9	63.3		19.3	14.8		19.2	14.7	
Actuated g/C Ratio	0.62	0.57	0.56	0.52	0.53		0.16	0.12		0.16	0.12	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	362	1992	855	184	1798		284	213		277	202	
v/s Ratio Prot	c0.01	c0.31		0.00	0.25		c0.12	0.01		0.06	c0.04	
v/s Ratio Perm	0.05		0.15	0.01								
v/c Ratio	0.09	0.54	0.27	0.03	0.47		0.78	0.11		0.40	0.33	
Uniform Delay, d1	16.3	15.8	13.5	24.7	17.8		48.3	46.7		45.3	48.1	
Progression Factor	0.48	0.56	0.18	1.00	1.00		1.00	1.00		1.00	1.01	
Incremental Delay, d2	0.1	0.8	0.6	0.1	0.9		12.6	0.2		1.0	1.0	
Delay (s)	7.9	9.7	3.1	24.8	18.7		60.9	47.0		46.2	49.7	
Level of Service	A	A	A	C	B		E	D		D	D	
Approach Delay (s)		7.9			18.8			58.9			48.0	
Approach LOS		A			B			E			D	

### Intersection Summary

HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
6: SW Avery St/SW 112th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷	↷	↶	↷		↶	↷		↶	↷	
Traffic Volume (veh/h)	31	1024	389	5	769	39	210	20	15	106	45	67
Future Volume (veh/h)	31	1024	389	5	769	39	210	20	15	106	45	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1826	1826	1826	1870	1870	1870	1841	1841	1841
Adj Flow Rate, veh/h	33	1078	346	5	809	20	221	21	11	112	47	66
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, %	4	4	4	5	5	5	2	2	2	4	4	4
Cap, veh/h	651	1294	547	551	1142	28	253	183	96	139	66	92
Arrive On Green	0.60	0.74	0.72	0.26	0.33	0.33	0.14	0.16	0.15	0.08	0.09	0.09
Sat Flow, veh/h	1753	3497	1526	1739	3457	85	1781	1155	605	1753	691	971
Grp Volume(v), veh/h	33	1078	346	5	406	423	221	0	32	112	0	113
Grp Sat Flow(s),veh/h/ln	1753	1749	1526	1739	1735	1808	1781	0	1760	1753	0	1662
Q Serve(g_s), s	0.0	25.1	9.2	0.0	24.5	24.6	14.6	0.0	1.9	7.5	0.0	7.9
Cycle Q Clear(g_c), s	0.0	25.1	9.2	0.0	24.5	24.6	14.6	0.0	1.9	7.5	0.0	7.9
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.34	1.00		0.58
Lane Grp Cap(c), veh/h	651	1294	547	551	573	597	253	0	278	139	0	158
V/C Ratio(X)	0.05	0.83	0.63	0.01	0.71	0.71	0.87	0.00	0.11	0.81	0.00	0.72
Avail Cap(c_a), veh/h	651	1399	592	551	694	723	341	0	515	225	0	381
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	13.1	5.5	24.3	35.1	35.1	50.4	0.0	43.4	54.4	0.0	52.9
Incr Delay (d2), s/veh	0.0	4.4	3.7	0.0	7.2	7.0	16.7	0.0	0.2	10.5	0.0	5.9
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	0.3	5.2	3.5	0.1	11.1	11.5	7.6	0.0	0.8	3.7	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.7	17.5	9.2	24.3	42.4	42.1	67.1	0.0	43.6	64.9	0.0	58.8
LnGrp LOS	B	B	A	C	D	D	E	A	D	E	A	E
Approach Vol, veh/h		1457			834			253			225	
Approach Delay, s/veh		15.4			42.1			64.1			61.8	
Approach LOS		B			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.1	48.4	21.1	15.4	39.9	43.6	13.5	23.0				
Change Period (Y+Rc), s	4.0	5.5	4.0	4.5	4.0	5.5	4.0	4.5				
Max Green Setting (Gmax), s	5.5	46.5	23.0	27.0	5.5	46.5	15.4	34.6				
Max Q Clear Time (g_c+I1), s	2.0	27.1	16.6	9.9	2.0	26.6	9.5	3.9				
Green Ext Time (p_c), s	0.0	15.9	0.5	0.4	0.0	11.6	0.2	0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			31.7									
HCM 6th LOS			C									

HCM 6th TWSC  
7: SW Cipole Road & Project Driveway #3

12/13/2021

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	5	100	18	4	177
Future Vol, veh/h	23	5	100	18	4	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	5	5	11	11	5	5
Mvmt Flow	28	6	122	22	5	216

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	359	133	0	0	144
Stage 1	133	-	-	-	-
Stage 2	226	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245
Pot Cap-1 Maneuver	634	908	-	-	1420
Stage 1	886	-	-	-	-
Stage 2	805	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	631	908	-	-	1420
Mov Cap-2 Maneuver	631	-	-	-	-
Stage 1	886	-	-	-	-
Stage 2	802	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	667	1420
HCM Lane V/C Ratio	-	-	0.051	0.003
HCM Control Delay (s)	-	-	10.7	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	124	78	122	254	1	57	0	65	1	0	0
Future Vol, veh/h	0	124	78	122	254	1	57	0	65	1	0	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	7	7	7	7	7	7	5	5	5	0	0	0
Mvmt Flow	0	148	93	145	302	1	68	0	77	1	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	14.5	9.9	9.1
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	47%	0%	32%	100%
Vol Thru, %	0%	61%	67%	0%
Vol Right, %	53%	39%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	122	202	377	1
LT Vol	57	0	122	1
Through Vol	0	124	254	0
RT Vol	65	78	1	0
Lane Flow Rate	145	240	449	1
Geometry Grp	1	1	1	1
Degree of Util (X)	0.215	0.314	0.592	0.002
Departure Headway (Hd)	5.328	4.698	4.746	6.053
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	668	760	758	595
Service Time	3.407	2.76	2.8	4.053
HCM Lane V/C Ratio	0.217	0.316	0.592	0.002
HCM Control Delay	9.9	9.9	14.5	9.1
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.8	1.3	3.9	0



HCM 6th TWSC  
 9: SW 124th Avenue & SW Cimino Street

12/13/2021

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	38	0	21	0	406	7	3	686	0
Future Vol, veh/h	0	0	0	38	0	21	0	406	7	3	686	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	2	2	2	4	4	4	4	4	4
Mvmt Flow	0	0	0	43	0	24	0	461	8	3	780	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1017	1256	390	862	1252	236	780	0	0	470	0	0
Stage 1	786	786	-	466	466	-	-	-	-	-	-	-
Stage 2	231	470	-	396	786	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.54	6.54	6.94	4.18	-	-	4.18	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.24	-	-	2.24	-	-
Pot Cap-1 Maneuver	188	166	600	249	171	766	820	-	-	1074	-	-
Stage 1	345	394	-	546	561	-	-	-	-	-	-	-
Stage 2	742	551	-	601	401	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	182	165	600	248	170	765	820	-	-	1073	-	-
Mov Cap-2 Maneuver	182	165	-	248	170	-	-	-	-	-	-	-
Stage 1	345	393	-	545	560	-	-	-	-	-	-	-
Stage 2	719	550	-	599	400	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	18.8	0	0
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	820	-	-	-	327	1073	-
HCM Lane V/C Ratio	-	-	-	-	0.205	0.003	-
HCM Control Delay (s)	0	-	-	0	18.8	8.4	-
HCM Lane LOS	A	-	-	A	C	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	427	689	0
Future Vol, veh/h	0	0	0	427	689	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	4	4	4	4
Mvmt Flow	0	0	0	485	783	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1026	392	783	0	0
Stage 1	783	-	-	-	-
Stage 2	243	-	-	-	-
Critical Hdwy	6.9	7	4.18	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-
Follow-up Hdwy	3.55	3.35	2.24	-	-
Pot Cap-1 Maneuver	226	598	818	-	-
Stage 1	403	-	-	-	-
Stage 2	766	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	226	598	818	-	-
Mov Cap-2 Maneuver	226	-	-	-	-
Stage 1	403	-	-	-	-
Stage 2	766	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	818	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC  
 11: SW 124th Avenue & SW Myslony Street

12/13/2021

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	18	1	20	67	0	32	0	415	12	8	602	1
Future Vol, veh/h	18	1	20	67	0	32	0	415	12	8	602	1
Conflicting Peds, #/hr	3	0	1	1	0	3	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	13	13	13	41	41	41	18	18	18	17	17	17
Mvmt Flow	21	1	24	80	0	38	0	494	14	10	717	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	989	1247	361	881	1240	257	719	0	0	508	0	0
Stage 1	739	739	-	501	501	-	-	-	-	-	-	-
Stage 2	250	508	-	380	739	-	-	-	-	-	-	-
Critical Hdwy	7.76	6.76	7.16	8.32	7.32	7.72	4.46	-	-	4.44	-	-
Critical Hdwy Stg 1	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.63	4.13	3.43	3.91	4.41	3.71	2.38	-	-	2.37	-	-
Pot Cap-1 Maneuver	186	158	605	187	128	637	780	-	-	955	-	-
Stage 1	351	396	-	431	453	-	-	-	-	-	-	-
Stage 2	702	510	-	519	339	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	173	156	604	177	127	635	779	-	-	955	-	-
Mov Cap-2 Maneuver	173	156	-	177	127	-	-	-	-	-	-	-
Stage 1	351	392	-	431	453	-	-	-	-	-	-	-
Stage 2	658	510	-	491	335	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	20.9		35.8		0		0.1	
HCM LOS	C		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	779	-	-	272	231	955	-	-
HCM Lane V/C Ratio	-	-	-	0.171	0.51	0.01	-	-
HCM Control Delay (s)	0	-	-	20.9	35.8	8.8	-	-
HCM Lane LOS	A	-	-	C	E	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.6	2.6	0	-	-

# HCM Signalized Intersection Capacity Analysis

## 12: SW 124th Avenue & SW Herman Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (vph)	87	189	33	155	341	183	16	382	68	99	424	30
Future Volume (vph)	87	189	33	155	341	183	16	382	68	99	424	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1644		1597	1586		1504	2930		1702	3366	
Flt Permitted	0.22	1.00		0.46	1.00		0.42	1.00		0.28	1.00	
Satd. Flow (perm)	364	1644		767	1586		664	2930		510	3366	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	98	212	37	174	383	206	18	429	76	111	476	34
RTOR Reduction (vph)	0	6	0	0	18	0	0	12	0	0	4	0
Lane Group Flow (vph)	98	243	0	174	571	0	18	493	0	111	506	0
Confl. Peds. (#/hr)	1						1			1	1	
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	6%	6%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.6	33.9		47.2	38.7		26.9	25.3		36.1	29.9	
Effective Green, g (s)	39.6	35.4		48.4	40.2		28.9	26.8		37.5	31.4	
Actuated g/C Ratio	0.42	0.37		0.51	0.42		0.30	0.28		0.40	0.33	
Clearance Time (s)	5.0	5.5		5.0	5.5		5.0	5.5		5.0	5.5	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	212	613		474	671		225	827		291	1113	
v/s Ratio Prot	0.02	0.15		c0.04	c0.36		0.00	c0.17		c0.03	0.15	
v/s Ratio Perm	0.17			0.15			0.02			0.12		
v/c Ratio	0.46	0.40		0.37	0.85		0.08	0.60		0.38	0.45	
Uniform Delay, d1	19.1	21.9		13.4	24.7		23.3	29.4		19.4	25.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.4		0.2	10.1		0.1	1.2		0.3	0.3	
Delay (s)	19.7	22.3		13.5	34.8		23.3	30.5		19.7	25.3	
Level of Service	B	C		B	C		C	C		B	C	
Approach Delay (s)		21.6			29.9			30.3			24.3	
Approach LOS		C			C			C			C	

### Intersection Summary

HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	94.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 12: SW 124th Avenue & SW Herman Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	87	189	33	155	341	183	16	382	68	99	424	30
Future Volume (veh/h)	87	189	33	155	341	183	16	382	68	99	424	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
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	1707	1707	1707	1707	1707	1707	1604	1604	1604	1811	1811	1811
Adj Flow Rate, veh/h	98	212	0	174	383	0	18	429	59	111	476	28
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	13	13	13	13	13	13	20	20	20	6	6	6
Cap, veh/h	350	466		488	525		311	669	91	358	982	58
Arrive On Green	0.08	0.27	0.00	0.12	0.31	0.00	0.04	0.25	0.22	0.09	0.30	0.27
Sat Flow, veh/h	1626	1707	0	1626	1707	0	1527	2692	368	1725	3297	193
Grp Volume(v), veh/h	98	212	0	174	383	0	18	242	246	111	248	256
Grp Sat Flow(s),veh/h/ln	1626	1707	0	1626	1707	0	1527	1523	1536	1725	1721	1770
Q Serve(g_s), s	2.5	6.1	0.0	4.3	11.8	0.0	0.5	8.4	8.5	2.7	7.0	7.0
Cycle Q Clear(g_c), s	2.5	6.1	0.0	4.3	11.8	0.0	0.5	8.4	8.5	2.7	7.0	7.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.24	1.00		0.11
Lane Grp Cap(c), veh/h	350	466		488	525		311	378	382	358	512	527
V/C Ratio(X)	0.28	0.45		0.36	0.73		0.06	0.64	0.65	0.31	0.48	0.49
Avail Cap(c_a), veh/h	378	1563		570	1679		408	852	859	411	992	1020
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.2	17.8	0.0	12.9	18.2	0.0	15.7	19.8	20.0	14.4	17.0	17.1
Incr Delay (d2), s/veh	0.2	0.7	0.0	0.2	2.0	0.0	0.0	1.8	1.8	0.2	0.7	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	0.8	2.3	0.0	1.4	4.5	0.0	0.2	2.7	2.8	0.9	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	18.5	0.0	13.0	20.2	0.0	15.7	21.6	21.8	14.6	17.7	17.8
LnGrp LOS	B	B		B	C		B	C	C	B	B	B
Approach Vol, veh/h		310	A		557	A		506			615	
Approach Delay, s/veh		17.2			18.0			21.5			17.2	
Approach LOS		B			B			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	18.7	11.0	20.1	6.3	21.6	9.0	22.1				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5	5.0	5.5	5.0	5.5				
Max Green Setting (Gmax), s	6.0	31.5	9.0	52.5	5.0	32.5	5.0	56.5				
Max Q Clear Time (g_c+I1), s	4.7	10.5	6.3	8.1	2.5	9.0	4.5	13.8				
Green Ext Time (p_c), s	0.0	2.6	0.1	1.3	0.0	2.7	0.0	2.7				

Intersection Summary

HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

# HCM Signalized Intersection Capacity Analysis

## 1: SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	974	128	125	677	6	92	3	398	4	0	0
Future Volume (vph)	8	974	128	125	677	6	92	3	398	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	
Satd. Flow (prot)	1655	3312	1448	1570	3135			1676	1487		1444	
Flt Permitted	0.38	1.00	1.00	0.21	1.00			0.73	1.00		0.58	
Satd. Flow (perm)	659	3312	1448	341	3135			1283	1487		888	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	1025	135	132	713	6	97	3	419	4	0	0
RTOR Reduction (vph)	0	0	47	0	0	0	0	0	34	0	0	0
Lane Group Flow (vph)	8	1025	88	132	719	0	0	100	385	0	4	0
Confl. Peds. (#/hr)	1					1	1					1
Confl. Bikes (#/hr)			4						2			
Heavy Vehicles (%)	9%	9%	9%	15%	15%	15%	8%	8%	8%	25%	25%	25%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	72.9	71.9	71.9	96.3	91.3			14.2	34.6		14.2	
Effective Green, g (s)	72.9	73.4	73.4	96.3	92.8			14.2	34.6		14.2	
Actuated g/C Ratio	0.61	0.61	0.61	0.80	0.77			0.12	0.29		0.12	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5			4.0	4.0		4.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5			1.5	1.5		1.5	
Lane Grp Cap (vph)	408	2025	885	482	2424			151	478		105	
v/s Ratio Prot	0.00	c0.31		0.05	0.23				c0.14			
v/s Ratio Perm	0.01		0.06	0.17				0.08	0.12		0.00	
v/c Ratio	0.02	0.51	0.10	0.27	0.30			0.66	0.81		0.04	
Uniform Delay, d1	9.3	13.1	9.6	4.9	4.0			50.6	39.6		46.9	
Progression Factor	1.00	1.00	1.00	3.43	1.34			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.9	0.2	0.1	0.3			8.2	9.0		0.1	
Delay (s)	9.3	14.0	9.9	16.8	5.6			58.8	48.6		46.9	
Level of Service	A	B	A	B	A			E	D		D	
Approach Delay (s)		13.5			7.4			50.6			46.9	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 1: SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑			↖	↗		↕	
Traffic Volume (veh/h)	8	974	128	125	677	6	92	3	398	4	0	0
Future Volume (veh/h)	8	974	128	125	677	6	92	3	398	4	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	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	1767	1767	1767	1678	1678	1678	1781	1781	1781	1530	1530	1530
Adj Flow Rate, veh/h	8	1025	109	132	713	6	97	3	324	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	514	2165	944	347	2209	19	350	10	380	197	0	0
Arrive On Green	0.01	0.65	0.65	0.09	1.00	1.00	0.21	0.21	0.21	0.21	0.00	0.00
Sat Flow, veh/h	1682	3357	1463	1598	3239	27	1398	48	1486	656	0	0
Grp Volume(v), veh/h	8	1025	109	132	351	368	100	0	324	4	0	0
Grp Sat Flow(s),veh/h/ln	1682	1678	1463	1598	1594	1673	1445	0	1486	656	0	0
Q Serve(g_s), s	0.2	18.7	3.4	3.4	0.0	0.0	0.0	0.0	24.9	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.2	18.7	3.4	3.4	0.0	0.0	5.9	0.0	24.9	6.4	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	514	2165	944	347	1087	1141	360	0	380	197	0	0
V/C Ratio(X)	0.02	0.47	0.12	0.38	0.32	0.32	0.28	0.00	0.85	0.02	0.00	0.00
Avail Cap(c_a), veh/h	582	2165	944	672	1087	1141	360	0	380	197	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	10.9	8.2	8.1	0.0	0.0	40.0	0.0	42.6	42.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.2	0.2	0.7	0.7	0.2	0.0	16.1	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	6.3	1.0	0.9	0.2	0.2	2.5	0.0	10.8	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	11.6	8.4	8.4	0.7	0.7	40.1	0.0	58.7	42.7	0.0	0.0
LnGrp LOS	A	B	A	A	A	A	D	A	E	D	A	A
Approach Vol, veh/h		1142			851			424				4
Approach Delay, s/veh		11.3			1.9			54.3				42.7
Approach LOS		B			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	81.4		29.0	5.2	85.8		29.0				
Change Period (Y+Rc), s	4.0	5.5		4.0	4.0	5.5		4.0				
Max Green Setting (Gmax), s	30.0	51.5		25.0	6.0	75.5		25.0				
Max Q Clear Time (g_c+I1), s	5.4	20.7		8.4	2.2	2.0		26.9				
Green Ext Time (p_c), s	0.2	21.6		0.0	0.0	19.9		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				15.6								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑		↖	↑↑		↖	↑		↗	↑	
Traffic Volume (vph)	145	1172	68	62	756	164	15	2	11	59	9	34
Future Volume (vph)	145	1172	68	62	756	164	15	2	11	59	9	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.5	4.0		4.5	4.5		4.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.87		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	3311		1583	3071		1805	1659		1399	1297	
Flt Permitted	0.25	1.00		0.16	1.00		0.73	1.00		0.49	1.00	
Satd. Flow (perm)	434	3311		270	3071		1384	1659		716	1297	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	151	1221	71	65	788	171	16	2	11	61	9	35
RTOR Reduction (vph)	0	2	0	0	8	0	0	10	0	0	31	0
Lane Group Flow (vph)	151	1290	0	65	951	0	16	3	0	61	13	0
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	8%	8%	8%	14%	14%	14%	0%	0%	0%	29%	29%	29%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	85.6	78.6		82.1	77.1		8.9	6.9		21.4	14.9	
Effective Green, g (s)	85.6	80.1		82.1	78.6		8.9	6.9		22.4	14.9	
Actuated g/C Ratio	0.71	0.67		0.68	0.65		0.07	0.06		0.19	0.12	
Clearance Time (s)	4.0	5.5		4.5	5.5		4.5	4.5		5.0	5.0	
Vehicle Extension (s)	1.5	3.5		3.0	3.5		3.0	3.0		2.0	2.0	
Lane Grp Cap (vph)	381	2210		239	2011		109	95		196	161	
v/s Ratio Prot	c0.02	c0.39		0.01	0.31		0.00	0.00		c0.03	0.01	
v/s Ratio Perm	0.26			0.17			0.01			c0.03		
v/c Ratio	0.40	0.58		0.27	0.47		0.15	0.03		0.31	0.08	
Uniform Delay, d1	6.5	10.9		8.0	10.3		51.9	53.4		41.6	46.5	
Progression Factor	1.30	0.96		0.89	0.62		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.9		0.5	0.7		0.6	0.1		0.3	0.1	
Delay (s)	8.7	11.4		7.7	7.1		52.5	53.5		41.9	46.6	
Level of Service	A	B		A	A		D	D		D	D	
Approach Delay (s)		11.1			7.2			53.0			43.9	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



# HCM 6th Signalized Intersection Summary

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑		↖	↑↑		↖	↑		↗	↑	
Traffic Volume (veh/h)	145	1172	68	62	756	164	15	2	11	59	9	34
Future Volume (veh/h)	145	1172	68	62	756	164	15	2	11	59	9	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1781	1781	1781	1693	1693	1693	1900	1900	1900	1470	1470	1470
Adj Flow Rate, veh/h	151	1221	71	65	788	155	16	2	11	61	9	35
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, %	8	8	8	14	14	14	0	0	0	29	29	29
Cap, veh/h	530	2320	135	390	1900	374	144	10	53	193	21	83
Arrive On Green	0.09	1.00	1.00	0.07	1.00	1.00	0.02	0.04	0.04	0.06	0.08	0.09
Sat Flow, veh/h	1697	3246	189	1612	2668	525	1810	254	1395	1400	263	1023
Grp Volume(v), veh/h	151	636	656	65	475	468	16	0	13	61	0	44
Grp Sat Flow(s),veh/h/ln	1697	1692	1742	1612	1608	1585	1810	0	1649	1400	0	1286
Q Serve(g_s), s	3.2	0.0	0.0	1.3	0.0	0.0	1.0	0.0	0.9	4.8	0.0	3.9
Cycle Q Clear(g_c), s	3.2	0.0	0.0	1.3	0.0	0.0	1.0	0.0	0.9	4.8	0.0	3.9
Prop In Lane	1.00		0.11	1.00		0.33	1.00		0.85	1.00		0.80
Lane Grp Cap(c), veh/h	530	1209	1245	390	1145	1129	144	0	63	193	0	104
V/C Ratio(X)	0.28	0.53	0.53	0.17	0.41	0.41	0.11	0.00	0.21	0.32	0.00	0.42
Avail Cap(c_a), veh/h	573	1209	1245	402	1145	1129	190	0	385	371	0	481
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	0.86	0.86	0.86	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.2	0.0	0.0	4.2	0.0	0.0	54.0	0.0	56.0	47.8	0.0	52.1
Incr Delay (d2), s/veh	0.1	1.2	1.2	0.2	1.0	1.0	0.3	0.0	1.6	0.3	0.0	1.0
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	0.8	0.4	0.4	0.4	0.3	0.3	0.5	0.0	0.4	1.7	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.2	1.2	1.2	4.3	1.0	1.0	54.4	0.0	57.6	48.1	0.0	53.1
LnGrp LOS	A	A	A	A	A	A	D	A	E	D	A	D
Approach Vol, veh/h		1443			1008			29				105
Approach Delay, s/veh		1.5			1.2			55.8				50.2
Approach LOS		A			A			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	89.8	6.6	14.7	9.2	89.5	11.8	9.6				
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.0	5.5	5.0	* 5				
Max Green Setting (Gmax), s	5.3	45.2	5.1	44.9	8.3	42.7	22.0	* 28				
Max Q Clear Time (g_c+I1), s	3.3	2.0	3.0	5.9	5.2	2.0	6.8	2.9				
Green Ext Time (p_c), s	0.0	38.5	0.0	0.2	0.1	29.7	0.1	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	4.0
HCM 6th LOS	A

























### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# HCM Signalized Intersection Capacity Analysis
































## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	105	1011	127	127	676	244	228	273	101	183	234	77	
Future Volume (vph)	105	1011	127	127	676	244	228	273	101	183	234	77	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	3127	3223	1423	3072	3167	1402	3155	3120		3072	1667	1403	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	3127	3223	1423	3072	3167	1402	3155	3120		3072	1667	1403	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Adj. Flow (vph)	113	1087	137	137	727	262	245	294	109	197	252	83	
RTOR Reduction (vph)	0	0	57	0	0	82	0	33	0	0	0	63	
Lane Group Flow (vph)	113	1087	80	137	727	180	245	370	0	197	252	20	
Confl. Peds. (#/hr)			2	2			1					1	
Confl. Bikes (#/hr)			5			1							
Heavy Vehicles (%)	12%	12%	12%	14%	14%	14%	11%	11%	11%	14%	14%	14%	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov	
Protected Phases	5	2	3	1	6	7	3	8		7	4	5	
Permitted Phases			2			6						4	
Actuated Green, G (s)	7.3	58.0	70.3	8.8	59.5	70.8	12.3	22.9		11.3	21.9	29.2	
Effective Green, g (s)	7.3	59.5	70.3	8.8	61.0	70.8	12.3	24.4		11.3	23.4	29.2	
Actuated g/C Ratio	0.06	0.50	0.59	0.07	0.51	0.59	0.10	0.20		0.09	0.19	0.24	
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	4.0	
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	1.5	
Lane Grp Cap (vph)	190	1598	833	225	1609	827	323	634		289	325	341	
v/s Ratio Prot	0.04	c0.34	0.01	c0.04	0.23	0.02	c0.08	0.12		0.06	c0.15	0.00	
v/s Ratio Perm			0.05			0.11						0.01	
v/c Ratio	0.59	0.68	0.10	0.61	0.45	0.22	0.76	0.58		0.68	0.78	0.06	
Uniform Delay, d1	54.9	23.0	10.9	53.9	18.8	11.6	52.4	43.2		52.6	45.8	34.9	
Progression Factor	1.14	0.50	0.76	1.09	0.88	1.65	1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	2.9	2.1	0.0	3.0	0.9	0.0	8.7	0.9		5.2	10.1	0.0	
Delay (s)	65.7	13.6	8.3	61.8	17.5	19.1	61.2	44.1		57.8	55.9	34.9	
Level of Service	E	B	A	E	B	B	E	D		E	E	C	
Approach Delay (s)		17.5			23.3			50.5			53.3		
Approach LOS		B			C			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			30.4									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.70										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			64.6%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (veh/h)	105	1011	127	127	676	244	228	273	101	183	234	77
Future Volume (veh/h)	105	1011	127	127	676	244	228	273	101	183	234	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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	1722	1722	1722	1693	1693	1693	1737	1737	1737	1693	1693	1693
Adj Flow Rate, veh/h	113	1087	121	137	727	187	245	294	87	197	252	61
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, %	12	12	12	14	14	14	11	11	11	14	14	14
Cap, veh/h	160	1703	870	194	1711	854	308	508	148	259	318	324
Arrive On Green	0.10	1.00	1.00	0.02	0.18	0.17	0.10	0.20	0.19	0.08	0.19	0.18
Sat Flow, veh/h	3182	3272	1437	3127	3216	1415	3209	2522	732	3127	1693	1432
Grp Volume(v), veh/h	113	1087	121	137	727	187	245	190	191	197	252	61
Grp Sat Flow(s),veh/h/ln	1591	1636	1437	1564	1608	1415	1605	1650	1604	1564	1693	1432
Q Serve(g_s), s	4.1	0.0	0.0	5.2	24.2	11.4	9.0	12.5	13.0	7.4	17.0	4.1
Cycle Q Clear(g_c), s	4.1	0.0	0.0	5.2	24.2	11.4	9.0	12.5	13.0	7.4	17.0	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	160	1703	870	194	1711	854	308	332	323	259	318	324
V/C Ratio(X)	0.70	0.64	0.14	0.71	0.42	0.22	0.79	0.57	0.59	0.76	0.79	0.19
Avail Cap(c_a), veh/h	186	1703	870	266	1711	854	369	408	397	341	409	400
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	0.0	0.0	57.7	33.1	20.3	53.1	43.3	43.7	53.9	46.5	37.5
Incr Delay (d2), s/veh	5.9	1.5	0.3	2.4	0.8	0.6	7.9	0.6	0.6	4.7	5.9	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	1.7	0.4	0.1	2.1	10.5	4.2	3.9	5.0	5.1	3.0	7.5	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	1.5	0.3	60.1	33.9	20.9	61.0	43.8	44.4	58.6	52.4	37.6
LnGrp LOS	E	A	A	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1321			1051			626			510	
Approach Delay, s/veh		6.3			35.0			50.7			53.0	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	66.4	15.5	26.6	10.1	67.8	13.9	28.2				
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	10.2	49.5	13.8	27.5	7.0	52.7	13.1	28.2				
Max Q Clear Time (g_c+I1), s	7.2	2.0	11.0	19.0	6.1	26.2	9.4	15.0				
Green Ext Time (p_c), s	0.3	36.4	0.6	1.8	0.1	17.9	0.5	3.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.6								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1252	41	0	1066	0	16
Future Vol, veh/h	1252	41	0	1066	0	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	-	130	-	-	-	0
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	13	13	93	93
Mvmt Flow	1318	43	0	1122	0	17

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	659
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	8.76
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	4.23
Pot Cap-1 Maneuver	-	-	0	-	0	246
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	246
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	246	-	-	-
HCM Lane V/C Ratio	0.068	-	-	-
HCM Control Delay (s)	20.7	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

# HCM Signalized Intersection Capacity Analysis

## 5: SW 115th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1126	137	220	1004	11	60	0	89	3	1	2
Future Volume (vph)	5	1126	137	220	1004	11	60	0	89	3	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.5		4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00		0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1641	3282	1449	3127	3217		1337		1187	1538	1462	
Flt Permitted	0.26	1.00	1.00	0.95	1.00		0.76		1.00	0.76	1.00	
Satd. Flow (perm)	457	3282	1449	3127	3217		1064		1187	1226	1462	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1198	146	234	1068	12	64	0	95	3	1	2
RTOR Reduction (vph)	0	0	42	0	0	0	0	0	39	0	2	0
Lane Group Flow (vph)	5	1198	104	234	1080	0	64	0	56	3	1	0
Confl. Peds. (#/hr)	2					2			2	2		
Confl. Bikes (#/hr)			4			2						
Heavy Vehicles (%)	10%	10%	10%	12%	12%	12%	35%	35%	35%	17%	17%	17%
Turn Type	pm+pt	NA	Perm	Prot	NA		Perm		pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Actuated Green, G (s)	80.8	79.8	79.8	12.9	91.7		12.8		25.7	12.8	12.8	
Effective Green, g (s)	81.8	81.3	81.3	13.4	93.2		12.8		26.7	13.3	13.3	
Actuated g/C Ratio	0.68	0.68	0.68	0.11	0.78		0.11		0.22	0.11	0.11	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5		4.5	4.5	4.5	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	326	2223	981	349	2498		113		303	135	162	
v/s Ratio Prot	0.00	c0.37		c0.07	0.34				0.02		0.00	
v/s Ratio Perm	0.01		0.07				c0.06		0.03	0.00		
v/c Ratio	0.02	0.54	0.11	0.67	0.43		0.57		0.19	0.02	0.01	
Uniform Delay, d1	6.1	9.8	6.7	51.2	4.5		51.0		37.8	47.6	47.5	
Progression Factor	0.44	0.47	0.21	0.93	0.95		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.7	0.2	2.7	0.4		3.8		0.1	0.0	0.0	
Delay (s)	2.7	5.3	1.6	50.2	4.6		54.8		37.9	47.6	47.5	
Level of Service	A	A	A	D	A		D		D	D	D	
Approach Delay (s)		4.9			12.8			44.7			47.5	
Approach LOS		A			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			10.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			58.0%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary  
 5: SW 115th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	5	1126	137	220	1004	11	60	0	89	3	1	2
Future Volume (veh/h)	5	1126	137	220	1004	11	60	0	89	3	1	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	0.99		0.99	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	1752	1752	1752	1722	1722	1722	1381	1381	1381	1648	1648	1648
Adj Flow Rate, veh/h	5	1198	119	234	1068	12	64	0	63	3	1	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
Percent Heavy Veh, %	10	10	10	12	12	12	35	35	35	17	17	17
Cap, veh/h	416	2371	1043	303	2641	30	150	128	219	168	45	90
Arrive On Green	0.01	0.71	0.71	0.10	0.80	0.78	0.09	0.00	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1668	3328	1464	3182	3313	37	1037	1381	1163	1173	488	976
Grp Volume(v), veh/h	5	1198	119	234	527	553	64	0	63	3	0	3
Grp Sat Flow(s),veh/h/ln	1668	1664	1464	1591	1636	1714	1037	1381	1163	1173	0	1464
Q Serve(g_s), s	0.1	19.4	3.1	8.6	11.6	11.6	7.2	0.0	5.6	0.3	0.0	0.2
Cycle Q Clear(g_c), s	0.1	19.4	3.1	8.6	11.6	11.6	7.4	0.0	5.6	0.3	0.0	0.2
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	416	2371	1043	303	1304	1366	150	128	219	168	0	135
V/C Ratio(X)	0.01	0.51	0.11	0.77	0.40	0.40	0.43	0.00	0.29	0.02	0.00	0.02
Avail Cap(c_a), veh/h	475	2371	1043	424	1304	1366	309	340	397	348	0	360
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	0.62	0.62	0.62	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.9	7.8	5.4	53.0	3.6	3.7	53.4	0.0	41.9	49.5	0.0	49.7
Incr Delay (d2), s/veh	0.0	0.8	0.2	2.1	0.6	0.6	0.7	0.0	0.3	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	0.0	5.9	0.8	3.4	2.7	2.8	1.9	0.0	1.6	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.9	8.5	5.6	55.2	4.2	4.2	54.1	0.0	42.1	49.6	0.0	49.7
LnGrp LOS	A	A	A	E	A	A	D	A	D	D	A	D
Approach Vol, veh/h		1322			1314			127				6
Approach Delay, s/veh		8.3			13.3			48.2				49.6
Approach LOS		A			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.4	89.5		15.1	5.3	99.6		15.1				
Change Period (Y+Rc), s	4.5	5.5		4.5	4.5	5.5		4.5				
Max Green Setting (Gmax), s	15.5	61.0		29.0	5.0	71.5		29.0				
Max Q Clear Time (g_c+I1), s	10.6	21.4		2.3	2.1	13.6		9.4				
Green Ext Time (p_c), s	0.3	30.0		0.0	0.0	32.8		0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				12.6								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	853	298	20	896	107	320	52	17	27	10	16
Future Volume (vph)	76	853	298	20	896	107	320	52	17	27	10	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.4	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.96		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1626	3252	1422	1570	3081		1703	1722		1347	1289	
Flt Permitted	0.16	1.00	1.00	0.22	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	275	3252	1422	361	3081		1703	1722		1347	1289	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	927	324	22	974	116	348	57	18	29	11	17
RTOR Reduction (vph)	0	0	158	0	6	0	0	11	0	0	16	0
Lane Group Flow (vph)	83	927	166	22	1084	0	348	64	0	29	12	0
Confl. Peds. (#/hr)	1						1		1	1		
Confl. Bikes (#/hr)			4			2						
Heavy Vehicles (%)	11%	11%	11%	15%	15%	15%	6%	6%	6%	34%	34%	34%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								
Actuated Green, G (s)	69.2	61.4	61.4	64.8	59.2		26.7	29.7		5.3	8.3	
Effective Green, g (s)	69.2	62.9	61.5	64.8	60.7		26.7	30.2		5.3	8.8	
Actuated g/C Ratio	0.58	0.52	0.51	0.54	0.51		0.22	0.25		0.04	0.07	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	246	1704	728	251	1558		378	433		59	94	
v/s Ratio Prot	c0.02	0.29		0.00	c0.35		c0.20	c0.04		0.02	0.01	
v/s Ratio Perm	0.17		0.12	0.04								
v/c Ratio	0.34	0.54	0.23	0.09	0.70		0.92	0.15		0.49	0.13	
Uniform Delay, d1	28.4	19.0	16.1	22.8	22.6		45.6	34.9		56.0	52.0	
Progression Factor	0.45	0.46	0.41	1.00	1.00		1.00	1.00		0.90	1.06	
Incremental Delay, d2	0.7	1.1	0.6	0.2	2.6		27.3	0.2		6.3	0.6	
Delay (s)	13.6	9.8	7.3	23.0	25.2		72.9	35.1		56.7	55.7	
Level of Service	B	A	A	C	C		E	D		E	E	
Approach Delay (s)		9.4			25.2			66.2			56.2	
Approach LOS		A			C			E			E	

### Intersection Summary

HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



HCM 6th Signalized Intersection Summary  
 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	853	298	20	896	107	320	52	17	27	10	16
Future Volume (veh/h)	76	853	298	20	896	107	320	52	17	27	10	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	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	1737	1737	1737	1678	1678	1678	1811	1811	1811	1396	1396	1396
Adj Flow Rate, veh/h	83	927	275	22	974	67	348	57	13	29	11	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	15	15	15	6	6	6	34	34	34
Cap, veh/h	470	1186	499	480	1105	76	371	344	78	34	31	34
Arrive On Green	0.16	0.24	0.23	0.24	0.37	0.37	0.22	0.24	0.24	0.03	0.05	0.05
Sat Flow, veh/h	1654	3300	1434	1598	3020	208	1725	1427	325	1330	608	663
Grp Volume(v), veh/h	83	927	275	22	514	527	348	0	70	29	0	23
Grp Sat Flow(s),veh/h/ln	1654	1650	1434	1598	1594	1634	1725	0	1752	1330	0	1272
Q Serve(g_s), s	0.0	31.5	11.1	0.0	36.2	36.2	23.8	0.0	3.8	2.6	0.0	2.1
Cycle Q Clear(g_c), s	0.0	31.5	11.1	0.0	36.2	36.2	23.8	0.0	3.8	2.6	0.0	2.1
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.19	1.00		0.52
Lane Grp Cap(c), veh/h	470	1186	499	480	583	598	371	0	422	34	0	65
V/C Ratio(X)	0.18	0.78	0.55	0.05	0.88	0.88	0.94	0.00	0.17	0.84	0.00	0.35
Avail Cap(c_a), veh/h	470	1238	521	480	594	609	374	0	647	102	0	291
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	41.2	11.3	28.9	35.6	35.6	46.3	0.0	36.1	58.2	0.0	55.1
Incr Delay (d2), s/veh	0.2	4.4	3.7	0.0	17.3	17.0	30.8	0.0	0.2	39.4	0.0	3.2
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	2.0	13.8	4.2	0.4	16.1	16.5	13.2	0.0	1.6	1.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	45.6	15.0	28.9	52.9	52.6	77.1	0.0	36.2	97.6	0.0	58.3
LnGrp LOS	D	D	B	C	D	D	E	A	D	F	A	E
Approach Vol, veh/h		1285			1063			418				52
Approach Delay, s/veh		38.6			52.3			70.3				80.2
Approach LOS		D			D			E				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.9	47.1	29.8	10.2	32.1	47.9	7.1	32.9				
Change Period (Y+Rc), s	4.0	5.5	4.0	4.5	4.0	5.5	4.0	4.5				
Max Green Setting (Gmax), s	5.5	43.5	26.0	27.0	5.8	43.2	9.2	43.8				
Max Q Clear Time (g_c+I1), s	2.0	33.5	25.8	4.1	2.0	38.2	4.6	5.8				
Green Ext Time (p_c), s	0.0	8.1	0.0	0.1	0.1	4.2	0.0	0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			49.2									
HCM 6th LOS			D									



HCM 6th TWSC  
7: SW Cipole Road & Project Driveway #3

12/06/2021

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	16	4	192	118	29	85
Future Vol, veh/h	16	4	192	118	29	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	5	5	10	10	17	17
Mvmt Flow	22	5	259	159	39	115

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	532	339	0	0	418
Stage 1	339	-	-	-	-
Stage 2	193	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.27
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.353
Pot Cap-1 Maneuver	503	696	-	-	1065
Stage 1	715	-	-	-	-
Stage 2	833	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	483	696	-	-	1065
Mov Cap-2 Maneuver	483	-	-	-	-
Stage 1	715	-	-	-	-
Stage 2	801	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	2.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	514	1065
HCM Lane V/C Ratio	-	-	0.053	0.037
HCM Control Delay (s)	-	-	12.4	8.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	175	63	54	120	1	92	1	103	2	0	0
Future Vol, veh/h	2	175	63	54	120	1	92	1	103	2	0	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	20	20	20	9	9	9	14	14	14	0	0	0
Mvmt Flow	3	236	85	73	162	1	124	1	139	3	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.8	11.3	11.9	9.2
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	47%	1%	31%	100%
Vol Thru, %	1%	73%	69%	0%
Vol Right, %	53%	26%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	196	240	175	2
LT Vol	92	2	54	2
Through Vol	1	175	120	0
RT Vol	103	63	1	0
Lane Flow Rate	265	324	236	3
Geometry Grp	1	1	1	1
Degree of Util (X)	0.397	0.469	0.351	0.005
Departure Headway (Hd)	5.402	5.21	5.346	6.092
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	667	694	674	587
Service Time	3.417	3.227	3.374	4.133
HCM Lane V/C Ratio	0.397	0.467	0.35	0.005
HCM Control Delay	11.9	12.8	11.3	9.2
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	1.9	2.5	1.6	0

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	0	16	5	0	2	118	469	36	15	473	30
Future Vol, veh/h	4	0	16	5	0	2	118	469	36	15	473	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	43	43	43	17	17	17	20	20	20
Mvmt Flow	4	0	18	6	0	2	131	521	40	17	526	33

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1100	1400	280	1100	1396	281	559	0	0	561	0	0
Stage 1	577	577	-	803	803	-	-	-	-	-	-	-
Stage 2	523	823	-	297	593	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	8.36	7.36	7.76	4.44	-	-	4.5	-	-
Critical Hdwy Stg 1	6.6	5.6	-	7.36	6.36	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	7.36	6.36	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.93	4.43	3.73	2.37	-	-	2.4	-	-
Pot Cap-1 Maneuver	163	136	708	122	98	607	911	-	-	892	-	-
Stage 1	462	492	-	266	310	-	-	-	-	-	-	-
Stage 2	498	379	-	584	402	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	142	114	708	104	82	607	911	-	-	892	-	-
Mov Cap-2 Maneuver	142	114	-	104	82	-	-	-	-	-	-	-
Stage 1	395	483	-	228	265	-	-	-	-	-	-	-
Stage 2	425	324	-	558	394	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.7		33.1		1.8		0.3	
HCM LOS	B		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	911	-	-	394	136	892	-
HCM Lane V/C Ratio	0.144	-	-	0.056	0.057	0.019	-
HCM Control Delay (s)	9.6	-	-	14.7	33.1	9.1	-
HCM Lane LOS	A	-	-	B	D	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.2	0.2	0.1	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	475	518	0
Future Vol, veh/h	0	0	0	475	518	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	17	17	20	20
Mvmt Flow	0	0	0	528	576	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	840	288	576	0	0
Stage 1	576	-	-	-	-
Stage 2	264	-	-	-	-
Critical Hdwy	6.9	7	4.44	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-
Follow-up Hdwy	3.55	3.35	2.37	-	-
Pot Cap-1 Maneuver	298	700	897	-	-
Stage 1	517	-	-	-	-
Stage 2	747	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	298	700	897	-	-
Mov Cap-2 Maneuver	298	-	-	-	-
Stage 1	517	-	-	-	-
Stage 2	747	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	897	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC  
 11: SW 124th Avenue & SW Myslony Street

12/06/2021

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	1	3	30	1	19	18	417	40	45	485	25
Future Vol, veh/h	4	1	3	30	1	19	18	417	40	45	485	25
Conflicting Peds, #/hr	3	0	1	1	0	3	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	13	13	13	41	41	41	18	18	18	17	17	17
Mvmt Flow	5	1	4	36	1	23	21	496	48	54	577	30

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	995	1287	306	960	1278	275	608	0	0	544	0	0
Stage 1	701	701	-	562	562	-	-	-	-	-	-	-
Stage 2	294	586	-	398	716	-	-	-	-	-	-	-
Critical Hdwy	7.76	6.76	7.16	8.32	7.32	7.72	4.46	-	-	4.44	-	-
Critical Hdwy Stg 1	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.63	4.13	3.43	3.91	4.41	3.71	2.38	-	-	2.37	-	-
Pot Cap-1 Maneuver	184	149	658	161	120	618	865	-	-	924	-	-
Stage 1	371	413	-	392	421	-	-	-	-	-	-	-
Stage 2	660	469	-	505	349	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	164	137	657	149	110	616	864	-	-	924	-	-
Mov Cap-2 Maneuver	164	137	-	149	110	-	-	-	-	-	-	-
Stage 1	362	389	-	383	411	-	-	-	-	-	-	-
Stage 2	617	458	-	471	328	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22	29.3	0.4	0.7
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	864	-	-	221	207	924	-
HCM Lane V/C Ratio	0.025	-	-	0.043	0.288	0.058	-
HCM Control Delay (s)	9.3	-	-	22	29.3	9.1	-
HCM Lane LOS	A	-	-	C	D	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	1.1	0.2	-

# HCM Signalized Intersection Capacity Analysis

## 12: SW 124th Avenue & SW Herman Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (vph)	34	232	58	55	161	40	39	335	66	183	441	81
Future Volume (vph)	34	232	58	55	161	40	39	335	66	183	441	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1631		1597	1627		1504	2923		1702	3316	
Flt Permitted	0.57	1.00		0.33	1.00		0.43	1.00		0.32	1.00	
Satd. Flow (perm)	966	1631		560	1627		682	2923		582	3316	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	38	261	65	62	181	45	44	376	74	206	496	91
RTOR Reduction (vph)	0	8	0	0	8	0	0	14	0	0	13	0
Lane Group Flow (vph)	38	318	0	62	218	0	44	436	0	206	574	0
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	6%	6%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	25.1	22.5		29.3	24.6		24.1	20.7		36.7	28.3	
Effective Green, g (s)	27.1	24.0		31.3	26.1		26.1	22.2		37.7	29.8	
Actuated g/C Ratio	0.34	0.30		0.39	0.33		0.33	0.28		0.47	0.37	
Clearance Time (s)	5.0	5.5		5.0	5.5		5.0	5.5		5.0	5.5	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	356	489		293	531		268	812		442	1236	
v/s Ratio Prot	0.00	c0.20		c0.02	0.13		0.01	c0.15		c0.07	0.17	
v/s Ratio Perm	0.03			0.07			0.04			0.15		
v/c Ratio	0.11	0.65		0.21	0.41		0.16	0.54		0.47	0.46	
Uniform Delay, d1	17.9	24.3		16.1	20.9		18.7	24.5		13.3	19.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	3.1		0.1	0.5		0.1	0.7		0.3	0.3	
Delay (s)	17.9	27.4		16.2	21.4		18.8	25.2		13.6	19.3	
Level of Service	B	C		B	C		B	C		B	B	
Approach Delay (s)		26.4			20.3			24.6			17.8	
Approach LOS		C			C			C			B	

### Intersection Summary

HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	79.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 12: SW 124th Avenue & SW Herman Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕	↗	↖	↗	
Traffic Volume (veh/h)	34	232	58	55	161	40	39	335	66	183	441	81
Future Volume (veh/h)	34	232	58	55	161	40	39	335	66	183	441	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
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	1707	1707	1707	1707	1707	1707	1604	1604	1604	1811	1811	1811
Adj Flow Rate, veh/h	38	261	0	62	181	0	44	376	74	206	496	91
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	13	13	13	13	13	13	20	20	20	6	6	6
Cap, veh/h	405	408		353	436		352	626	122	464	922	168
Arrive On Green	0.06	0.24	0.00	0.08	0.26	0.00	0.06	0.25	0.22	0.14	0.32	0.29
Sat Flow, veh/h	1626	1707	0	1626	1707	0	1527	2531	493	1725	2894	528
Grp Volume(v), veh/h	38	261	0	62	181	0	44	225	225	206	294	293
Grp Sat Flow(s),veh/h/ln	1626	1707	0	1626	1707	0	1527	1523	1501	1725	1721	1701
Q Serve(g_s), s	0.9	7.3	0.0	1.5	4.7	0.0	1.1	6.9	7.1	4.2	7.4	7.5
Cycle Q Clear(g_c), s	0.9	7.3	0.0	1.5	4.7	0.0	1.1	6.9	7.1	4.2	7.4	7.5
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.33	1.00		0.31
Lane Grp Cap(c), veh/h	405	408		353	436		352	376	371	464	548	542
V/C Ratio(X)	0.09	0.64		0.18	0.42		0.12	0.60	0.61	0.44	0.54	0.54
Avail Cap(c_a), veh/h	494	1357		477	1422		486	923	909	949	1498	1481
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	18.1	0.0	13.8	16.4	0.0	13.4	17.6	17.9	11.5	14.8	15.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.1	0.6	0.0	0.1	1.5	1.6	0.2	0.8	0.8
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	0.3	2.7	0.0	0.5	1.7	0.0	0.3	2.1	2.2	1.2	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.9	19.7	0.0	13.9	17.0	0.0	13.5	19.1	19.5	11.8	15.6	15.9
LnGrp LOS	B	B		B	B		B	B	B	B	B	B
Approach Vol, veh/h		299	A		243	A		494			793	
Approach Delay, s/veh		19.0			16.2			18.8			14.7	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	17.1	8.0	16.6	7.4	20.8	7.1	17.5				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5	5.0	5.5	5.0	5.5				
Max Green Setting (Gmax), s	21.0	30.5	7.0	40.5	7.0	44.5	5.0	42.5				
Max Q Clear Time (g_c+I1), s	6.2	9.1	3.5	9.3	3.1	9.5	2.9	6.7				
Green Ext Time (p_c), s	0.2	2.4	0.0	1.6	0.0	3.5	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

# HCM Signalized Intersection Capacity Analysis

## 1: SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	856	125	403	1111	8	134	1	188	12	11	8
Future Volume (vph)	7	856	125	403	1111	8	134	1	188	12	11	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1736	3471	1512	1752	3500			1740	1545		1797	
Flt Permitted	0.23	1.00	1.00	0.22	1.00			0.78	1.00		0.88	
Satd. Flow (perm)	427	3471	1512	401	3500			1420	1545		1612	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	8	920	134	433	1195	9	144	1	202	13	12	9
RTOR Reduction (vph)	0	0	55	0	0	0	0	0	28	0	8	0
Lane Group Flow (vph)	8	920	79	433	1204	0	0	145	174	0	26	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			3						
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	64.5	63.5	63.5	93.9	88.9			16.6	43.0		16.6	
Effective Green, g (s)	64.5	65.0	65.0	93.9	90.4			16.6	43.0		16.6	
Actuated g/C Ratio	0.54	0.54	0.54	0.78	0.75			0.14	0.36		0.14	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5			4.0	4.0		4.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5			1.5	1.5		1.5	
Lane Grp Cap (vph)	240	1880	819	611	2636			196	605		222	
v/s Ratio Prot	0.00	0.27		c0.16	0.34				0.06			
v/s Ratio Perm	0.02		0.05	c0.40				c0.10	0.05		0.02	
v/c Ratio	0.03	0.49	0.10	0.71	0.46			0.74	0.29		0.12	
Uniform Delay, d1	13.1	17.2	13.3	11.9	5.6			49.6	27.6		45.3	
Progression Factor	1.00	1.00	1.00	0.63	0.77			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.9	0.2	2.5	0.5			11.9	0.1		0.1	
Delay (s)	13.1	18.1	13.5	10.0	4.7			61.5	27.6		45.4	
Level of Service	B	B	B	B	A			E	C		D	
Approach Delay (s)		17.5			6.1			41.8			45.4	
Approach LOS		B			A			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			14.5	HCM 2000 Level of Service				B				
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			70.3%	ICU Level of Service				C				
Analysis Period (min)			15									
c Critical Lane Group												



HCM 6th Signalized Intersection Summary  
 1: SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	856	125	403	1111	8	134	1	188	12	11	8
Future Volume (veh/h)	7	856	125	403	1111	8	134	1	188	12	11	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1841	1841	1841	1900	1900	1900
Adj Flow Rate, veh/h	8	920	102	433	1195	9	144	1	127	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	277	2010	877	491	2445	18	219	1	507	50	44	19
Arrive On Green	0.01	0.57	0.57	0.08	0.46	0.46	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1753	3497	1525	1767	3586	27	764	5	1558	41	210	90
Grp Volume(v), veh/h	8	920	102	433	587	617	145	0	127	34	0	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1525	1767	1763	1850	769	0	1558	341	0	0
Q Serve(g_s), s	0.2	18.2	3.7	11.2	28.0	28.0	0.0	0.0	7.2	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.2	18.2	3.7	11.2	28.0	28.0	23.3	0.0	7.2	23.7	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	277	2010	877	491	1202	1261	220	0	507	112	0	0
V/C Ratio(X)	0.03	0.46	0.12	0.88	0.49	0.49	0.66	0.00	0.25	0.30	0.00	0.00
Avail Cap(c_a), veh/h	341	2010	877	830	1202	1261	220	0	507	112	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.72	0.72	0.72	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.0	14.7	11.6	15.8	18.0	18.0	46.8	0.0	29.7	40.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.3	2.3	1.0	1.0	5.7	0.0	0.1	0.6	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	6.8	1.2	5.7	12.2	12.8	4.6	0.0	2.7	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.0	15.5	11.9	18.0	19.0	18.9	52.5	0.0	29.8	40.6	0.0	0.0
LnGrp LOS	B	B	B	B	B	B	D	A	C	D	A	A
Approach Vol, veh/h		1030			1637			272				34
Approach Delay, s/veh		15.1			18.7			41.9				40.6
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	73.0		29.0	5.2	85.8		29.0				
Change Period (Y+Rc), s	4.0	5.5		4.0	4.0	5.5		4.0				
Max Green Setting (Gmax), s	37.0	44.5		25.0	5.6	75.9		25.0				
Max Q Clear Time (g_c+I1), s	13.2	20.2		25.7	2.2	30.0		25.3				
Green Ext Time (p_c), s	0.9	16.5		0.0	0.0	32.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				19.8								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑		↘	↑↑		↘	↑		↘	↑	
Traffic Volume (vph)	41	1026	18	17	1306	23	60	9	45	140	2	154
Future Volume (vph)	41	1026	18	17	1306	23	60	9	45	140	2	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.5	4.0		4.5	4.5		4.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.88		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3460		1752	3494		1805	1663		1736	1556	
Flt Permitted	0.11	1.00		0.19	1.00		0.65	1.00		0.51	1.00	
Satd. Flow (perm)	195	3460		356	3494		1236	1663		938	1556	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	1115	20	18	1420	25	65	10	49	152	2	167
RTOR Reduction (vph)	0	1	0	0	1	0	0	45	0	0	139	0
Lane Group Flow (vph)	45	1134	0	18	1444	0	65	14	0	152	30	0
Confl. Peds. (#/hr)	1		2	2		1						
Confl. Bikes (#/hr)			6			4						
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	0%	0%	0%	4%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	78.2	74.0		74.9	72.6		13.7	9.5		28.7	20.0	
Effective Green, g (s)	78.2	75.5		74.9	74.1		13.7	9.5		29.7	20.0	
Actuated g/C Ratio	0.65	0.63		0.62	0.62		0.11	0.08		0.25	0.17	
Clearance Time (s)	4.0	5.5		4.5	5.5		4.5	4.5		5.0	5.0	
Vehicle Extension (s)	1.5	3.5		3.0	3.5		3.0	3.0		2.0	2.0	
Lane Grp Cap (vph)	181	2176		248	2157		161	131		336	259	
v/s Ratio Prot	c0.01	0.33		0.00	c0.41		0.01	0.01		c0.06	0.02	
v/s Ratio Perm	0.15			0.04			0.03			c0.05		
v/c Ratio	0.25	0.52		0.07	0.67		0.40	0.11		0.45	0.12	
Uniform Delay, d1	12.1	12.3		9.8	15.0		48.8	51.3		37.3	42.5	
Progression Factor	0.55	0.93		0.73	0.63		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.8		0.1	1.5		1.7	0.4		0.4	0.1	
Delay (s)	6.8	12.2		7.2	10.8		50.5	51.7		37.7	42.6	
Level of Service	A	B		A	B		D	D		D	D	
Approach Delay (s)		12.0			10.8			51.1			40.2	
Approach LOS		B			B			D			D	

### Intersection Summary

HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

# HCM 6th Signalized Intersection Summary

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑		↖	↑↑		↖	↑		↗	↑	
Traffic Volume (veh/h)	41	1026	18	17	1306	23	60	9	45	140	2	154
Future Volume (veh/h)	41	1026	18	17	1306	23	60	9	45	140	2	154
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1900	1900	1900	1841	1841	1841
Adj Flow Rate, veh/h	45	1115	20	18	1420	25	65	10	49	152	2	113
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	3	3	3	0	0	0	4	4	4
Cap, veh/h	354	2378	43	284	2364	42	192	15	74	280	3	169
Arrive On Green	0.01	0.22	0.22	0.04	1.00	1.00	0.04	0.05	0.05	0.10	0.11	0.12
Sat Flow, veh/h	1753	3513	63	1767	3543	62	1810	280	1373	1753	27	1537
Grp Volume(v), veh/h	45	555	580	18	706	739	65	0	59	152	0	115
Grp Sat Flow(s),veh/h/ln	1753	1749	1827	1767	1763	1843	1810	0	1653	1753	0	1564
Q Serve(g_s), s	1.0	33.0	33.0	0.4	0.0	0.0	4.0	0.0	4.2	9.3	0.0	8.4
Cycle Q Clear(g_c), s	1.0	33.0	33.0	0.4	0.0	0.0	4.0	0.0	4.2	9.3	0.0	8.4
Prop In Lane	1.00		0.03	1.00		0.03	1.00		0.83	1.00		0.98
Lane Grp Cap(c), veh/h	354	1183	1237	284	1176	1230	192	0	89	280	0	172
V/C Ratio(X)	0.13	0.47	0.47	0.06	0.60	0.60	0.34	0.00	0.66	0.54	0.00	0.67
Avail Cap(c_a), veh/h	380	1183	1237	326	1176	1230	192	0	387	432	0	584
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.81	0.81	0.81	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.2	27.9	27.9	10.7	0.0	0.0	50.7	0.0	55.7	44.0	0.0	50.8
Incr Delay (d2), s/veh	0.1	1.2	1.1	0.1	1.8	1.8	1.0	0.0	8.2	0.6	0.0	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	0.3	15.7	16.4	0.1	0.6	0.6	1.9	0.0	2.0	4.1	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.2	29.1	29.0	10.7	1.8	1.8	51.7	0.0	64.0	44.6	0.0	52.4
LnGrp LOS	A	C	C	B	A	A	D	A	E	D	A	D
Approach Vol, veh/h		1180			1463			124				267
Approach Delay, s/veh		28.2			1.9			57.5				48.0
Approach LOS		C			A			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	85.2	9.8	18.2	7.9	84.1	16.6	11.4				
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.0	5.5	5.0	* 5				
Max Green Setting (Gmax), s	5.1	45.3	5.3	44.8	5.6	45.3	22.0	* 28				
Max Q Clear Time (g_c+I1), s	2.4	35.0	6.0	10.4	3.0	2.0	11.3	6.2				
Green Ext Time (p_c), s	0.0	9.5	0.0	0.5	0.0	40.4	0.3	0.2				

### Intersection Summary
































HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (vph)	67	941	202	81	953	131	151	231	160	245	339	242
Future Volume (vph)	67	941	202	81	953	131	151	231	160	245	339	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3471	1533	3433	3539	1565	3335	3208		3433	1863	1565
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3471	1533	3433	3539	1565	3335	3208		3433	1863	1565
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	69	970	208	84	982	135	156	238	165	253	349	249
RTOR Reduction (vph)	0	0	89	0	0	56	0	113	0	0	0	42
Lane Group Flow (vph)	69	970	119	84	982	79	156	290	0	253	349	207
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			1			2			1			2
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	5%	5%	5%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Actuated Green, G (s)	6.9	59.6	68.8	5.5	58.2	70.5	9.2	23.6		12.3	26.7	33.6
Effective Green, g (s)	6.9	61.1	68.8	5.5	59.7	70.5	9.2	25.1		12.3	28.2	33.6
Actuated g/C Ratio	0.06	0.51	0.57	0.05	0.50	0.59	0.08	0.21		0.10	0.23	0.28
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	4.0
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	1.5
Lane Grp Cap (vph)	193	1767	878	157	1760	919	255	671		351	437	438
v/s Ratio Prot	0.02	c0.28	0.01	0.02	0.28	0.01	0.05	0.09		c0.07	c0.19	c0.03
v/s Ratio Perm			0.07			0.04						0.10
v/c Ratio	0.36	0.55	0.14	0.54	0.56	0.09	0.61	0.43		0.72	0.80	0.47
Uniform Delay, d1	54.4	20.1	11.8	56.0	21.0	10.8	53.7	41.3		52.2	43.2	35.8
Progression Factor	1.33	0.57	0.17	1.10	0.65	1.80	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	1.1	0.0	1.6	1.1	0.0	3.0	0.2		6.1	9.2	0.3
Delay (s)	72.6	12.6	2.0	63.1	14.8	19.4	56.7	41.4		58.2	52.4	36.1
Level of Service	E	B	A	E	B	B	E	D		E	D	D
Approach Delay (s)		14.2			18.7			45.7			49.4	
Approach LOS		B			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			27.9			HCM 2000 Level of Service		C				
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		16.0				
Intersection Capacity Utilization			67.0%			ICU Level of Service		C				
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖↗	↕	↖	↖↗	↕	↖
Traffic Volume (veh/h)	67	941	202	81	953	131	151	231	160	245	339	242
Future Volume (veh/h)	67	941	202	81	953	131	151	231	160	245	339	242
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.98
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	1870	1870	1870	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	69	970	146	84	982	94	156	238	144	253	349	156
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	2	2	2	5	5	5	2	2	2
Cap, veh/h	127	1852	897	135	1887	961	219	427	248	327	436	404
Arrive On Green	0.07	1.00	1.00	0.04	0.53	0.52	0.06	0.20	0.19	0.09	0.23	0.22
Sat Flow, veh/h	3401	3497	1539	3456	3554	1563	3374	2100	1220	3456	1870	1561
Grp Volume(v), veh/h	69	970	146	84	982	94	156	195	187	253	349	156
Grp Sat Flow(s),veh/h/ln	1700	1749	1539	1728	1777	1563	1687	1735	1585	1728	1870	1561
Q Serve(g_s), s	2.3	0.0	0.0	2.9	21.5	3.0	5.4	12.1	12.9	8.6	21.1	9.9
Cycle Q Clear(g_c), s	2.3	0.0	0.0	2.9	21.5	3.0	5.4	12.1	12.9	8.6	21.1	9.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.77	1.00		1.00
Lane Grp Cap(c), veh/h	127	1852	897	135	1887	961	219	353	322	327	436	404
V/C Ratio(X)	0.54	0.52	0.16	0.62	0.52	0.10	0.71	0.55	0.58	0.77	0.80	0.39
Avail Cap(c_a), veh/h	323	1852	897	202	1887	961	309	455	416	418	546	495
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.0	56.8	18.2	9.5	55.0	42.9	43.7	53.1	43.4	36.7
Incr Delay (d2), s/veh	1.1	0.9	0.3	1.7	1.0	0.2	1.8	0.5	0.6	4.9	5.3	0.2
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	1.0	0.2	0.1	1.3	8.5	1.0	2.3	5.1	5.0	3.9	10.1	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.9	0.3	58.5	19.3	9.7	56.8	43.4	44.3	58.0	48.6	36.9
LnGrp LOS	E	A	A	E	B	A	E	D	D	E	D	D
Approach Vol, veh/h		1185			1160			538			758	
Approach Delay, s/veh		4.0			21.3			47.6			49.3	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	67.5	11.8	32.0	8.5	67.7	15.4	28.4				
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	7.0	49.5	11.0	33.5	11.4	45.1	14.5	30.0				
Max Q Clear Time (g_c+I1), s	4.9	2.0	7.4	23.1	4.3	23.5	10.6	14.9				
Green Ext Time (p_c), s	0.1	33.4	0.4	3.4	0.2	17.6	0.8	3.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			25.4									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1325	23	0	1144	0	18
Future Vol, veh/h	1325	23	0	1144	0	18
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	130	-	-	-	0
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	4	4	2	2	0	0
Mvmt Flow	1410	24	0	1217	0	19

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	707
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	382
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	381
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	381	-	-	-
HCM Lane V/C Ratio	0.05	-	-	-
HCM Control Delay (s)	14.9	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

# HCM Signalized Intersection Capacity Analysis

## 5: SW 115th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	1267	64	58	982	17	146	0	243	17	1	16
Future Volume (vph)	13	1267	64	58	982	17	146	0	243	17	1	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.5		4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00		0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1735	3471	1530	3400	3494		1717		1520	1767	1579	
Flt Permitted	0.21	1.00	1.00	0.95	1.00		0.75		1.00	0.76	1.00	
Satd. Flow (perm)	376	3471	1530	3400	3494		1348		1520	1408	1579	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	14	1320	67	60	1023	18	152	0	253	18	1	17
RTOR Reduction (vph)	0	0	33	0	1	0	0	0	20	0	11	0
Lane Group Flow (vph)	14	1320	34	60	1040	0	152	0	233	18	7	0
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	Prot	NA		Perm		pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Actuated Green, G (s)	61.9	59.9	59.9	6.5	64.4		39.1		45.6	39.1	39.1	
Effective Green, g (s)	62.9	61.4	61.4	7.0	65.9		39.1		46.6	39.6	39.6	
Actuated g/C Ratio	0.52	0.51	0.51	0.06	0.55		0.33		0.39	0.33	0.33	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5		4.5	4.5	4.5	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	225	1775	782	198	1918		439		640	464	521	
v/s Ratio Prot	0.00	c0.38		0.02	0.30				c0.02		0.00	
v/s Ratio Perm	0.03		0.02				0.11		0.13	0.01		
v/c Ratio	0.06	0.74	0.04	0.30	0.54		0.35		0.36	0.04	0.01	
Uniform Delay, d1	14.7	23.1	14.6	54.2	17.4		30.7		26.2	27.3	27.0	
Progression Factor	0.45	0.86	1.40	1.08	0.69		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.0	1.6	0.0	0.3	0.3		2.2		0.1	0.2	0.0	
Delay (s)	6.6	21.4	20.4	58.9	12.2		32.9		26.3	27.4	27.1	
Level of Service	A	C	C	E	B		C		C	C	C	
Approach Delay (s)		21.2			14.8			28.8			27.3	
Approach LOS		C			B			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			19.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			65.9%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												



HCM 6th Signalized Intersection Summary  
 5: SW 115th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘↘	↗↗		↘	↗	↘	↘	↗	↘
Traffic Volume (veh/h)	13	1267	64	58	982	17	146	0	243	17	1	16
Future Volume (veh/h)	13	1267	64	58	982	17	146	0	243	17	1	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	14	1320	46	60	1023	18	152	0	164	18	1	12
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	5	5	5	2	2	2
Cap, veh/h	254	1704	749	138	1799	32	557	680	638	515	46	551
Arrive On Green	0.02	0.49	0.49	0.04	0.51	0.50	0.37	0.00	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1753	3497	1538	3428	3545	62	1367	1826	1546	1221	123	1479
Grp Volume(v), veh/h	14	1320	46	60	509	532	152	0	164	18	0	13
Grp Sat Flow(s),veh/h/ln	1753	1749	1538	1714	1763	1844	1367	1826	1546	1221	0	1603
Q Serve(g_s), s	0.5	37.3	1.9	2.1	24.0	24.0	9.6	0.0	8.4	1.1	0.0	0.6
Cycle Q Clear(g_c), s	0.5	37.3	1.9	2.1	24.0	24.0	10.2	0.0	8.4	1.1	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	254	1704	749	138	895	936	557	680	638	515	0	597
V/C Ratio(X)	0.06	0.77	0.06	0.44	0.57	0.57	0.27	0.00	0.26	0.03	0.00	0.02
Avail Cap(c_a), veh/h	300	1778	782	377	1009	1056	557	680	638	515	0	597
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	0.84	0.84	0.84	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	25.4	16.3	56.3	20.4	20.5	27.4	0.0	23.1	24.0	0.0	24.0
Incr Delay (d2), s/veh	0.0	2.2	0.0	0.7	0.6	0.6	1.2	0.0	1.0	0.1	0.0	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	0.2	14.9	0.7	0.9	9.3	9.8	3.3	0.0	3.2	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	27.6	16.3	56.9	21.0	21.0	28.6	0.0	24.1	24.1	0.0	24.0
LnGrp LOS	B	C	B	E	C	C	C	A	C	C	A	C
Approach Vol, veh/h		1380			1101			316				31
Approach Delay, s/veh		27.1			23.0			26.3				24.1
Approach LOS		C			C			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	62.5		48.7	6.4	64.9		48.7				
Change Period (Y+Rc), s	4.5	5.5		4.5	4.5	5.5		4.5				
Max Green Setting (Gmax), s	12.7	59.5		33.3	5.0	67.2		33.3				
Max Q Clear Time (g_c+I1), s	4.1	39.3		3.1	2.5	26.0		12.2				
Green Ext Time (p_c), s	0.1	17.6		0.1	0.0	25.4		0.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				25.4								
HCM 6th LOS				C								



# HCM Signalized Intersection Capacity Analysis

## 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑		↖	↗		↖	↗	
Traffic Volume (vph)	31	1069	418	5	774	39	214	20	15	106	45	67
Future Volume (vph)	31	1069	418	5	774	39	214	20	15	106	45	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.4	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3471	1520	1719	3410		1770	1732		1736	1649	
Flt Permitted	0.25	1.00	1.00	0.17	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	465	3471	1520	299	3410		1770	1732		1736	1649	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	1125	440	5	815	41	225	21	16	112	47	71
RTOR Reduction (vph)	0	0	193	0	2	0	0	14	0	0	52	0
Lane Group Flow (vph)	33	1125	247	5	854	0	225	23	0	112	66	0
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)			2			3						
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								
Actuated Green, G (s)	73.8	67.2	67.2	62.0	60.9		19.5	14.4		19.3	14.2	
Effective Green, g (s)	73.8	68.7	67.3	62.0	62.4		19.5	14.9		19.3	14.7	
Actuated g/C Ratio	0.61	0.57	0.56	0.52	0.52		0.16	0.12		0.16	0.12	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	364	1987	852	167	1773		287	215		279	202	
v/s Ratio Prot	c0.01	c0.32		0.00	0.25		c0.13	0.01		0.06	c0.04	
v/s Ratio Perm	0.05		0.16	0.02								
v/c Ratio	0.09	0.57	0.29	0.03	0.48		0.78	0.11		0.40	0.33	
Uniform Delay, d1	16.6	16.2	13.8	26.4	18.4		48.2	46.6		45.2	48.1	
Progression Factor	0.49	0.54	0.17	1.00	1.00		1.00	1.00		1.00	1.01	
Incremental Delay, d2	0.1	0.9	0.6	0.1	0.9		13.1	0.2		0.9	1.0	
Delay (s)	8.2	9.6	3.0	26.5	19.4		61.3	46.9		46.1	49.7	
Level of Service	A	A	A	C	B		E	D		D	D	
Approach Delay (s)		7.8			19.4			59.3			48.0	
Approach LOS		A			B			E			D	

### Intersection Summary

HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
6: SW Avery St/SW 112th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	1069	418	5	774	39	214	20	15	106	45	67
Future Volume (veh/h)	31	1069	418	5	774	39	214	20	15	106	45	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1826	1826	1826	1870	1870	1870	1841	1841	1841
Adj Flow Rate, veh/h	33	1125	377	5	815	20	225	21	11	112	47	66
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, %	4	4	4	5	5	5	2	2	2	4	4	4
Cap, veh/h	641	1319	558	528	1148	28	257	185	97	139	66	92
Arrive On Green	0.59	0.75	0.73	0.25	0.33	0.33	0.14	0.16	0.16	0.08	0.09	0.09
Sat Flow, veh/h	1753	3497	1526	1739	3458	85	1781	1155	605	1753	691	971
Grp Volume(v), veh/h	33	1125	377	5	409	426	225	0	32	112	0	113
Grp Sat Flow(s),veh/h/ln	1753	1749	1526	1739	1735	1808	1781	0	1760	1753	0	1662
Q Serve(g_s), s	0.0	26.6	10.2	0.0	24.7	24.7	14.8	0.0	1.9	7.5	0.0	7.9
Cycle Q Clear(g_c), s	0.0	26.6	10.2	0.0	24.7	24.7	14.8	0.0	1.9	7.5	0.0	7.9
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.34	1.00		0.58
Lane Grp Cap(c), veh/h	641	1319	558	528	576	600	257	0	282	139	0	158
V/C Ratio(X)	0.05	0.85	0.68	0.01	0.71	0.71	0.87	0.00	0.11	0.81	0.00	0.72
Avail Cap(c_a), veh/h	641	1399	592	528	694	723	341	0	515	225	0	381
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.2	12.5	5.2	25.9	35.0	35.0	50.3	0.0	43.2	54.4	0.0	52.9
Incr Delay (d2), s/veh	0.0	4.7	4.2	0.0	7.3	7.0	17.3	0.0	0.2	10.5	0.0	5.9
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	0.3	5.2	3.7	0.1	11.2	11.6	7.8	0.0	0.8	3.7	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	17.2	9.4	25.9	42.3	42.0	67.6	0.0	43.3	64.9	0.0	58.8
LnGrp LOS	B	B	A	C	D	D	E	A	D	E	A	E
Approach Vol, veh/h		1535			840			257				225
Approach Delay, s/veh		15.2			42.1			64.6				61.8
Approach LOS		B			D			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.0	49.3	21.3	15.4	39.4	43.8	13.5	23.2				
Change Period (Y+Rc), s	4.0	5.5	4.0	4.5	4.0	5.5	4.0	4.5				
Max Green Setting (Gmax), s	5.5	46.5	23.0	27.0	5.5	46.5	15.4	34.6				
Max Q Clear Time (g_c+I1), s	2.0	28.6	16.8	9.9	2.0	26.7	9.5	3.9				
Green Ext Time (p_c), s	0.0	15.2	0.5	0.4	0.0	11.6	0.2	0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			31.2									
HCM 6th LOS			C									

HCM 6th TWSC  
7: SW Cipole Road & Project Driveway #3

12/13/2021

Intersection						
Int Delay, s/veh	4.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T		T
Traffic Vol, veh/h	119	29	100	28	6	177
Future Vol, veh/h	119	29	100	28	6	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	5	5	11	11	5	5
Mvmt Flow	145	35	122	34	7	216

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	369	139	0	0	156	0
Stage 1	139	-	-	-	-	-
Stage 2	230	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	625	901	-	-	1406	-
Stage 1	880	-	-	-	-	-
Stage 2	801	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	621	901	-	-	1406	-
Mov Cap-2 Maneuver	621	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	796	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.5	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	661	1406
HCM Lane V/C Ratio	-	-	0.273	0.005
HCM Control Delay (s)	-	-	12.5	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.1	0

Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	124	78	124	254	1	69	0	77	1	0	0
Future Vol, veh/h	0	124	78	124	254	1	69	0	77	1	0	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	7	7	7	7	7	7	5	5	5	0	0	0
Mvmt Flow	0	148	93	148	302	1	82	0	92	1	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.1	15.1	10.3	9.2
HCM LOS	B	C	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	47%	0%	33%	100%
Vol Thru, %	0%	61%	67%	0%
Vol Right, %	53%	39%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	146	202	379	1
LT Vol	69	0	124	1
Through Vol	0	124	254	0
RT Vol	77	78	1	0
Lane Flow Rate	174	240	451	1
Geometry Grp	1	1	1	1
Degree of Util (X)	0.258	0.32	0.605	0.002
Departure Headway (Hd)	5.353	4.792	4.831	6.15
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	664	743	740	585
Service Time	3.443	2.868	2.896	4.15
HCM Lane V/C Ratio	0.262	0.323	0.609	0.002
HCM Control Delay	10.3	10.1	15.1	9.2
HCM Lane LOS	B	B	C	A
HCM 95th-tile Q	1	1.4	4.1	0

HCM 6th TWSC  
 9: SW 124th Avenue & SW Cimino Street

12/13/2021

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	26	0	101	38	0	21	16	406	7	3	686	5
Future Vol, veh/h	26	0	101	38	0	21	16	406	7	3	686	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	2	2	2	4	4	4	4	4	4
Mvmt Flow	30	0	115	43	0	24	18	461	8	3	780	6

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1056	1295	393	898	1294	236	786	0	0	470	0	0
Stage 1	789	789	-	502	502	-	-	-	-	-	-	-
Stage 2	267	506	-	396	792	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.54	6.54	6.94	4.18	-	-	4.18	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.24	-	-	2.24	-	-
Pot Cap-1 Maneuver	176	157	598	234	161	766	816	-	-	1074	-	-
Stage 1	343	393	-	520	540	-	-	-	-	-	-	-
Stage 2	707	531	-	601	399	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	167	153	598	185	157	765	816	-	-	1073	-	-
Mov Cap-2 Maneuver	167	153	-	185	157	-	-	-	-	-	-	-
Stage 1	335	392	-	508	528	-	-	-	-	-	-	-
Stage 2	670	519	-	484	398	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	19.5		24.3		0.4		0	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	816	-	-	391	253	1073	-
HCM Lane V/C Ratio	0.022	-	-	0.369	0.265	0.003	-
HCM Control Delay (s)	9.5	-	-	19.5	24.3	8.4	-
HCM Lane LOS	A	-	-	C	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7	1	0	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	453	694	0
Future Vol, veh/h	0	0	0	453	694	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	4	4	4	4
Mvmt Flow	0	0	0	515	789	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1047	395	789	0	0
Stage 1	789	-	-	-	-
Stage 2	258	-	-	-	-
Critical Hdwy	6.9	7	4.18	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-
Follow-up Hdwy	3.55	3.35	2.24	-	-
Pot Cap-1 Maneuver	219	596	814	-	-
Stage 1	400	-	-	-	-
Stage 2	753	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	219	596	814	-	-
Mov Cap-2 Maneuver	219	-	-	-	-
Stage 1	400	-	-	-	-
Stage 2	753	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	814	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC  
 11: SW 124th Avenue & SW Myslony Street

12/13/2021

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	18	1	20	67	0	32	0	441	12	8	607	1
Future Vol, veh/h	18	1	20	67	0	32	0	441	12	8	607	1
Conflicting Peds, #/hr	3	0	1	1	0	3	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	13	13	13	41	41	41	18	18	18	17	17	17
Mvmt Flow	21	1	24	80	0	38	0	525	14	10	723	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1011	1284	364	915	1277	273	725	0	0	539	0	0
Stage 1	745	745	-	532	532	-	-	-	-	-	-	-
Stage 2	266	539	-	383	745	-	-	-	-	-	-	-
Critical Hdwy	7.76	6.76	7.16	8.32	7.32	7.72	4.46	-	-	4.44	-	-
Critical Hdwy Stg 1	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.63	4.13	3.43	3.91	4.41	3.71	2.38	-	-	2.37	-	-
Pot Cap-1 Maneuver	179	149	602	175	120	620	775	-	-	928	-	-
Stage 1	348	394	-	411	437	-	-	-	-	-	-	-
Stage 2	686	493	-	517	337	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	166	147	601	166	119	618	774	-	-	928	-	-
Mov Cap-2 Maneuver	166	147	-	166	119	-	-	-	-	-	-	-
Stage 1	348	389	-	411	437	-	-	-	-	-	-	-
Stage 2	642	493	-	489	333	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB		
HCM Control Delay, s	21.6		39.7		0		0.1		
HCM LOS	C		E						

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	774	-	-	263	217	928	-
HCM Lane V/C Ratio	-	-	-	0.177	0.543	0.01	-
HCM Control Delay (s)	0	-	-	21.6	39.7	8.9	-
HCM Lane LOS	A	-	-	C	E	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	2.9	0	-

# HCM Signalized Intersection Capacity Analysis

## 12: SW 124th Avenue & SW Herman Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (vph)	99	189	33	155	341	183	16	408	68	99	429	32
Future Volume (vph)	99	189	33	155	341	183	16	408	68	99	429	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1644		1597	1586		1504	2935		1703	3364	
Flt Permitted	0.19	1.00		0.49	1.00		0.40	1.00		0.26	1.00	
Satd. Flow (perm)	315	1644		818	1586		635	2935		468	3364	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	111	212	37	174	383	206	18	458	76	111	482	36
RTOR Reduction (vph)	0	6	0	0	18	0	0	11	0	0	4	0
Lane Group Flow (vph)	111	243	0	174	571	0	18	523	0	111	514	0
Confl. Peds. (#/hr)	1						1			1	1	
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	6%	6%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	43.2	37.0		47.6	39.2		27.7	26.0		36.5	30.4	
Effective Green, g (s)	45.2	38.5		49.6	40.7		29.7	27.5		38.1	31.9	
Actuated g/C Ratio	0.46	0.39		0.50	0.41		0.30	0.28		0.39	0.32	
Clearance Time (s)	5.0	5.5		5.0	5.5		5.0	5.5		5.0	5.5	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	238	642		486	655		215	819		270	1089	
v/s Ratio Prot	c0.03	0.15		c0.03	c0.36		0.00	c0.18		c0.03	0.15	
v/s Ratio Perm	0.18			0.15			0.02			0.13		
v/c Ratio	0.47	0.38		0.36	0.87		0.08	0.64		0.41	0.47	
Uniform Delay, d1	18.4	21.4		14.0	26.5		24.4	31.1		20.8	26.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.4		0.2	12.2		0.1	1.6		0.4	0.3	
Delay (s)	18.9	21.8		14.2	38.7		24.4	32.8		21.2	26.9	
Level of Service	B	C		B	D		C	C		C	C	
Approach Delay (s)		20.9			33.1			32.5			25.9	
Approach LOS		C			C			C			C	

### Intersection Summary

HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	98.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



HCM 6th Signalized Intersection Summary  
 12: SW 124th Avenue & SW Herman Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	99	189	33	155	341	183	16	408	68	99	429	32
Future Volume (veh/h)	99	189	33	155	341	183	16	408	68	99	429	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
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	1707	1707	1707	1707	1707	1707	1604	1604	1604	1811	1811	1811
Adj Flow Rate, veh/h	111	212	0	174	383	0	18	458	59	111	482	30
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	13	13	13	13	13	13	20	20	20	6	6	6
Cap, veh/h	348	467		485	522		312	697	89	351	1001	62
Arrive On Green	0.09	0.27	0.00	0.12	0.31	0.00	0.04	0.26	0.23	0.09	0.30	0.28
Sat Flow, veh/h	1626	1707	0	1626	1707	0	1527	2715	348	1725	3284	204
Grp Volume(v), veh/h	111	212	0	174	383	0	18	256	261	111	252	260
Grp Sat Flow(s),veh/h/ln	1626	1707	0	1626	1707	0	1527	1523	1540	1725	1721	1768
Q Serve(g_s), s	2.9	6.2	0.0	4.5	12.1	0.0	0.5	9.1	9.2	2.7	7.2	7.3
Cycle Q Clear(g_c), s	2.9	6.2	0.0	4.5	12.1	0.0	0.5	9.1	9.2	2.7	7.2	7.3
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.23	1.00		0.12
Lane Grp Cap(c), veh/h	348	467		485	522		312	391	395	351	525	539
V/C Ratio(X)	0.32	0.45		0.36	0.73		0.06	0.66	0.66	0.32	0.48	0.48
Avail Cap(c_a), veh/h	396	1526		561	1611		405	832	841	401	969	995
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	18.2	0.0	13.2	18.8	0.0	15.7	20.1	20.3	14.6	17.1	17.2
Incr Delay (d2), s/veh	0.2	0.7	0.0	0.2	2.0	0.0	0.0	1.9	1.9	0.2	0.7	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	1.0	2.3	0.0	1.5	4.6	0.0	0.2	3.0	3.0	0.9	2.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.8	18.9	0.0	13.4	20.8	0.0	15.8	21.9	22.2	14.8	17.8	17.9
LnGrp LOS	B	B		B	C		B	C	C	B	B	B
Approach Vol, veh/h		323	A		557	A		535			623	
Approach Delay, s/veh		17.5			18.5			21.8			17.3	
Approach LOS		B			B			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	19.5	11.2	20.5	6.3	22.4	9.2	22.5				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5	5.0	5.5	5.0	5.5				
Max Green Setting (Gmax), s	6.0	31.5	9.0	52.5	5.0	32.5	6.0	55.5				
Max Q Clear Time (g_c+I1), s	4.7	11.2	6.5	8.2	2.5	9.3	4.9	14.1				
Green Ext Time (p_c), s	0.0	2.7	0.1	1.3	0.0	2.7	0.0	2.7				

Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

# HCM Signalized Intersection Capacity Analysis

## 1: SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	973	128	125	677	6	92	3	398	4	0	0
Future Volume (vph)	8	973	128	125	677	6	92	3	398	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	
Satd. Flow (prot)	1655	3312	1448	1570	3135			1676	1487		1444	
Flt Permitted	0.38	1.00	1.00	0.21	1.00			0.73	1.00		0.58	
Satd. Flow (perm)	659	3312	1448	341	3135			1283	1487		888	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	1024	135	132	713	6	97	3	419	4	0	0
RTOR Reduction (vph)	0	0	47	0	0	0	0	0	34	0	0	0
Lane Group Flow (vph)	8	1024	88	132	719	0	0	100	385	0	4	0
Confl. Peds. (#/hr)	1					1	1					1
Confl. Bikes (#/hr)			4						2			
Heavy Vehicles (%)	9%	9%	9%	15%	15%	15%	8%	8%	8%	25%	25%	25%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	73.0	72.0	72.0	96.3	91.3			14.2	34.5		14.2	
Effective Green, g (s)	73.0	73.5	73.5	96.3	92.8			14.2	34.5		14.2	
Actuated g/C Ratio	0.61	0.61	0.61	0.80	0.77			0.12	0.29		0.12	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5			4.0	4.0		4.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5			1.5	1.5		1.5	
Lane Grp Cap (vph)	409	2028	886	481	2424			151	477		105	
v/s Ratio Prot	0.00	c0.31		0.05	0.23				c0.14			
v/s Ratio Perm	0.01		0.06	0.17				0.08	0.12		0.00	
v/c Ratio	0.02	0.50	0.10	0.27	0.30			0.66	0.81		0.04	
Uniform Delay, d1	9.2	13.0	9.6	4.9	4.0			50.6	39.7		46.9	
Progression Factor	1.00	1.00	1.00	3.23	1.27			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.9	0.2	0.1	0.3			8.2	9.1		0.1	
Delay (s)	9.3	13.9	9.8	15.8	5.4			58.8	48.8		46.9	
Level of Service	A	B	A	B	A			E	D		D	
Approach Delay (s)		13.4			7.0			50.7			46.9	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 1: SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	973	128	125	677	6	92	3	398	4	0	0
Future Volume (veh/h)	8	973	128	125	677	6	92	3	398	4	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	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	1767	1767	1767	1678	1678	1678	1781	1781	1781	1530	1530	1530
Adj Flow Rate, veh/h	8	1024	109	132	713	6	97	3	324	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	514	2165	944	347	2209	19	350	10	380	197	0	0
Arrive On Green	0.01	0.65	0.65	0.09	1.00	1.00	0.21	0.21	0.21	0.21	0.00	0.00
Sat Flow, veh/h	1682	3357	1463	1598	3239	27	1398	48	1486	656	0	0
Grp Volume(v), veh/h	8	1024	109	132	351	368	100	0	324	4	0	0
Grp Sat Flow(s),veh/h/ln	1682	1678	1463	1598	1594	1673	1445	0	1486	656	0	0
Q Serve(g_s), s	0.2	18.7	3.4	3.4	0.0	0.0	0.0	0.0	24.9	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.2	18.7	3.4	3.4	0.0	0.0	5.9	0.0	24.9	6.4	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	514	2165	944	347	1087	1141	360	0	380	197	0	0
V/C Ratio(X)	0.02	0.47	0.12	0.38	0.32	0.32	0.28	0.00	0.85	0.02	0.00	0.00
Avail Cap(c_a), veh/h	582	2165	944	672	1087	1141	360	0	380	197	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	10.9	8.2	8.1	0.0	0.0	40.0	0.0	42.6	42.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.2	0.2	0.7	0.6	0.2	0.0	16.1	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	6.3	1.0	0.9	0.2	0.2	2.5	0.0	10.8	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	11.6	8.4	8.4	0.7	0.6	40.1	0.0	58.7	42.7	0.0	0.0
LnGrp LOS	A	B	A	A	A	A	D	A	E	D	A	A
Approach Vol, veh/h		1141			851			424				4
Approach Delay, s/veh		11.3			1.8			54.3				42.7
Approach LOS		B			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	81.4		29.0	5.2	85.8		29.0				
Change Period (Y+Rc), s	4.0	5.5		4.0	4.0	5.5		4.0				
Max Green Setting (Gmax), s	30.0	51.5		25.0	6.0	75.5		25.0				
Max Q Clear Time (g_c+I1), s	5.4	20.7		8.4	2.2	2.0		26.9				
Green Ext Time (p_c), s	0.2	21.6		0.0	0.0	19.9		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				15.6								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↗		↖	↗↗		↖	↗		↖	↗	
Traffic Volume (vph)	174	1142	68	62	755	224	15	2	11	62	9	35
Future Volume (vph)	174	1142	68	62	755	224	15	2	11	62	9	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.5	4.0		4.5	4.5		4.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.87		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	3310		1583	3044		1805	1659		1399	1296	
Flt Permitted	0.21	1.00		0.18	1.00		0.73	1.00		0.49	1.00	
Satd. Flow (perm)	368	3310		299	3044		1383	1659		716	1296	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	181	1190	71	65	786	233	16	2	11	65	9	36
RTOR Reduction (vph)	0	2	0	0	14	0	0	10	0	0	31	0
Lane Group Flow (vph)	181	1259	0	65	1005	0	16	3	0	65	14	0
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	8%	8%	8%	14%	14%	14%	0%	0%	0%	29%	29%	29%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	87.9	78.4		77.5	72.5		8.9	6.9		21.6	15.1	
Effective Green, g (s)	87.9	79.9		77.5	74.0		8.9	6.9		22.6	15.1	
Actuated g/C Ratio	0.73	0.67		0.65	0.62		0.07	0.06		0.19	0.13	
Clearance Time (s)	4.0	5.5		4.5	5.5		4.5	4.5		5.0	5.0	
Vehicle Extension (s)	1.5	3.5		3.0	3.5		3.0	3.0		2.0	2.0	
Lane Grp Cap (vph)	393	2203		246	1877		109	95		198	163	
v/s Ratio Prot	c0.04	c0.38		0.01	0.33		0.00	0.00		c0.03	0.01	
v/s Ratio Perm	0.29			0.16			0.01			c0.03		
v/c Ratio	0.46	0.57		0.26	0.54		0.15	0.03		0.33	0.08	
Uniform Delay, d1	7.3	10.8		8.8	13.2		51.9	53.4		41.5	46.3	
Progression Factor	1.53	0.96		0.77	0.69		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.9		0.5	0.9		0.6	0.1		0.4	0.1	
Delay (s)	11.5	11.3		7.2	10.0		52.5	53.5		41.9	46.4	
Level of Service	B	B		A	A		D	D		D	D	
Approach Delay (s)		11.3			9.8			53.0			43.7	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

# HCM 6th Signalized Intersection Summary

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	174	1142	68	62	755	224	15	2	11	62	9	35
Future Volume (veh/h)	174	1142	68	62	755	224	15	2	11	62	9	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1781	1781	1781	1693	1693	1693	1900	1900	1900	1470	1470	1470
Adj Flow Rate, veh/h	181	1190	71	65	786	217	16	2	11	65	9	36
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, %	8	8	8	14	14	14	0	0	0	29	29	29
Cap, veh/h	515	2307	137	394	1739	480	144	10	53	197	22	86
Arrive On Green	0.10	1.00	1.00	0.07	1.00	1.00	0.02	0.04	0.04	0.07	0.08	0.09
Sat Flow, veh/h	1697	3241	193	1612	2477	684	1810	254	1395	1400	257	1028
Grp Volume(v), veh/h	181	621	640	65	510	493	16	0	13	65	0	45
Grp Sat Flow(s),veh/h/ln	1697	1692	1741	1612	1608	1553	1810	0	1649	1400	0	1285
Q Serve(g_s), s	4.0	0.0	0.0	1.4	0.0	0.0	1.0	0.0	0.9	5.1	0.0	4.0
Cycle Q Clear(g_c), s	4.0	0.0	0.0	1.4	0.0	0.0	1.0	0.0	0.9	5.1	0.0	4.0
Prop In Lane	1.00		0.11	1.00		0.44	1.00		0.85	1.00		0.80
Lane Grp Cap(c), veh/h	515	1205	1239	394	1129	1090	144	0	63	197	0	108
V/C Ratio(X)	0.35	0.52	0.52	0.16	0.45	0.45	0.11	0.00	0.21	0.33	0.00	0.42
Avail Cap(c_a), veh/h	546	1205	1239	406	1129	1090	190	0	385	371	0	481
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.3	0.0	0.0	4.5	0.0	0.0	54.0	0.0	56.0	47.6	0.0	51.8
Incr Delay (d2), s/veh	0.1	1.2	1.2	0.2	1.1	1.1	0.3	0.0	1.6	0.4	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	1.0	0.4	0.4	0.4	0.3	0.3	0.5	0.0	0.4	1.8	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.4	1.2	1.2	4.7	1.1	1.1	54.4	0.0	57.6	48.0	0.0	52.7
LnGrp LOS	A	A	A	A	A	A	D	A	E	D	A	D
Approach Vol, veh/h		1442			1068			29				110
Approach Delay, s/veh		1.6			1.3			55.8				49.9
Approach LOS		A			A			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	89.4	6.6	15.1	10.1	88.3	12.1	9.6				
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.0	5.5	5.0	* 5				
Max Green Setting (Gmax), s	5.3	45.2	5.1	44.9	8.3	42.7	22.0	* 28				
Max Q Clear Time (g_c+I1), s	3.4	2.0	3.0	6.0	6.0	2.0	7.1	2.9				
Green Ext Time (p_c), s	0.0	38.0	0.0	0.2	0.1	31.3	0.1	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	4.1
HCM 6th LOS	A

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	1013	128	127	691	200	273	229	101	181	233	76
Future Volume (vph)	75	1013	128	127	691	200	273	229	101	181	233	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3127	3223	1423	3072	3167	1402	3155	3102		3072	1667	1402
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3127	3223	1423	3072	3167	1402	3155	3102		3072	1667	1402
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	1089	138	137	743	215	294	246	109	195	251	82
RTOR Reduction (vph)	0	0	57	0	0	89	0	44	0	0	0	63
Lane Group Flow (vph)	81	1089	81	137	743	126	294	311	0	195	251	19
Confl. Peds. (#/hr)			2	2			1					1
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	12%	12%	12%	14%	14%	14%	11%	11%	11%	14%	14%	14%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Actuated Green, G (s)	6.6	57.2	70.4	8.8	59.4	70.6	13.2	23.8		11.2	21.8	28.4
Effective Green, g (s)	6.6	58.7	70.4	8.8	60.9	70.6	13.2	25.3		11.2	23.3	28.4
Actuated g/C Ratio	0.05	0.49	0.59	0.07	0.51	0.59	0.11	0.21		0.09	0.19	0.24
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	4.0
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	1.5
Lane Grp Cap (vph)	171	1576	834	225	1607	824	347	654		286	323	331
v/s Ratio Prot	0.03	c0.34	0.01	c0.04	0.23	0.01	c0.09	0.10		0.06	c0.15	0.00
v/s Ratio Perm			0.05			0.08						0.01
v/c Ratio	0.47	0.69	0.10	0.61	0.46	0.15	0.85	0.48		0.68	0.78	0.06
Uniform Delay, d1	55.0	23.7	10.9	53.9	19.0	11.2	52.4	41.5		52.7	45.9	35.5
Progression Factor	1.16	0.52	0.79	1.06	0.91	2.69	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	2.2	0.0	3.0	0.9	0.0	16.5	0.2		5.3	10.2	0.0
Delay (s)	64.5	14.4	8.6	60.0	18.3	30.1	68.9	41.7		57.9	56.1	35.5
Level of Service	E	B	A	E	B	C	E	D		E	E	D
Approach Delay (s)		16.9			25.8			54.0			53.6	
Approach LOS		B			C			D			D	

### Intersection Summary

HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

# HCM 6th Signalized Intersection Summary

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗↘	↗↗	↗	↗↘	↗↗	↗	↗↘	↗↘		↗↘	↗	↗
Traffic Volume (veh/h)	75	1013	128	127	691	200	273	229	101	181	233	76
Future Volume (veh/h)	75	1013	128	127	691	200	273	229	101	181	233	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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	1722	1722	1722	1693	1693	1693	1737	1737	1737	1693	1693	1693
Adj Flow Rate, veh/h	81	1089	122	137	743	140	294	246	87	195	251	60
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, %	12	12	12	14	14	14	11	11	11	14	14	14
Cap, veh/h	125	1663	871	194	1707	851	349	516	178	257	318	307
Arrive On Green	0.08	1.00	0.99	0.02	0.18	0.17	0.11	0.21	0.20	0.08	0.19	0.18
Sat Flow, veh/h	3182	3272	1437	3127	3216	1415	3209	2407	829	3127	1693	1432
Grp Volume(v), veh/h	81	1089	122	137	743	140	294	167	166	195	251	60
Grp Sat Flow(s),veh/h/ln	1591	1636	1437	1564	1608	1415	1605	1650	1586	1564	1693	1432
Q Serve(g_s), s	3.0	0.0	0.1	5.2	24.8	8.4	10.8	10.6	11.1	7.3	17.0	4.1
Cycle Q Clear(g_c), s	3.0	0.0	0.1	5.2	24.8	8.4	10.8	10.6	11.1	7.3	17.0	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	125	1663	871	194	1707	851	349	354	340	257	318	307
V/C Ratio(X)	0.65	0.65	0.14	0.71	0.44	0.16	0.84	0.47	0.49	0.76	0.79	0.20
Avail Cap(c_a), veh/h	186	1663	871	266	1707	851	369	408	393	341	409	385
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.2	57.7	33.4	19.4	52.5	41.2	41.8	53.9	46.5	38.6
Incr Delay (d2), s/veh	1.8	1.7	0.3	2.4	0.8	0.4	14.3	0.4	0.4	4.5	5.8	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	1.2	0.4	0.1	2.1	10.8	2.9	4.9	4.2	4.3	3.0	7.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	1.7	0.4	60.1	34.2	19.8	66.8	41.6	42.2	58.4	52.3	38.8
LnGrp LOS	E	A	A	E	C	B	E	D	D	E	D	D
Approach Vol, veh/h		1292			1020			627			506	
Approach Delay, s/veh		5.0			35.7			53.5			53.0	
Approach LOS		A			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	65.0	17.1	26.5	8.7	67.7	13.9	29.7				
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	10.2	49.5	13.8	27.5	7.0	52.7	13.1	28.2				
Max Q Clear Time (g_c+I1), s	7.2	2.1	12.8	19.0	5.0	26.8	9.3	13.1				
Green Ext Time (p_c), s	0.3	36.4	0.3	1.8	0.1	17.4	0.6	3.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			30.0									
HCM 6th LOS			C									



Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1252	41	0	1037	0	16
Future Vol, veh/h	1252	41	0	1037	0	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	-	130	-	-	-	0
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	13	13	93	93
Mvmt Flow	1318	43	0	1092	0	17

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	659
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	8.76
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	4.23
Pot Cap-1 Maneuver	-	-	0	-	246
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	246
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	246	-	-	-
HCM Lane V/C Ratio	0.068	-	-	-
HCM Control Delay (s)	20.7	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-



# HCM Signalized Intersection Capacity Analysis

## 5: SW 115th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1126	137	220	975	11	60	0	89	3	1	2
Future Volume (vph)	5	1126	137	220	975	11	60	0	89	3	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.5		4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00		0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1641	3282	1449	3127	3217		1337		1187	1538	1462	
Flt Permitted	0.27	1.00	1.00	0.95	1.00		0.76		1.00	0.76	1.00	
Satd. Flow (perm)	471	3282	1449	3127	3217		1064		1187	1226	1462	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1198	146	234	1037	12	64	0	95	3	1	2
RTOR Reduction (vph)	0	0	42	0	0	0	0	0	39	0	2	0
Lane Group Flow (vph)	5	1198	104	234	1049	0	64	0	56	3	1	0
Confl. Peds. (#/hr)	2					2			2	2		
Confl. Bikes (#/hr)			4			2						
Heavy Vehicles (%)	10%	10%	10%	12%	12%	12%	35%	35%	35%	17%	17%	17%
Turn Type	pm+pt	NA	Perm	Prot	NA		Perm		pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Actuated Green, G (s)	80.8	79.8	79.8	12.9	91.7		12.8		25.7	12.8	12.8	
Effective Green, g (s)	81.8	81.3	81.3	13.4	93.2		12.8		26.7	13.3	13.3	
Actuated g/C Ratio	0.68	0.68	0.68	0.11	0.78		0.11		0.22	0.11	0.11	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5		4.5	4.5	4.5	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	335	2223	981	349	2498		113		303	135	162	
v/s Ratio Prot	0.00	c0.37		c0.07	0.33				0.02		0.00	
v/s Ratio Perm	0.01		0.07				c0.06		0.03	0.00		
v/c Ratio	0.01	0.54	0.11	0.67	0.42		0.57		0.19	0.02	0.01	
Uniform Delay, d1	6.1	9.8	6.7	51.2	4.4		51.0		37.8	47.6	47.5	
Progression Factor	0.43	0.47	0.21	0.93	0.96		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.7	0.2	2.8	0.4		3.8		0.1	0.0	0.0	
Delay (s)	2.6	5.3	1.6	50.6	4.6		54.8		37.9	47.6	47.5	
Level of Service	A	A	A	D	A		D		D	D	D	
Approach Delay (s)		4.9			13.0			44.7			47.5	
Approach LOS		A			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			11.0			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			58.0%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

# HCM 6th Signalized Intersection Summary

## 5: SW 115th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1126	137	220	975	11	60	0	89	3	1	2
Future Volume (veh/h)	5	1126	137	220	975	11	60	0	89	3	1	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	0.99		0.99	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	1752	1752	1752	1722	1722	1722	1381	1381	1381	1648	1648	1648
Adj Flow Rate, veh/h	5	1198	119	234	1037	12	64	0	63	3	1	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
Percent Heavy Veh, %	10	10	10	12	12	12	35	35	35	17	17	17
Cap, veh/h	428	2371	1043	303	2640	31	150	128	219	168	45	90
Arrive On Green	0.01	0.71	0.71	0.10	0.80	0.78	0.09	0.00	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1668	3328	1464	3182	3312	38	1037	1381	1163	1173	488	976
Grp Volume(v), veh/h	5	1198	119	234	512	537	64	0	63	3	0	3
Grp Sat Flow(s),veh/h/ln	1668	1664	1464	1591	1636	1714	1037	1381	1163	1173	0	1464
Q Serve(g_s), s	0.1	19.4	3.1	8.6	11.1	11.1	7.2	0.0	5.6	0.3	0.0	0.2
Cycle Q Clear(g_c), s	0.1	19.4	3.1	8.6	11.1	11.1	7.4	0.0	5.6	0.3	0.0	0.2
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	428	2371	1043	303	1304	1366	150	128	219	168	0	135
V/C Ratio(X)	0.01	0.51	0.11	0.77	0.39	0.39	0.43	0.00	0.29	0.02	0.00	0.02
Avail Cap(c_a), veh/h	487	2371	1043	424	1304	1366	309	340	397	348	0	360
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	0.63	0.63	0.63	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.9	7.8	5.4	53.0	3.6	3.6	53.4	0.0	41.9	49.5	0.0	49.7
Incr Delay (d2), s/veh	0.0	0.8	0.2	2.2	0.6	0.5	0.7	0.0	0.3	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	0.0	5.9	0.8	3.4	2.6	2.7	1.9	0.0	1.6	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.9	8.5	5.6	55.2	4.2	4.1	54.1	0.0	42.1	49.6	0.0	49.7
LnGrp LOS	A	A	A	E	A	A	D	A	D	D	A	D
Approach Vol, veh/h		1322			1283			127				6
Approach Delay, s/veh		8.3			13.5			48.2				49.6
Approach LOS		A			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.4	89.5		15.1	5.3	99.6		15.1				
Change Period (Y+Rc), s	4.5	5.5		4.5	4.5	5.5		4.5				
Max Green Setting (Gmax), s	15.5	61.0		29.0	5.0	71.5		29.0				
Max Q Clear Time (g_c+I1), s	10.6	21.4		2.3	2.1	13.1		9.4				
Green Ext Time (p_c), s	0.3	30.0		0.0	0.0	31.7		0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				12.6								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	853	298	20	878	125	309	64	17	27	10	16
Future Volume (vph)	76	853	298	20	878	125	309	64	17	27	10	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.4	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.97		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1626	3252	1422	1570	3071		1703	1733		1347	1289	
Flt Permitted	0.16	1.00	1.00	0.22	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	281	3252	1422	366	3071		1703	1733		1347	1289	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	927	324	22	954	136	336	70	18	29	11	17
RTOR Reduction (vph)	0	0	156	0	7	0	0	9	0	0	16	0
Lane Group Flow (vph)	83	927	168	22	1083	0	336	79	0	29	12	0
Confl. Peds. (#/hr)	1						1		1	1		
Confl. Bikes (#/hr)			4			2						
Heavy Vehicles (%)	11%	11%	11%	15%	15%	15%	6%	6%	6%	34%	34%	34%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								
Actuated Green, G (s)	70.0	62.3	62.3	65.8	60.2		25.8	28.8		5.3	8.3	
Effective Green, g (s)	70.0	63.8	62.4	65.8	61.7		25.8	29.3		5.3	8.8	
Actuated g/C Ratio	0.58	0.53	0.52	0.55	0.51		0.22	0.24		0.04	0.07	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	250	1728	739	256	1579		366	423		59	94	
v/s Ratio Prot	c0.02	0.29		0.00	c0.35		c0.20	c0.05		0.02	0.01	
v/s Ratio Perm	0.17		0.12	0.04								
v/c Ratio	0.33	0.54	0.23	0.09	0.69		0.92	0.19		0.49	0.13	
Uniform Delay, d1	27.5	18.4	15.7	22.0	21.9		46.1	35.9		56.0	52.0	
Progression Factor	0.45	0.45	0.40	1.00	1.00		1.00	1.00		0.90	1.08	
Incremental Delay, d2	0.7	1.1	0.6	0.1	2.4		27.2	0.2		6.3	0.6	
Delay (s)	13.0	9.4	6.9	22.2	24.3		73.2	36.1		56.6	57.0	
Level of Service	B	A	A	C	C		E	D		E	E	
Approach Delay (s)		9.0			24.3			65.5			56.8	
Approach LOS		A			C			E			E	

### Intersection Summary

HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷	↷	↶	↷		↶	↷		↶	↷	
Traffic Volume (veh/h)	76	853	298	20	878	125	309	64	17	27	10	16
Future Volume (veh/h)	76	853	298	20	878	125	309	64	17	27	10	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	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	1737	1737	1737	1678	1678	1678	1811	1811	1811	1396	1396	1396
Adj Flow Rate, veh/h	83	927	275	22	954	87	336	70	13	29	11	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	15	15	15	6	6	6	34	34	34
Cap, veh/h	478	1186	499	489	1079	98	361	349	65	34	31	34
Arrive On Green	0.16	0.24	0.23	0.25	0.37	0.37	0.21	0.24	0.23	0.03	0.05	0.05
Sat Flow, veh/h	1654	3300	1434	1598	2947	269	1725	1485	276	1330	608	663
Grp Volume(v), veh/h	83	927	275	22	516	525	336	0	83	29	0	23
Grp Sat Flow(s),veh/h/ln	1654	1650	1434	1598	1594	1622	1725	0	1761	1330	0	1272
Q Serve(g_s), s	0.0	31.5	11.3	0.0	36.4	36.4	22.9	0.0	4.5	2.6	0.0	2.1
Cycle Q Clear(g_c), s	0.0	31.5	11.3	0.0	36.4	36.4	22.9	0.0	4.5	2.6	0.0	2.1
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.16	1.00		0.52
Lane Grp Cap(c), veh/h	478	1186	499	489	584	594	361	0	414	34	0	66
V/C Ratio(X)	0.17	0.78	0.55	0.05	0.88	0.88	0.93	0.00	0.20	0.84	0.00	0.35
Avail Cap(c_a), veh/h	478	1238	521	489	594	604	374	0	650	102	0	291
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.6	41.2	11.7	28.4	35.6	35.6	46.6	0.0	36.9	58.2	0.0	55.1
Incr Delay (d2), s/veh	0.1	4.4	3.7	0.0	17.6	17.4	29.0	0.0	0.2	39.4	0.0	3.2
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	2.0	13.8	4.3	0.4	16.3	16.5	12.6	0.0	2.0	1.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	45.6	15.4	28.4	53.2	53.0	75.6	0.0	37.1	97.6	0.0	58.3
LnGrp LOS	D	D	B	C	D	D	E	A	D	F	A	E
Approach Vol, veh/h		1285			1063			419				52
Approach Delay, s/veh		38.6			52.6			67.9				80.2
Approach LOS		D			D			E				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.6	47.1	29.1	10.2	32.7	47.9	7.1	32.2				
Change Period (Y+Rc), s	4.0	5.5	4.0	4.5	4.0	5.5	4.0	4.5				
Max Green Setting (Gmax), s	5.5	43.5	26.0	27.0	5.8	43.2	9.2	43.8				
Max Q Clear Time (g_c+I1), s	2.0	33.5	24.9	4.1	2.0	38.4	4.6	6.5				
Green Ext Time (p_c), s	0.0	8.1	0.2	0.1	0.1	4.0	0.0	0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			49.0									
HCM 6th LOS			D									

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	8	237	162	30	85
Future Vol, veh/h	20	8	237	162	30	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	5	5	10	10	17	17
Mvmt Flow	27	11	320	219	41	115

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	627	430	0	0	539
Stage 1	430	-	-	-	-
Stage 2	197	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.27
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.353
Pot Cap-1 Maneuver	443	619	-	-	958
Stage 1	650	-	-	-	-
Stage 2	829	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	423	619	-	-	958
Mov Cap-2 Maneuver	423	-	-	-	-
Stage 1	650	-	-	-	-
Stage 2	791	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	2.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	465	958
HCM Lane V/C Ratio	-	-	0.081	0.042
HCM Control Delay (s)	-	-	13.4	8.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	175	63	55	120	1	92	1	152	2	0	0
Future Vol, veh/h	2	175	63	55	120	1	92	1	152	2	0	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	20	20	20	9	9	9	14	14	14	0	0	0
Mvmt Flow	3	236	85	74	162	1	124	1	205	3	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.5	11.8	13.6	9.4
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	38%	1%	31%	100%
Vol Thru, %	0%	73%	68%	0%
Vol Right, %	62%	26%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	240	176	2
LT Vol	92	2	55	2
Through Vol	1	175	120	0
RT Vol	152	63	1	0
Lane Flow Rate	331	324	238	3
Geometry Grp	1	1	1	1
Degree of Util (X)	0.494	0.488	0.368	0.005
Departure Headway (Hd)	5.367	5.418	5.57	6.282
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	672	665	647	568
Service Time	3.401	3.45	3.605	4.339
HCM Lane V/C Ratio	0.493	0.487	0.368	0.005
HCM Control Delay	13.6	13.5	11.8	9.4
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	2.7	2.7	1.7	0

HCM 6th TWSC  
9: SW 124th Avenue & SW Cimino Street

12/06/2021

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	5	0	2	0	469	36	15	485	0
Future Vol, veh/h	0	0	0	5	0	2	0	469	36	15	485	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	43	43	43	17	17	17	20	20	20
Mvmt Flow	0	0	0	6	0	2	0	521	40	17	539	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	834	1134	270	845	1114	281	539	0	0	561	0	0
Stage 1	573	573	-	541	541	-	-	-	-	-	-	-
Stage 2	261	561	-	304	573	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	8.36	7.36	7.76	4.44	-	-	4.5	-	-
Critical Hdwy Stg 1	6.6	5.6	-	7.36	6.36	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	7.36	6.36	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.93	4.43	3.73	2.37	-	-	2.4	-	-
Pot Cap-1 Maneuver	256	197	719	197	153	607	928	-	-	892	-	-
Stage 1	464	495	-	401	428	-	-	-	-	-	-	-
Stage 2	713	501	-	578	412	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	251	193	719	194	150	607	928	-	-	892	-	-
Mov Cap-2 Maneuver	251	193	-	194	150	-	-	-	-	-	-	-
Stage 1	464	486	-	401	428	-	-	-	-	-	-	-
Stage 2	710	501	-	567	404	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB		
HCM Control Delay, s	0		20.4		0		0.3		
HCM LOS	A		C						

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	928	-	-	-	241	892	-
HCM Lane V/C Ratio	-	-	-	-	0.032	0.019	-
HCM Control Delay (s)	0	-	-	0	20.4	9.1	-
HCM Lane LOS	A	-	-	A	C	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	
Traffic Vol, veh/h	0	12	0	471	488	103
Future Vol, veh/h	0	12	0	471	488	103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	17	17	20	20
Mvmt Flow	0	13	0	523	542	114

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	861	328	656	0	-	0
Stage 1	599	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Critical Hdwy	6.9	7	4.44	-	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.55	3.35	2.37	-	-	-
Pot Cap-1 Maneuver	289	659	833	-	-	-
Stage 1	503	-	-	-	-	-
Stage 2	749	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	289	659	833	-	-	-
Mov Cap-2 Maneuver	289	-	-	-	-	-
Stage 1	503	-	-	-	-	-
Stage 2	749	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	833	-	659	-	-
HCM Lane V/C Ratio	-	-	0.02	-	-
HCM Control Delay (s)	0	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



HCM 6th TWSC  
 11: SW 124th Avenue & SW Myslony Street

12/06/2021

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	1	3	60	1	19	18	413	40	45	528	25
Future Vol, veh/h	4	1	3	60	1	19	18	413	40	45	528	25
Conflicting Peds, #/hr	3	0	1	1	0	3	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	13	13	13	41	41	41	18	18	18	17	17	17
Mvmt Flow	5	1	4	71	1	23	21	492	48	54	629	30

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1045	1335	332	982	1326	273	660	0	0	540	0	0
Stage 1	753	753	-	558	558	-	-	-	-	-	-	-
Stage 2	292	582	-	424	768	-	-	-	-	-	-	-
Critical Hdwy	7.76	6.76	7.16	8.32	7.32	7.72	4.46	-	-	4.44	-	-
Critical Hdwy Stg 1	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.63	4.13	3.43	3.91	4.41	3.71	2.38	-	-	2.37	-	-
Pot Cap-1 Maneuver	169	139	633	155	111	620	824	-	-	927	-	-
Stage 1	344	390	-	395	423	-	-	-	-	-	-	-
Stage 2	662	471	-	485	327	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	151	127	632	143	102	618	823	-	-	927	-	-
Mov Cap-2 Maneuver	151	127	-	143	102	-	-	-	-	-	-	-
Stage 1	335	367	-	385	412	-	-	-	-	-	-	-
Stage 2	618	459	-	452	308	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	23.4		48.2		0.4		0.7	
HCM LOS	C		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	823	-	-	205	174	927	-
HCM Lane V/C Ratio	0.026	-	-	0.046	0.547	0.058	-
HCM Control Delay (s)	9.5	-	-	23.4	48.2	9.1	-
HCM Lane LOS	A	-	-	C	E	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	2.8	0.2	-

# HCM Signalized Intersection Capacity Analysis

## 12: SW 124th Avenue & SW Herman Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	232	103	55	161	40	39	331	66	183	439	82
Future Volume (vph)	38	232	103	55	161	40	39	331	66	183	439	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.97		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1604		1597	1627		1504	2922		1702	3314	
Flt Permitted	0.58	1.00		0.29	1.00		0.43	1.00		0.32	1.00	
Satd. Flow (perm)	968	1604		490	1627		683	2922		573	3314	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	43	261	116	62	181	45	44	372	74	206	493	92
RTOR Reduction (vph)	0	14	0	0	8	0	0	14	0	0	13	0
Lane Group Flow (vph)	43	363	0	62	218	0	44	432	0	206	572	0
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	6%	6%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.3	25.7		32.5	27.8		24.6	21.2		37.8	29.4	
Effective Green, g (s)	30.3	27.2		34.5	29.3		26.6	22.7		38.8	30.9	
Actuated g/C Ratio	0.36	0.32		0.41	0.35		0.32	0.27		0.46	0.37	
Clearance Time (s)	5.0	5.5		5.0	5.5		5.0	5.5		5.0	5.5	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	375	518		275	566		258	787		432	1216	
v/s Ratio Prot	0.00	c0.23		c0.02	0.13		0.01	c0.15		c0.07	0.17	
v/s Ratio Perm	0.04			0.08			0.04			0.15		
v/c Ratio	0.11	0.70		0.23	0.39		0.17	0.55		0.48	0.47	
Uniform Delay, d1	17.7	24.9		16.4	20.7		20.3	26.4		14.6	20.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	4.3		0.2	0.4		0.1	0.8		0.3	0.3	
Delay (s)	17.8	29.2		16.5	21.1		20.4	27.2		14.9	20.7	
Level of Service	B	C		B	C		C	C		B	C	
Approach Delay (s)		28.0			20.1			26.5			19.2	
Approach LOS		C			C			C			B	

### Intersection Summary

HCM 2000 Control Delay	23.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	84.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 12: SW 124th Avenue & SW Herman Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	38	232	103	55	161	40	39	331	66	183	439	82
Future Volume (veh/h)	38	232	103	55	161	40	39	331	66	183	439	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
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	1707	1707	1707	1707	1707	1707	1604	1604	1604	1811	1811	1811
Adj Flow Rate, veh/h	43	261	0	62	181	0	44	372	74	206	493	92
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	13	13	13	13	13	13	20	20	20	6	6	6
Cap, veh/h	408	408		354	429		352	621	122	465	916	170
Arrive On Green	0.06	0.24	0.00	0.08	0.25	0.00	0.06	0.25	0.22	0.14	0.32	0.29
Sat Flow, veh/h	1626	1707	0	1626	1707	0	1527	2526	497	1725	2885	535
Grp Volume(v), veh/h	43	261	0	62	181	0	44	223	223	206	293	292
Grp Sat Flow(s),veh/h/ln	1626	1707	0	1626	1707	0	1527	1523	1500	1725	1721	1700
Q Serve(g_s), s	1.0	7.2	0.0	1.5	4.7	0.0	1.1	6.8	7.0	4.2	7.4	7.5
Cycle Q Clear(g_c), s	1.0	7.2	0.0	1.5	4.7	0.0	1.1	6.8	7.0	4.2	7.4	7.5
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.33	1.00		0.31
Lane Grp Cap(c), veh/h	408	408		354	429		352	375	369	465	546	540
V/C Ratio(X)	0.11	0.64		0.18	0.42		0.12	0.59	0.61	0.44	0.54	0.54
Avail Cap(c_a), veh/h	490	1361		478	1425		486	925	911	951	1502	1484
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.7	18.0	0.0	13.7	16.5	0.0	13.4	17.6	17.8	11.5	14.8	15.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.1	0.7	0.0	0.1	1.5	1.6	0.2	0.8	0.8
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	0.3	2.7	0.0	0.5	1.7	0.0	0.3	2.1	2.1	1.2	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	19.7	0.0	13.8	17.2	0.0	13.5	19.1	19.5	11.8	15.6	15.9
LnGrp LOS	B	B		B	B		B	B	B	B	B	B
Approach Vol, veh/h		304	A		243	A		490			791	
Approach Delay, s/veh		18.8			16.3			18.7			14.7	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	17.0	8.0	16.6	7.4	20.7	7.3	17.3				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5	5.0	5.5	5.0	5.5				
Max Green Setting (Gmax), s	21.0	30.5	7.0	40.5	7.0	44.5	5.0	42.5				
Max Q Clear Time (g_c+I1), s	6.2	9.0	3.5	9.2	3.1	9.5	3.0	6.7				
Green Ext Time (p_c), s	0.2	2.4	0.0	1.6	0.0	3.5	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

# HCM Signalized Intersection Capacity Analysis

## 1: SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	856	125	403	1112	8	134	1	188	12	11	8
Future Volume (vph)	7	856	125	403	1112	8	134	1	188	12	11	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1736	3471	1512	1752	3500			1740	1545		1797	
Flt Permitted	0.23	1.00	1.00	0.22	1.00			0.78	1.00		0.88	
Satd. Flow (perm)	427	3471	1512	401	3500			1420	1545		1612	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	8	920	134	433	1196	9	144	1	202	13	12	9
RTOR Reduction (vph)	0	0	55	0	0	0	0	0	28	0	8	0
Lane Group Flow (vph)	8	920	79	433	1205	0	0	145	174	0	26	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			3						
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	64.5	63.5	63.5	93.9	88.9			16.6	43.0		16.6	
Effective Green, g (s)	64.5	65.0	65.0	93.9	90.4			16.6	43.0		16.6	
Actuated g/C Ratio	0.54	0.54	0.54	0.78	0.75			0.14	0.36		0.14	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5			4.0	4.0		4.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5			1.5	1.5		1.5	
Lane Grp Cap (vph)	240	1880	819	611	2636			196	605		222	
v/s Ratio Prot	0.00	0.27		c0.16	0.34				0.06			
v/s Ratio Perm	0.02		0.05	c0.40				c0.10	0.05		0.02	
v/c Ratio	0.03	0.49	0.10	0.71	0.46			0.74	0.29		0.12	
Uniform Delay, d1	13.1	17.2	13.3	11.9	5.6			49.6	27.6		45.3	
Progression Factor	1.00	1.00	1.00	0.62	0.73			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.9	0.2	2.5	0.5			11.9	0.1		0.1	
Delay (s)	13.1	18.1	13.5	9.9	4.5			61.5	27.6		45.4	
Level of Service	B	B	B	A	A			E	C		D	
Approach Delay (s)		17.5			5.9			41.8			45.4	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 1: SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗			↖	↗		↕	
Traffic Volume (veh/h)	7	856	125	403	1112	8	134	1	188	12	11	8
Future Volume (veh/h)	7	856	125	403	1112	8	134	1	188	12	11	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1841	1841	1841	1900	1900	1900
Adj Flow Rate, veh/h	8	920	102	433	1196	9	144	1	127	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	276	2010	877	491	2445	18	219	1	507	50	44	19
Arrive On Green	0.01	0.57	0.57	0.08	0.46	0.46	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1753	3497	1525	1767	3586	27	764	5	1558	41	210	90
Grp Volume(v), veh/h	8	920	102	433	588	617	145	0	127	34	0	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1525	1767	1763	1850	769	0	1558	341	0	0
Q Serve(g_s), s	0.2	18.2	3.7	11.2	28.0	28.0	0.0	0.0	7.2	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.2	18.2	3.7	11.2	28.0	28.0	23.3	0.0	7.2	23.7	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	276	2010	877	491	1202	1261	220	0	507	112	0	0
V/C Ratio(X)	0.03	0.46	0.12	0.88	0.49	0.49	0.66	0.00	0.25	0.30	0.00	0.00
Avail Cap(c_a), veh/h	341	2010	877	830	1202	1261	220	0	507	112	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.71	0.71	0.71	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.0	14.7	11.6	15.8	18.0	18.0	46.8	0.0	29.7	40.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.3	2.2	1.0	1.0	5.7	0.0	0.1	0.6	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	6.8	1.2	5.7	12.2	12.8	4.6	0.0	2.7	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.0	15.5	11.9	18.0	19.0	18.9	52.5	0.0	29.8	40.6	0.0	0.0
LnGrp LOS	B	B	B	B	B	B	D	A	C	D	A	A
Approach Vol, veh/h		1030			1638			272				34
Approach Delay, s/veh		15.1			18.7			41.9				40.6
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	73.0		29.0	5.2	85.8		29.0				
Change Period (Y+Rc), s	4.0	5.5		4.0	4.0	5.5		4.0				
Max Green Setting (Gmax), s	37.0	44.5		25.0	5.6	75.9		25.0				
Max Q Clear Time (g_c+I1), s	13.2	20.2		25.7	2.2	30.0		25.3				
Green Ext Time (p_c), s	0.9	16.5		0.0	0.0	32.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				19.8								
HCM 6th LOS				B								

HCM Signalized Intersection Capacity Analysis  
 2: SW Tualatin Sherwood Road & SW Cipole Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑		↘	↑↑		↘	↑		↘	↑	
Traffic Volume (vph)	45	1022	18	17	1299	31	60	9	45	158	2	162
Future Volume (vph)	45	1022	18	17	1299	31	60	9	45	158	2	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.5	4.0		4.5	4.5		4.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.88		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3460		1752	3490		1805	1663		1736	1556	
Flt Permitted	0.10	1.00		0.19	1.00		0.64	1.00		0.51	1.00	
Satd. Flow (perm)	188	3460		353	3490		1225	1663		938	1556	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	1111	20	18	1412	34	65	10	49	172	2	176
RTOR Reduction (vph)	0	1	0	0	1	0	0	45	0	0	144	0
Lane Group Flow (vph)	49	1130	0	18	1445	0	65	14	0	172	34	0
Confl. Peds. (#/hr)	1		2	2		1						
Confl. Bikes (#/hr)			6			4						
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	0%	0%	0%	4%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	77.2	72.9		73.7	71.4		13.7	9.5		29.8	21.1	
Effective Green, g (s)	77.2	74.4		73.7	72.9		13.7	9.5		30.8	21.1	
Actuated g/C Ratio	0.64	0.62		0.61	0.61		0.11	0.08		0.26	0.18	
Clearance Time (s)	4.0	5.5		4.5	5.5		4.5	4.5		5.0	5.0	
Vehicle Extension (s)	1.5	3.5		3.0	3.5		3.0	3.0		2.0	2.0	
Lane Grp Cap (vph)	176	2145		243	2120		160	131		352	273	
v/s Ratio Prot	c0.01	0.33		0.00	c0.41		0.01	0.01		c0.07	0.02	
v/s Ratio Perm	0.17			0.04			0.03			c0.06		
v/c Ratio	0.28	0.53		0.07	0.68		0.41	0.11		0.49	0.12	
Uniform Delay, d1	12.9	12.9		10.3	15.8		48.8	51.3		36.9	41.7	
Progression Factor	0.59	0.94		0.71	0.63		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.9		0.1	1.6		1.7	0.4		0.4	0.1	
Delay (s)	7.8	13.0		7.4	11.5		50.5	51.7		37.3	41.7	
Level of Service	A	B		A	B		D	D		D	D	
Approach Delay (s)		12.8			11.5			51.1			39.5	
Approach LOS		B			B			D			D	

Intersection Summary

HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 2: SW Tualatin Sherwood Road & SW Cipole Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗		↗	↗↗		↗	↗		↗	↗	
Traffic Volume (veh/h)	45	1022	18	17	1299	31	60	9	45	158	2	162
Future Volume (veh/h)	45	1022	18	17	1299	31	60	9	45	158	2	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1900	1900	1900	1841	1841	1841
Adj Flow Rate, veh/h	49	1111	20	18	1412	34	65	10	49	172	2	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	3	3	3	0	0	0	4	4	4
Cap, veh/h	352	2341	42	280	2306	55	198	15	74	298	3	186
Arrive On Green	0.01	0.22	0.22	0.04	1.00	1.00	0.04	0.05	0.05	0.12	0.12	0.13
Sat Flow, veh/h	1753	3513	63	1767	3516	85	1810	280	1373	1753	25	1539
Grp Volume(v), veh/h	49	553	578	18	707	739	65	0	59	172	0	124
Grp Sat Flow(s),veh/h/ln	1753	1749	1827	1767	1763	1838	1810	0	1653	1753	0	1564
Q Serve(g_s), s	1.1	33.1	33.1	0.4	0.0	0.0	4.0	0.0	4.2	10.5	0.0	9.1
Cycle Q Clear(g_c), s	1.1	33.1	33.1	0.4	0.0	0.0	4.0	0.0	4.2	10.5	0.0	9.1
Prop In Lane	1.00		0.03	1.00		0.05	1.00		0.83	1.00		0.98
Lane Grp Cap(c), veh/h	352	1165	1218	280	1156	1205	198	0	89	298	0	189
V/C Ratio(X)	0.14	0.47	0.47	0.06	0.61	0.61	0.33	0.00	0.66	0.58	0.00	0.66
Avail Cap(c_a), veh/h	375	1165	1218	322	1156	1205	198	0	387	432	0	584
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.6	28.5	28.5	11.1	0.0	0.0	50.7	0.0	55.7	43.4	0.0	49.9
Incr Delay (d2), s/veh	0.1	1.2	1.2	0.1	2.0	1.9	1.0	0.0	8.2	0.7	0.0	1.5
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	0.4	15.7	16.4	0.1	0.6	0.6	1.9	0.0	2.0	4.6	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.7	29.7	29.7	11.2	2.0	1.9	51.6	0.0	64.0	44.1	0.0	51.4
LnGrp LOS	A	C	C	B	A	A	D	A	E	D	A	D
Approach Vol, veh/h		1180			1464			124				296
Approach Delay, s/veh		28.8			2.1			57.5				47.1
Approach LOS		C			A			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	84.0	9.8	19.5	8.0	82.7	17.8	11.4				
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.0	5.5	5.0	* 5				
Max Green Setting (Gmax), s	5.1	45.3	5.3	44.8	5.6	45.3	22.0	* 28				
Max Q Clear Time (g_c+I1), s	2.4	35.1	6.0	11.1	3.1	2.0	12.5	6.2				
Green Ext Time (p_c), s	0.0	9.5	0.0	0.5	0.0	40.5	0.3	0.2				

Intersection Summary

HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↔		↔↔	↑	↗
Traffic Volume (vph)	63	951	210	81	955	125	157	225	160	235	331	235
Future Volume (vph)	63	951	210	81	955	125	157	225	160	235	331	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3471	1533	3433	3539	1565	3335	3204		3433	1863	1564
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3471	1533	3433	3539	1565	3335	3204		3433	1863	1564
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	65	980	216	84	985	129	162	232	165	242	341	242
RTOR Reduction (vph)	0	0	85	0	0	52	0	114	0	0	0	43
Lane Group Flow (vph)	65	980	131	84	985	77	162	283	0	242	341	199
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			1			2			1			2
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	5%	5%	5%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Actuated Green, G (s)	6.6	60.2	69.7	5.5	59.1	71.2	9.5	23.2		12.1	25.8	32.4
Effective Green, g (s)	6.6	61.7	69.7	5.5	60.6	71.2	9.5	24.7		12.1	27.3	32.4
Actuated g/C Ratio	0.05	0.51	0.58	0.05	0.51	0.59	0.08	0.21		0.10	0.23	0.27
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	4.0
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	1.5
Lane Grp Cap (vph)	185	1784	890	157	1787	928	264	659		346	423	422
v/s Ratio Prot	0.02	c0.28	0.01	0.02	0.28	0.01	0.05	0.09		c0.07	c0.18	c0.03
v/s Ratio Perm			0.07			0.04						0.10
v/c Ratio	0.35	0.55	0.15	0.54	0.55	0.08	0.61	0.43		0.70	0.81	0.47
Uniform Delay, d1	54.6	19.7	11.5	56.0	20.4	10.4	53.5	41.5		52.2	43.8	36.6
Progression Factor	1.30	0.54	0.18	1.10	0.64	1.86	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	1.1	0.0	1.6	1.1	0.0	3.0	0.2		4.9	10.1	0.3
Delay (s)	71.6	11.8	2.1	62.9	14.2	19.4	56.4	41.7		57.1	54.0	36.9
Level of Service	E	B	A	E	B	B	E	D		E	D	D
Approach Delay (s)		13.2			18.1			46.0			49.9	
Approach LOS		B			B			D			D	

### Intersection Summary

HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗↘	↑↑	↗	↗↘	↑↑	↗	↗↘	↑↑		↗↘	↑	↗
Traffic Volume (veh/h)	63	951	210	81	955	125	157	225	160	235	331	235
Future Volume (veh/h)	63	951	210	81	955	125	157	225	160	235	331	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.98
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	1870	1870	1870	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	65	980	154	84	985	88	162	232	144	242	341	149
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	2	2	2	5	5	5	2	2	2
Cap, veh/h	125	1870	907	135	1908	964	225	419	249	315	423	392
Arrive On Green	0.07	1.00	1.00	0.04	0.54	0.52	0.07	0.20	0.19	0.09	0.23	0.21
Sat Flow, veh/h	3401	3497	1539	3456	3554	1563	3374	2080	1237	3456	1870	1561
Grp Volume(v), veh/h	65	980	154	84	985	88	162	192	184	242	341	149
Grp Sat Flow(s),veh/h/ln	1700	1749	1539	1728	1777	1563	1687	1735	1582	1728	1870	1561
Q Serve(g_s), s	2.2	0.0	0.0	2.9	21.3	2.8	5.6	11.9	12.7	8.2	20.7	9.5
Cycle Q Clear(g_c), s	2.2	0.0	0.0	2.9	21.3	2.8	5.6	11.9	12.7	8.2	20.7	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.78	1.00		1.00
Lane Grp Cap(c), veh/h	125	1870	907	135	1908	964	225	350	319	315	423	392
V/C Ratio(X)	0.52	0.52	0.17	0.62	0.52	0.09	0.72	0.55	0.58	0.77	0.81	0.38
Avail Cap(c_a), veh/h	315	1870	907	202	1908	964	309	432	394	406	514	468
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.0	56.8	17.8	9.4	54.9	43.0	43.8	53.3	43.9	37.2
Incr Delay (d2), s/veh	1.1	0.9	0.3	1.7	1.0	0.2	2.5	0.5	0.6	4.6	6.3	0.2
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	0.9	0.2	0.1	1.3	8.4	0.9	2.4	5.0	4.9	3.7	10.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.9	0.3	58.5	18.8	9.6	57.4	43.5	44.5	57.9	50.2	37.5
LnGrp LOS	E	A	A	E	B	A	E	D	D	E	D	D
Approach Vol, veh/h		1199			1157			538			732	
Approach Delay, s/veh		3.8			21.0			48.0			50.2	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	68.2	12.0	31.2	8.4	68.4	14.9	28.2				
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	7.0	51.5	11.0	31.5	11.1	47.4	14.1	28.4				
Max Q Clear Time (g_c+I1), s	4.9	2.0	7.6	22.7	4.2	23.3	10.2	14.7				
Green Ext Time (p_c), s	0.1	34.9	0.4	2.9	0.2	19.3	0.7	3.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				25.2								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1325	23	0	1140	0	18
Future Vol, veh/h	1325	23	0	1140	0	18
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	130	-	-	-	0
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	4	4	2	2	0	0
Mvmt Flow	1410	24	0	1213	0	19

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	707
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	382
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	381
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
























Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	381	-	-	-
HCM Lane V/C Ratio	0.05	-	-	-
HCM Control Delay (s)	14.9	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

# HCM Signalized Intersection Capacity Analysis

## 5: SW 115th Ave & SW T-S Rd

12/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	1267	64	58	978	17	146	0	243	17	1	16
Future Volume (vph)	13	1267	64	58	978	17	146	0	243	17	1	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.5		4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00		0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1735	3471	1530	3400	3494		1717		1520	1767	1579	
Flt Permitted	0.21	1.00	1.00	0.95	1.00		0.75		1.00	0.76	1.00	
Satd. Flow (perm)	379	3471	1530	3400	3494		1348		1520	1408	1579	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	14	1320	67	60	1019	18	152	0	253	18	1	17
RTOR Reduction (vph)	0	0	33	0	1	0	0	0	20	0	11	0
Lane Group Flow (vph)	14	1320	34	60	1036	0	152	0	233	18	7	0
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	Prot	NA		Perm		pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Actuated Green, G (s)	61.9	59.9	59.9	6.5	64.4		39.1		45.6	39.1	39.1	
Effective Green, g (s)	62.9	61.4	61.4	7.0	65.9		39.1		46.6	39.6	39.6	
Actuated g/C Ratio	0.52	0.51	0.51	0.06	0.55		0.33		0.39	0.33	0.33	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5		4.5	4.5	4.5	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	226	1775	782	198	1918		439		640	464	521	
v/s Ratio Prot	0.00	c0.38		0.02	0.30				c0.02		0.00	
v/s Ratio Perm	0.03		0.02				0.11		0.13	0.01		
v/c Ratio	0.06	0.74	0.04	0.30	0.54		0.35		0.36	0.04	0.01	
Uniform Delay, d1	14.7	23.1	14.6	54.2	17.3		30.7		26.2	27.3	27.0	
Progression Factor	0.47	0.86	1.34	1.09	0.68		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.0	1.6	0.0	0.3	0.3		2.2		0.1	0.2	0.0	
Delay (s)	7.0	21.5	19.6	59.3	12.2		32.9		26.3	27.4	27.1	
Level of Service	A	C	B	E	B		C		C	C	C	
Approach Delay (s)		21.3			14.8			28.8			27.3	
Approach LOS		C			B			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			20.0				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			65.9%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

# HCM 6th Signalized Intersection Summary

## 5: SW 115th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1267	64	58	978	17	146	0	243	17	1	16
Future Volume (veh/h)	13	1267	64	58	978	17	146	0	243	17	1	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	14	1320	46	60	1019	18	152	0	164	18	1	12
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	5	5	5	2	2	2
Cap, veh/h	255	1704	749	138	1799	32	557	680	638	515	46	551
Arrive On Green	0.02	0.49	0.49	0.04	0.51	0.50	0.37	0.00	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1753	3497	1538	3428	3544	63	1367	1826	1546	1221	123	1479
Grp Volume(v), veh/h	14	1320	46	60	507	530	152	0	164	18	0	13
Grp Sat Flow(s),veh/h/ln	1753	1749	1538	1714	1763	1844	1367	1826	1546	1221	0	1603
Q Serve(g_s), s	0.5	37.3	1.9	2.1	23.8	23.9	9.6	0.0	8.4	1.1	0.0	0.6
Cycle Q Clear(g_c), s	0.5	37.3	1.9	2.1	23.8	23.9	10.2	0.0	8.4	1.1	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	255	1704	749	138	895	936	557	680	638	515	0	597
V/C Ratio(X)	0.05	0.77	0.06	0.44	0.57	0.57	0.27	0.00	0.26	0.03	0.00	0.02
Avail Cap(c_a), veh/h	301	1778	782	377	1009	1056	557	680	638	515	0	597
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	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	25.4	16.3	56.3	20.4	20.4	27.4	0.0	23.1	24.0	0.0	24.0
Incr Delay (d2), s/veh	0.0	2.2	0.0	0.7	0.6	0.6	1.2	0.0	1.0	0.1	0.0	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	0.2	14.9	0.7	0.9	9.3	9.7	3.3	0.0	3.2	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	27.6	16.3	56.9	21.0	21.0	28.6	0.0	24.1	24.1	0.0	24.0
LnGrp LOS	B	C	B	E	C	C	C	A	C	C	A	C
Approach Vol, veh/h		1380			1097			316				31
Approach Delay, s/veh		27.1			23.0			26.3				24.1
Approach LOS		C			C			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	62.5		48.7	6.4	64.9		48.7				
Change Period (Y+Rc), s	4.5	5.5		4.5	4.5	5.5		4.5				
Max Green Setting (Gmax), s	12.7	59.5		33.3	5.0	67.2		33.3				
Max Q Clear Time (g_c+I1), s	4.1	39.3		3.1	2.5	25.9		12.2				
Green Ext Time (p_c), s	0.1	17.6		0.1	0.0	25.4		0.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				25.4								
HCM 6th LOS				C								

# HCM Signalized Intersection Capacity Analysis

## 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	31	1069	418	5	772	41	212	22	15	106	45	67
Future Volume (vph)	31	1069	418	5	772	41	212	22	15	106	45	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.4	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3471	1520	1719	3408		1770	1739		1736	1649	
Flt Permitted	0.25	1.00	1.00	0.17	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	465	3471	1520	300	3408		1770	1739		1736	1649	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	1125	440	5	813	43	223	23	16	112	47	71
RTOR Reduction (vph)	0	0	193	0	2	0	0	14	0	0	52	0
Lane Group Flow (vph)	33	1125	248	5	854	0	223	25	0	112	66	0
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)			2			3						
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								
Actuated Green, G (s)	74.0	67.4	67.4	62.0	60.9		19.3	14.2		19.3	14.2	
Effective Green, g (s)	74.0	68.9	67.5	62.0	62.4		19.3	14.7		19.3	14.7	
Actuated g/C Ratio	0.62	0.57	0.56	0.52	0.52		0.16	0.12		0.16	0.12	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	367	1992	855	168	1772		284	213		279	202	
v/s Ratio Prot	c0.01	c0.32		0.00	0.25		c0.13	0.01		0.06	c0.04	
v/s Ratio Perm	0.05		0.16	0.02								
v/c Ratio	0.09	0.56	0.29	0.03	0.48		0.79	0.12		0.40	0.33	
Uniform Delay, d1	16.5	16.1	13.7	26.3	18.4		48.4	46.9		45.2	48.1	
Progression Factor	0.47	0.55	0.17	1.00	1.00		1.00	1.00		1.00	1.01	
Incremental Delay, d2	0.1	0.9	0.6	0.1	0.9		13.3	0.2		0.9	1.0	
Delay (s)	7.9	9.7	3.0	26.4	19.4		61.6	47.1		46.1	49.7	
Level of Service	A	A	A	C	B		E	D		D	D	
Approach Delay (s)		7.8			19.4			59.5			47.9	
Approach LOS		A			B			E			D	

### Intersection Summary

HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
6: SW Avery St/SW 112th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶	↶	↶	↶↶		↶	↶		↶	↶	
Traffic Volume (veh/h)	31	1069	418	5	772	41	212	22	15	106	45	67
Future Volume (veh/h)	31	1069	418	5	772	41	212	22	15	106	45	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1826	1826	1826	1870	1870	1870	1841	1841	1841
Adj Flow Rate, veh/h	33	1125	377	5	813	22	223	23	11	112	47	66
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, %	4	4	4	5	5	5	2	2	2	4	4	4
Cap, veh/h	640	1334	564	527	1154	31	255	190	91	139	66	92
Arrive On Green	0.59	0.76	0.74	0.25	0.33	0.33	0.14	0.16	0.15	0.08	0.09	0.09
Sat Flow, veh/h	1753	3497	1526	1739	3448	93	1781	1195	571	1753	691	971
Grp Volume(v), veh/h	33	1125	377	5	409	426	223	0	34	112	0	113
Grp Sat Flow(s),veh/h/ln	1753	1749	1526	1739	1735	1806	1781	0	1766	1753	0	1662
Q Serve(g_s), s	0.0	25.7	9.9	0.0	24.6	24.6	14.7	0.0	2.0	7.5	0.0	7.9
Cycle Q Clear(g_c), s	0.0	25.7	9.9	0.0	24.6	24.6	14.7	0.0	2.0	7.5	0.0	7.9
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.32	1.00		0.58
Lane Grp Cap(c), veh/h	640	1334	564	527	581	605	255	0	280	139	0	158
V/C Ratio(X)	0.05	0.84	0.67	0.01	0.70	0.70	0.88	0.00	0.12	0.81	0.00	0.72
Avail Cap(c_a), veh/h	640	1428	605	527	708	738	327	0	502	225	0	381
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.2	11.9	5.0	25.3	34.7	34.7	50.4	0.0	43.4	54.4	0.0	52.9
Incr Delay (d2), s/veh	0.0	4.4	4.0	0.0	7.0	6.7	18.8	0.0	0.2	10.5	0.0	5.9
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	0.3	5.0	3.6	0.1	11.1	11.5	7.8	0.0	0.9	3.7	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	16.2	9.0	25.3	41.8	41.5	69.1	0.0	43.6	64.9	0.0	58.8
LnGrp LOS	B	B	A	C	D	D	E	A	D	E	A	E
Approach Vol, veh/h		1535			840			257				225
Approach Delay, s/veh		14.4			41.5			65.8				61.8
Approach LOS		B			D			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.7	49.8	21.2	15.4	39.3	44.2	13.5	23.1				
Change Period (Y+Rc), s	4.0	5.5	4.0	4.5	4.0	5.5	4.0	4.5				
Max Green Setting (Gmax), s	5.5	47.5	22.0	27.0	5.5	47.5	15.4	33.6				
Max Q Clear Time (g_c+I1), s	2.0	27.7	16.7	9.9	2.0	26.6	9.5	4.0				
Green Ext Time (p_c), s	0.0	16.6	0.4	0.4	0.0	12.0	0.2	0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				30.7								
HCM 6th LOS				C								

HCM 6th TWSC  
7: SW Cipole Road & Project Driveway #3

12/13/2021

Intersection						
Int Delay, s/veh	5.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	145	54	105	35	6	177
Future Vol, veh/h	145	54	105	35	6	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	5	5	11	11	5	5
Mvmt Flow	177	66	128	43	7	216

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	380	150	0	0	171
Stage 1	150	-	-	-	-
Stage 2	230	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245
Pot Cap-1 Maneuver	616	889	-	-	1388
Stage 1	870	-	-	-	-
Stage 2	801	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	612	889	-	-	1388
Mov Cap-2 Maneuver	612	-	-	-	-
Stage 1	870	-	-	-	-
Stage 2	796	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	669	1388
HCM Lane V/C Ratio	-	-	0.363	0.005
HCM Control Delay (s)	-	-	13.4	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.7	0

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	124	78	124	254	1	69	0	107	1	0	0
Future Vol, veh/h	0	124	78	124	254	1	69	0	107	1	0	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	7	7	7	7	7	7	5	5	5	0	0	0
Mvmt Flow	0	148	93	148	302	1	82	0	127	1	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.5	15.8	10.9	9.3
HCM LOS	B	C	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	39%	0%	33%	100%
Vol Thru, %	0%	61%	67%	0%
Vol Right, %	61%	39%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	202	379	1
LT Vol	69	0	124	1
Through Vol	0	124	254	0
RT Vol	107	78	1	0
Lane Flow Rate	210	240	451	1
Geometry Grp	1	1	1	1
Degree of Util (X)	0.315	0.334	0.618	0.002
Departure Headway (Hd)	5.411	5.007	5.03	6.261
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	666	721	722	573
Service Time	3.422	3.007	3.03	4.283
HCM Lane V/C Ratio	0.315	0.333	0.625	0.002
HCM Control Delay	10.9	10.5	15.8	9.3
HCM Lane LOS	B	B	C	A
HCM 95th-tile Q	1.3	1.5	4.3	0



HCM 6th TWSC  
 9: SW 124th Avenue & SW Cimino Street

12/13/2021

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	38	0	21	0	406	7	3	762	0
Future Vol, veh/h	0	0	0	38	0	21	0	406	7	3	762	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	2	2	2	4	4	4	4	4	4
Mvmt Flow	0	0	0	43	0	24	0	461	8	3	866	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1103	1342	433	905	1338	236	866	0	0	470	0	0
Stage 1	872	872	-	466	466	-	-	-	-	-	-	-
Stage 2	231	470	-	439	872	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.54	6.54	6.94	4.18	-	-	4.18	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.24	-	-	2.24	-	-
Pot Cap-1 Maneuver	162	147	563	232	152	766	761	-	-	1074	-	-
Stage 1	306	359	-	546	561	-	-	-	-	-	-	-
Stage 2	742	551	-	567	366	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	157	146	563	231	151	765	761	-	-	1073	-	-
Mov Cap-2 Maneuver	157	146	-	231	151	-	-	-	-	-	-	-
Stage 1	306	358	-	545	560	-	-	-	-	-	-	-
Stage 2	719	550	-	565	365	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	20	0	0
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	761	-	-	-	307	1073	-
HCM Lane V/C Ratio	-	-	-	-	0.218	0.003	-
HCM Control Delay (s)	0	-	-	0	20	8.4	-
HCM Lane LOS	A	-	-	A	C	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0	-

HCM 6th TWSC  
 10: SW 124th Avenue & Project Driveway #2

12/13/2021

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	
Traffic Vol, veh/h	0	76	0	427	689	14
Future Vol, veh/h	0	76	0	427	689	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	4	4	4	4
Mvmt Flow	0	86	0	485	783	16

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1034	400	799	0	0
Stage 1	791	-	-	-	-
Stage 2	243	-	-	-	-
Critical Hdwy	6.9	7	4.18	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-
Follow-up Hdwy	3.55	3.35	2.24	-	-
Pot Cap-1 Maneuver	223	591	807	-	-
Stage 1	399	-	-	-	-
Stage 2	766	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	223	591	807	-	-
Mov Cap-2 Maneuver	223	-	-	-	-
Stage 1	399	-	-	-	-
Stage 2	766	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	807	-	591	-	-
HCM Lane V/C Ratio	-	-	0.146	-	-
HCM Control Delay (s)	0	-	12.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

HCM 6th TWSC  
 11: SW 124th Avenue & SW Myslony Street

12/13/2021

Intersection												
Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	18	1	20	71	0	32	0	415	12	8	612	1
Future Vol, veh/h	18	1	20	71	0	32	0	415	12	8	612	1
Conflicting Peds, #/hr	3	0	1	1	0	3	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	13	13	13	41	41	41	18	18	18	17	17	17
Mvmt Flow	21	1	24	85	0	38	0	494	14	10	729	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1001	1259	367	887	1252	257	731	0	0	508	0	0
Stage 1	751	751	-	501	501	-	-	-	-	-	-	-
Stage 2	250	508	-	386	751	-	-	-	-	-	-	-
Critical Hdwy	7.76	6.76	7.16	8.32	7.32	7.72	4.46	-	-	4.44	-	-
Critical Hdwy Stg 1	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.63	4.13	3.43	3.91	4.41	3.71	2.38	-	-	2.37	-	-
Pot Cap-1 Maneuver	182	155	599	185	125	637	771	-	-	955	-	-
Stage 1	345	391	-	431	453	-	-	-	-	-	-	-
Stage 2	702	510	-	514	334	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	169	153	598	175	124	635	770	-	-	955	-	-
Mov Cap-2 Maneuver	169	153	-	175	124	-	-	-	-	-	-	-
Stage 1	345	387	-	431	453	-	-	-	-	-	-	-
Stage 2	658	510	-	486	330	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	21.4		38.3		0		0.1	
HCM LOS	C		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	770	-	-	266	226	955	-	-
HCM Lane V/C Ratio	-	-	-	0.175	0.543	0.01	-	-
HCM Control Delay (s)	0	-	-	21.4	38.3	8.8	-	-
HCM Lane LOS	A	-	-	C	E	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.6	2.9	0	-	-

# HCM Signalized Intersection Capacity Analysis

## 12: SW 124th Avenue & SW Herman Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	189	38	155	341	183	16	382	68	99	429	32
Future Volume (vph)	124	189	38	155	341	183	16	382	68	99	429	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1639		1597	1586		1504	2930		1702	3364	
Flt Permitted	0.18	1.00		0.51	1.00		0.39	1.00		0.27	1.00	
Satd. Flow (perm)	297	1639		858	1586		622	2930		485	3364	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	139	212	43	174	383	206	18	429	76	111	482	36
RTOR Reduction (vph)	0	7	0	0	18	0	0	12	0	0	4	0
Lane Group Flow (vph)	139	248	0	174	571	0	18	493	0	111	514	0
Confl. Peds. (#/hr)	1						1			1	1	
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	6%	6%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	47.0	39.1		47.8	39.5		26.8	25.1		35.6	29.5	
Effective Green, g (s)	49.0	40.6		49.8	41.0		28.8	26.6		37.2	31.0	
Actuated g/C Ratio	0.49	0.41		0.50	0.41		0.29	0.27		0.37	0.31	
Clearance Time (s)	5.0	5.5		5.0	5.5		5.0	5.5		5.0	5.5	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	262	668		498	652		203	782		267	1047	
v/s Ratio Prot	c0.05	0.15		0.03	c0.36		0.00	c0.17		c0.03	0.15	
v/s Ratio Perm	0.21			0.14			0.02			0.13		
v/c Ratio	0.53	0.37		0.35	0.88		0.09	0.63		0.42	0.49	
Uniform Delay, d1	17.7	20.6		14.2	27.0		25.5	32.2		21.8	27.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.4		0.2	12.6		0.1	1.7		0.4	0.4	
Delay (s)	18.7	20.9		14.4	39.5		25.6	33.8		22.2	28.2	
Level of Service	B	C		B	D		C	C		C	C	
Approach Delay (s)		20.2			33.8			33.6			27.2	
Approach LOS		C			C			C			C	

### Intersection Summary

HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	99.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 12: SW 124th Avenue & SW Herman Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	124	189	38	155	341	183	16	382	68	99	429	32
Future Volume (veh/h)	124	189	38	155	341	183	16	382	68	99	429	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
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	1707	1707	1707	1707	1707	1707	1604	1604	1604	1811	1811	1811
Adj Flow Rate, veh/h	139	212	0	174	383	0	18	429	59	111	482	30
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	13	13	13	13	13	13	20	20	20	6	6	6
Cap, veh/h	368	491		500	521		301	659	90	348	963	60
Arrive On Green	0.10	0.29	0.00	0.12	0.31	0.00	0.04	0.24	0.22	0.09	0.29	0.27
Sat Flow, veh/h	1626	1707	0	1626	1707	0	1527	2692	368	1725	3284	204
Grp Volume(v), veh/h	139	212	0	174	383	0	18	242	246	111	252	260
Grp Sat Flow(s),veh/h/ln	1626	1707	0	1626	1707	0	1527	1523	1536	1725	1721	1768
Q Serve(g_s), s	3.5	6.1	0.0	4.4	12.2	0.0	0.5	8.6	8.8	2.8	7.3	7.4
Cycle Q Clear(g_c), s	3.5	6.1	0.0	4.4	12.2	0.0	0.5	8.6	8.8	2.8	7.3	7.4
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.24	1.00		0.12
Lane Grp Cap(c), veh/h	368	491		500	521		301	373	376	348	504	518
V/C Ratio(X)	0.38	0.43		0.35	0.73		0.06	0.65	0.65	0.32	0.50	0.50
Avail Cap(c_a), veh/h	448	1578		577	1606		394	779	786	399	909	933
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	17.6	0.0	12.7	18.8	0.0	16.3	20.5	20.7	15.1	17.7	17.8
Incr Delay (d2), s/veh	0.2	0.6	0.0	0.2	2.0	0.0	0.0	1.9	1.9	0.2	0.8	0.8
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	1.2	2.3	0.0	1.4	4.6	0.0	0.2	2.8	2.9	0.9	2.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	18.2	0.0	12.9	20.9	0.0	16.3	22.4	22.7	15.3	18.5	18.6
LnGrp LOS	B	B		B	C		B	C	C	B	B	B
Approach Vol, veh/h		351	A		557	A		506			623	
Approach Delay, s/veh		16.6			18.4			22.3			18.0	
Approach LOS		B			B			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	18.8	11.1	21.4	6.3	21.8	10.0	22.5				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5	5.0	5.5	5.0	5.5				
Max Green Setting (Gmax), s	6.0	29.5	9.0	54.5	5.0	30.5	8.0	55.5				
Max Q Clear Time (g_c+I1), s	4.8	10.8	6.4	8.1	2.5	9.4	5.5	14.2				
Green Ext Time (p_c), s	0.0	2.5	0.1	1.4	0.0	2.7	0.0	2.7				

Intersection Summary

HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

# HCM Signalized Intersection Capacity Analysis

## 1: SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	973	128	125	677	6	92	3	398	4	0	0
Future Volume (vph)	8	973	128	125	677	6	92	3	398	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	
Satd. Flow (prot)	1655	3312	1448	1570	3135			1676	1487		1444	
Flt Permitted	0.38	1.00	1.00	0.21	1.00			0.73	1.00		0.58	
Satd. Flow (perm)	659	3312	1448	341	3135			1283	1487		888	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	1024	135	132	713	6	97	3	419	4	0	0
RTOR Reduction (vph)	0	0	47	0	0	0	0	0	34	0	0	0
Lane Group Flow (vph)	8	1024	88	132	719	0	0	100	385	0	4	0
Confl. Peds. (#/hr)	1					1	1					1
Confl. Bikes (#/hr)			4						2			
Heavy Vehicles (%)	9%	9%	9%	15%	15%	15%	8%	8%	8%	25%	25%	25%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	73.0	72.0	72.0	96.3	91.3			14.2	34.5		14.2	
Effective Green, g (s)	73.0	73.5	73.5	96.3	92.8			14.2	34.5		14.2	
Actuated g/C Ratio	0.61	0.61	0.61	0.80	0.77			0.12	0.29		0.12	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5			4.0	4.0		4.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5			1.5	1.5		1.5	
Lane Grp Cap (vph)	409	2028	886	481	2424			151	477		105	
v/s Ratio Prot	0.00	c0.31		0.05	0.23				c0.14			
v/s Ratio Perm	0.01		0.06	0.17				0.08	0.12		0.00	
v/c Ratio	0.02	0.50	0.10	0.27	0.30			0.66	0.81		0.04	
Uniform Delay, d1	9.2	13.0	9.6	4.9	4.0			50.6	39.7		46.9	
Progression Factor	1.00	1.00	1.00	3.34	1.33			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.9	0.2	0.1	0.3			8.2	9.1		0.1	
Delay (s)	9.3	13.9	9.8	16.4	5.6			58.8	48.8		46.9	
Level of Service	A	B	A	B	A			E	D		D	
Approach Delay (s)		13.4			7.3			50.7			46.9	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 1: SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	973	128	125	677	6	92	3	398	4	0	0
Future Volume (veh/h)	8	973	128	125	677	6	92	3	398	4	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	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	1767	1767	1767	1678	1678	1678	1781	1781	1781	1530	1530	1530
Adj Flow Rate, veh/h	8	1024	109	132	713	6	97	3	324	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	514	2165	944	347	2209	19	350	10	380	197	0	0
Arrive On Green	0.01	0.65	0.65	0.09	1.00	1.00	0.21	0.21	0.21	0.21	0.00	0.00
Sat Flow, veh/h	1682	3357	1463	1598	3239	27	1398	48	1486	656	0	0
Grp Volume(v), veh/h	8	1024	109	132	351	368	100	0	324	4	0	0
Grp Sat Flow(s),veh/h/ln	1682	1678	1463	1598	1594	1673	1445	0	1486	656	0	0
Q Serve(g_s), s	0.2	18.7	3.4	3.4	0.0	0.0	0.0	0.0	24.9	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.2	18.7	3.4	3.4	0.0	0.0	5.9	0.0	24.9	6.4	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	514	2165	944	347	1087	1141	360	0	380	197	0	0
V/C Ratio(X)	0.02	0.47	0.12	0.38	0.32	0.32	0.28	0.00	0.85	0.02	0.00	0.00
Avail Cap(c_a), veh/h	582	2165	944	672	1087	1141	360	0	380	197	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.88	0.88	0.88	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	10.9	8.2	8.1	0.0	0.0	40.0	0.0	42.6	42.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.2	0.2	0.7	0.7	0.2	0.0	16.1	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	6.3	1.0	0.9	0.2	0.2	2.5	0.0	10.8	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	11.6	8.4	8.4	0.7	0.7	40.1	0.0	58.7	42.7	0.0	0.0
LnGrp LOS	A	B	A	A	A	A	D	A	E	D	A	A
Approach Vol, veh/h		1141			851			424				4
Approach Delay, s/veh		11.3			1.9			54.3				42.7
Approach LOS		B			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	81.4		29.0	5.2	85.8		29.0				
Change Period (Y+Rc), s	4.0	5.5		4.0	4.0	5.5		4.0				
Max Green Setting (Gmax), s	30.0	51.5		25.0	6.0	75.5		25.0				
Max Q Clear Time (g_c+I1), s	5.4	20.7		8.4	2.2	2.0		26.9				
Green Ext Time (p_c), s	0.2	21.6		0.0	0.0	19.9		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				15.6								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↗		↖	↗↗		↖	↗		↖	↗	
Traffic Volume (vph)	153	1163	68	62	755	191	15	2	11	63	9	35
Future Volume (vph)	153	1163	68	62	755	191	15	2	11	63	9	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.5	4.0		4.5	4.5		4.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.87		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	3311		1583	3058		1805	1659		1399	1296	
Flt Permitted	0.23	1.00		0.17	1.00		0.73	1.00		0.49	1.00	
Satd. Flow (perm)	411	3311		276	3058		1383	1659		716	1296	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	159	1211	71	65	786	199	16	2	11	66	9	36
RTOR Reduction (vph)	0	2	0	0	11	0	0	10	0	0	31	0
Lane Group Flow (vph)	159	1280	0	65	974	0	16	3	0	66	14	0
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	8%	8%	8%	14%	14%	14%	0%	0%	0%	29%	29%	29%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	86.2	78.4		81.1	76.1		8.9	6.9		21.6	15.1	
Effective Green, g (s)	86.2	79.9		81.1	77.6		8.9	6.9		22.6	15.1	
Actuated g/C Ratio	0.72	0.67		0.68	0.65		0.07	0.06		0.19	0.13	
Clearance Time (s)	4.0	5.5		4.5	5.5		4.5	4.5		5.0	5.0	
Vehicle Extension (s)	1.5	3.5		3.0	3.5		3.0	3.0		2.0	2.0	
Lane Grp Cap (vph)	377	2204		240	1977		109	95		198	163	
v/s Ratio Prot	c0.03	c0.39		0.01	0.32		0.00	0.00		c0.03	0.01	
v/s Ratio Perm	0.28			0.17			0.01			c0.03		
v/c Ratio	0.42	0.58		0.27	0.49		0.15	0.03		0.33	0.08	
Uniform Delay, d1	6.7	10.9		8.2	11.0		51.9	53.4		41.6	46.3	
Progression Factor	1.36	0.96		0.82	0.65		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.9		0.5	0.8		0.6	0.1		0.4	0.1	
Delay (s)	9.3	11.4		7.3	7.9		52.5	53.5		41.9	46.4	
Level of Service	A	B		A	A		D	D		D	D	
Approach Delay (s)		11.2			7.9			53.0			43.7	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



# HCM 6th Signalized Intersection Summary

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑		↖	↑↑		↖	↑		↗	↑	
Traffic Volume (veh/h)	153	1163	68	62	755	191	15	2	11	63	9	35
Future Volume (veh/h)	153	1163	68	62	755	191	15	2	11	63	9	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1781	1781	1781	1693	1693	1693	1900	1900	1900	1470	1470	1470
Adj Flow Rate, veh/h	159	1211	71	65	786	183	16	2	11	66	9	36
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, %	8	8	8	14	14	14	0	0	0	29	29	29
Cap, veh/h	521	2307	135	390	1821	424	144	10	53	198	22	87
Arrive On Green	0.09	1.00	1.00	0.07	1.00	1.00	0.02	0.04	0.04	0.07	0.08	0.09
Sat Flow, veh/h	1697	3244	190	1612	2577	600	1810	254	1395	1400	257	1028
Grp Volume(v), veh/h	159	631	651	65	490	479	16	0	13	66	0	45
Grp Sat Flow(s),veh/h/ln	1697	1692	1742	1612	1608	1570	1810	0	1649	1400	0	1285
Q Serve(g_s), s	3.4	0.0	0.0	1.4	0.0	0.0	1.0	0.0	0.9	5.2	0.0	4.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	1.4	0.0	0.0	1.0	0.0	0.9	5.2	0.0	4.0
Prop In Lane	1.00		0.11	1.00		0.38	1.00		0.85	1.00		0.80
Lane Grp Cap(c), veh/h	521	1203	1239	390	1136	1109	144	0	63	198	0	109
V/C Ratio(X)	0.31	0.52	0.53	0.17	0.43	0.43	0.11	0.00	0.21	0.33	0.00	0.41
Avail Cap(c_a), veh/h	561	1203	1239	402	1136	1109	190	0	385	371	0	481
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	0.84	0.84	0.84	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.3	0.0	0.0	4.4	0.0	0.0	54.0	0.0	56.0	47.6	0.0	51.7
Incr Delay (d2), s/veh	0.1	1.2	1.2	0.2	1.0	1.0	0.3	0.0	1.6	0.4	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	0.9	0.4	0.4	0.4	0.3	0.3	0.5	0.0	0.4	1.8	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.4	1.2	1.2	4.5	1.0	1.0	54.4	0.0	57.6	47.9	0.0	52.6
LnGrp LOS	A	A	A	A	A	A	D	A	E	D	A	D
Approach Vol, veh/h		1441			1034			29				111
Approach Delay, s/veh		1.6			1.2			55.8				49.8
Approach LOS		A			A			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	89.3	6.6	15.2	9.5	88.8	12.2	9.6				
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.0	5.5	5.0	* 5				
Max Green Setting (Gmax), s	5.3	45.2	5.1	44.9	8.3	42.7	22.0	* 28				
Max Q Clear Time (g_c+I1), s	3.4	2.0	3.0	6.0	5.4	2.0	7.2	2.9				
Green Ext Time (p_c), s	0.0	38.4	0.0	0.2	0.1	30.4	0.1	0.0				

### Intersection Summary

HCM 6th Ctrl Delay	4.1
HCM 6th LOS	A
































### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# HCM Signalized Intersection Capacity Analysis
































## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (vph)	96	1013	129	127	691	229	240	261	101	181	232	76
Future Volume (vph)	96	1013	129	127	691	229	240	261	101	181	232	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3127	3223	1423	3072	3167	1402	3155	3116		3072	1667	1403
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3127	3223	1423	3072	3167	1402	3155	3116		3072	1667	1403
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	103	1089	139	137	743	246	258	281	109	195	249	82
RTOR Reduction (vph)	0	0	57	0	0	90	0	36	0	0	0	62
Lane Group Flow (vph)	103	1089	82	137	743	156	258	354	0	195	249	20
Confl. Peds. (#/hr)			2	2			1					1
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	12%	12%	12%	14%	14%	14%	11%	11%	11%	14%	14%	14%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Actuated Green, G (s)	7.2	57.9	70.5	8.8	59.5	70.7	12.6	23.1		11.2	21.7	28.9
Effective Green, g (s)	7.2	59.4	70.5	8.8	61.0	70.7	12.6	24.6		11.2	23.2	28.9
Actuated g/C Ratio	0.06	0.49	0.59	0.07	0.51	0.59	0.10	0.21		0.09	0.19	0.24
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	4.0
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	1.5
Lane Grp Cap (vph)	187	1595	836	225	1609	826	331	638		286	322	337
v/s Ratio Prot	0.03	c0.34	0.01	c0.04	0.23	0.02	c0.08	0.11		0.06	c0.15	0.00
v/s Ratio Perm			0.05			0.09						0.01
v/c Ratio	0.55	0.68	0.10	0.61	0.46	0.19	0.78	0.56		0.68	0.77	0.06
Uniform Delay, d1	54.8	23.1	10.8	53.9	19.0	11.4	52.3	42.8		52.7	45.9	35.1
Progression Factor	1.15	0.51	0.76	1.09	0.89	2.05	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.7	2.1	0.0	3.0	0.9	0.0	10.1	0.6		5.3	10.1	0.0
Delay (s)	64.9	13.8	8.2	61.6	17.8	23.4	62.5	43.4		57.9	56.0	35.1
Level of Service	E	B	A	E	B	C	E	D		E	E	D
Approach Delay (s)		17.2			24.3			51.0			53.4	
Approach LOS		B			C			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			30.7				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			64.9%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (veh/h)	96	1013	129	127	691	229	240	261	101	181	232	76
Future Volume (veh/h)	96	1013	129	127	691	229	240	261	101	181	232	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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	1722	1722	1722	1693	1693	1693	1737	1737	1737	1693	1693	1693
Adj Flow Rate, veh/h	103	1089	123	137	743	171	258	281	87	195	249	60
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, %	12	12	12	14	14	14	11	11	11	14	14	14
Cap, veh/h	150	1696	872	194	1715	855	320	509	154	257	316	317
Arrive On Green	0.09	1.00	1.00	0.02	0.18	0.17	0.10	0.20	0.19	0.08	0.19	0.17
Sat Flow, veh/h	3182	3272	1437	3127	3216	1415	3209	2493	756	3127	1693	1432
Grp Volume(v), veh/h	103	1089	123	137	743	171	258	184	184	195	249	60
Grp Sat Flow(s),veh/h/ln	1591	1636	1437	1564	1608	1415	1605	1650	1599	1564	1693	1432
Q Serve(g_s), s	3.8	0.0	0.0	5.2	24.7	10.4	9.4	12.0	12.5	7.3	16.8	4.1
Cycle Q Clear(g_c), s	3.8	0.0	0.0	5.2	24.7	10.4	9.4	12.0	12.5	7.3	16.8	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	150	1696	872	194	1715	855	320	337	326	257	316	317
V/C Ratio(X)	0.69	0.64	0.14	0.71	0.43	0.20	0.81	0.55	0.56	0.76	0.79	0.19
Avail Cap(c_a), veh/h	186	1696	872	266	1715	855	369	408	396	341	409	396
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	0.0	0.0	57.7	33.3	19.9	52.9	42.8	43.3	53.9	46.5	38.0
Incr Delay (d2), s/veh	3.8	1.6	0.3	2.4	0.8	0.5	9.5	0.5	0.6	4.5	5.6	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	1.5	0.4	0.1	2.1	10.8	3.7	4.1	4.8	4.9	3.0	7.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.3	1.6	0.3	60.1	34.1	20.4	62.4	43.3	43.9	58.4	52.2	38.1
LnGrp LOS	E	A	A	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1315			1051			626			504	
Approach Delay, s/veh		5.8			35.2			51.3			52.9	
Approach LOS		A			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	66.2	16.0	26.4	9.7	68.0	13.9	28.5				
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	10.2	49.5	13.8	27.5	7.0	52.7	13.1	28.2				
Max Q Clear Time (g_c+I1), s	7.2	2.0	11.4	18.8	5.8	26.7	9.3	14.5				
Green Ext Time (p_c), s	0.3	36.5	0.5	1.8	0.1	17.7	0.6	3.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.6								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1252	41	0	1066	0	16
Future Vol, veh/h	1252	41	0	1066	0	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	-	130	-	-	-	0
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	13	13	93	93
Mvmt Flow	1318	43	0	1122	0	17
























Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	659
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	8.76
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	4.23
Pot Cap-1 Maneuver	-	-	0	-	246
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	246
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	246	-	-	-
HCM Lane V/C Ratio	0.068	-	-	-
HCM Control Delay (s)	20.7	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

HCM Signalized Intersection Capacity Analysis  
5: SW 115th Ave & SW T-S Rd

12/06/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1126	137	220	1004	11	60	0	89	3	1	2
Future Volume (vph)	5	1126	137	220	1004	11	60	0	89	3	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.5		4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00		0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1641	3282	1449	3127	3217		1337		1187	1538	1462	
Flt Permitted	0.26	1.00	1.00	0.95	1.00		0.76		1.00	0.76	1.00	
Satd. Flow (perm)	457	3282	1449	3127	3217		1064		1187	1226	1462	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1198	146	234	1068	12	64	0	95	3	1	2
RTOR Reduction (vph)	0	0	42	0	0	0	0	0	39	0	2	0
Lane Group Flow (vph)	5	1198	104	234	1080	0	64	0	56	3	1	0
Confl. Peds. (#/hr)	2					2			2	2		
Confl. Bikes (#/hr)			4			2						
Heavy Vehicles (%)	10%	10%	10%	12%	12%	12%	35%	35%	35%	17%	17%	17%
Turn Type	pm+pt	NA	Perm	Prot	NA		Perm		pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Actuated Green, G (s)	80.8	79.8	79.8	12.9	91.7		12.8		25.7	12.8	12.8	
Effective Green, g (s)	81.8	81.3	81.3	13.4	93.2		12.8		26.7	13.3	13.3	
Actuated g/C Ratio	0.68	0.68	0.68	0.11	0.78		0.11		0.22	0.11	0.11	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5		4.5	4.5	4.5	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	326	2223	981	349	2498		113		303	135	162	
v/s Ratio Prot	0.00	c0.37		c0.07	0.34				0.02		0.00	
v/s Ratio Perm	0.01		0.07				c0.06		0.03	0.00		
v/c Ratio	0.02	0.54	0.11	0.67	0.43		0.57		0.19	0.02	0.01	
Uniform Delay, d1	6.1	9.8	6.7	51.2	4.5		51.0		37.8	47.6	47.5	
Progression Factor	0.45	0.47	0.20	0.93	0.95		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.7	0.2	2.7	0.4		3.8		0.1	0.0	0.0	
Delay (s)	2.7	5.3	1.5	50.2	4.6		54.8		37.9	47.6	47.5	
Level of Service	A	A	A	D	A		D		D	D	D	
Approach Delay (s)		4.9			12.8			44.7			47.5	
Approach LOS		A			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			10.9				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			58.0%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary  
 5: SW 115th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	5	1126	137	220	1004	11	60	0	89	3	1	2
Future Volume (veh/h)	5	1126	137	220	1004	11	60	0	89	3	1	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	0.99		0.99	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	1752	1752	1752	1722	1722	1722	1381	1381	1381	1648	1648	1648
Adj Flow Rate, veh/h	5	1198	119	234	1068	12	64	0	63	3	1	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
Percent Heavy Veh, %	10	10	10	12	12	12	35	35	35	17	17	17
Cap, veh/h	416	2371	1043	303	2641	30	150	128	219	168	45	90
Arrive On Green	0.01	0.71	0.71	0.10	0.80	0.78	0.09	0.00	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1668	3328	1464	3182	3313	37	1037	1381	1163	1173	488	976
Grp Volume(v), veh/h	5	1198	119	234	527	553	64	0	63	3	0	3
Grp Sat Flow(s),veh/h/ln	1668	1664	1464	1591	1636	1714	1037	1381	1163	1173	0	1464
Q Serve(g_s), s	0.1	19.4	3.1	8.6	11.6	11.6	7.2	0.0	5.6	0.3	0.0	0.2
Cycle Q Clear(g_c), s	0.1	19.4	3.1	8.6	11.6	11.6	7.4	0.0	5.6	0.3	0.0	0.2
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	416	2371	1043	303	1304	1366	150	128	219	168	0	135
V/C Ratio(X)	0.01	0.51	0.11	0.77	0.40	0.40	0.43	0.00	0.29	0.02	0.00	0.02
Avail Cap(c_a), veh/h	475	2371	1043	424	1304	1366	309	340	397	348	0	360
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	0.62	0.62	0.62	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.9	7.8	5.4	53.0	3.6	3.7	53.4	0.0	41.9	49.5	0.0	49.7
Incr Delay (d2), s/veh	0.0	0.8	0.2	2.1	0.6	0.6	0.7	0.0	0.3	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	0.0	5.9	0.8	3.4	2.7	2.8	1.9	0.0	1.6	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.9	8.5	5.6	55.2	4.2	4.2	54.1	0.0	42.1	49.6	0.0	49.7
LnGrp LOS	A	A	A	E	A	A	D	A	D	D	A	D
Approach Vol, veh/h		1322			1314			127				6
Approach Delay, s/veh		8.3			13.3			48.2				49.6
Approach LOS		A			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.4	89.5		15.1	5.3	99.6		15.1				
Change Period (Y+Rc), s	4.5	5.5		4.5	4.5	5.5		4.5				
Max Green Setting (Gmax), s	15.5	61.0		29.0	5.0	71.5		29.0				
Max Q Clear Time (g_c+I1), s	10.6	21.4		2.3	2.1	13.6		9.4				
Green Ext Time (p_c), s	0.3	30.0		0.0	0.0	32.8		0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				12.6								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	853	298	20	896	107	320	52	17	27	10	16
Future Volume (vph)	76	853	298	20	896	107	320	52	17	27	10	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.4	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.96		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1626	3252	1422	1570	3081		1703	1722		1347	1289	
Flt Permitted	0.16	1.00	1.00	0.22	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	275	3252	1422	361	3081		1703	1722		1347	1289	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	927	324	22	974	116	348	57	18	29	11	17
RTOR Reduction (vph)	0	0	158	0	6	0	0	11	0	0	16	0
Lane Group Flow (vph)	83	927	166	22	1084	0	348	64	0	29	12	0
Confl. Peds. (#/hr)	1						1		1	1		
Confl. Bikes (#/hr)			4			2						
Heavy Vehicles (%)	11%	11%	11%	15%	15%	15%	6%	6%	6%	34%	34%	34%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								
Actuated Green, G (s)	69.2	61.4	61.4	64.8	59.2		26.7	29.7		5.3	8.3	
Effective Green, g (s)	69.2	62.9	61.5	64.8	60.7		26.7	30.2		5.3	8.8	
Actuated g/C Ratio	0.58	0.52	0.51	0.54	0.51		0.22	0.25		0.04	0.07	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	246	1704	728	251	1558		378	433		59	94	
v/s Ratio Prot	c0.02	0.29		0.00	c0.35		c0.20	c0.04		0.02	0.01	
v/s Ratio Perm	0.17		0.12	0.04								
v/c Ratio	0.34	0.54	0.23	0.09	0.70		0.92	0.15		0.49	0.13	
Uniform Delay, d1	28.4	19.0	16.1	22.8	22.6		45.6	34.9		56.0	52.0	
Progression Factor	0.45	0.45	0.40	1.00	1.00		1.00	1.00		0.89	1.08	
Incremental Delay, d2	0.7	1.1	0.6	0.2	2.6		27.3	0.2		6.3	0.6	
Delay (s)	13.6	9.7	7.2	23.0	25.2		72.9	35.1		56.4	56.7	
Level of Service	B	A	A	C	C		E	D		E	E	
Approach Delay (s)		9.3			25.2			66.2			56.5	
Approach LOS		A			C			E			E	

### Intersection Summary

HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



HCM 6th Signalized Intersection Summary  
 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	853	298	20	896	107	320	52	17	27	10	16
Future Volume (veh/h)	76	853	298	20	896	107	320	52	17	27	10	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	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	1737	1737	1737	1678	1678	1678	1811	1811	1811	1396	1396	1396
Adj Flow Rate, veh/h	83	927	275	22	974	67	348	57	13	29	11	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	15	15	15	6	6	6	34	34	34
Cap, veh/h	470	1186	499	480	1105	76	371	344	78	34	31	34
Arrive On Green	0.16	0.24	0.23	0.24	0.37	0.37	0.22	0.24	0.24	0.03	0.05	0.05
Sat Flow, veh/h	1654	3300	1434	1598	3020	208	1725	1427	325	1330	608	663
Grp Volume(v), veh/h	83	927	275	22	514	527	348	0	70	29	0	23
Grp Sat Flow(s),veh/h/ln	1654	1650	1434	1598	1594	1634	1725	0	1752	1330	0	1272
Q Serve(g_s), s	0.0	31.5	11.1	0.0	36.2	36.2	23.8	0.0	3.8	2.6	0.0	2.1
Cycle Q Clear(g_c), s	0.0	31.5	11.1	0.0	36.2	36.2	23.8	0.0	3.8	2.6	0.0	2.1
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.19	1.00		0.52
Lane Grp Cap(c), veh/h	470	1186	499	480	583	598	371	0	422	34	0	65
V/C Ratio(X)	0.18	0.78	0.55	0.05	0.88	0.88	0.94	0.00	0.17	0.84	0.00	0.35
Avail Cap(c_a), veh/h	470	1238	521	480	594	609	374	0	647	102	0	291
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	41.2	11.3	28.9	35.6	35.6	46.3	0.0	36.1	58.2	0.0	55.1
Incr Delay (d2), s/veh	0.2	4.4	3.7	0.0	17.3	17.0	30.8	0.0	0.2	39.4	0.0	3.2
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	2.0	13.8	4.2	0.4	16.1	16.5	13.2	0.0	1.6	1.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	45.6	15.0	28.9	52.9	52.6	77.1	0.0	36.2	97.6	0.0	58.3
LnGrp LOS	D	D	B	C	D	D	E	A	D	F	A	E
Approach Vol, veh/h		1285			1063			418				52
Approach Delay, s/veh		38.6			52.3			70.3				80.2
Approach LOS		D			D			E				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.9	47.1	29.8	10.2	32.1	47.9	7.1	32.9				
Change Period (Y+Rc), s	4.0	5.5	4.0	4.5	4.0	5.5	4.0	4.5				
Max Green Setting (Gmax), s	5.5	43.5	26.0	27.0	5.8	43.2	9.2	43.8				
Max Q Clear Time (g_c+I1), s	2.0	33.5	25.8	4.1	2.0	38.2	4.6	5.8				
Green Ext Time (p_c), s	0.0	8.1	0.0	0.1	0.1	4.2	0.0	0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			49.2									
HCM 6th LOS			D									



HCM 6th TWSC  
 7: SW Cipole Road & Project Driveway #3

12/06/2021

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	5	192	153	39	85
Future Vol, veh/h	21	5	192	153	39	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	5	5	10	10	17	17
Mvmt Flow	28	7	259	207	53	115

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	584	363	0	0	466
Stage 1	363	-	-	-	-
Stage 2	221	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.27
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.353
Pot Cap-1 Maneuver	469	675	-	-	1021
Stage 1	697	-	-	-	-
Stage 2	809	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	443	675	-	-	1021
Mov Cap-2 Maneuver	443	-	-	-	-
Stage 1	697	-	-	-	-
Stage 2	765	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.2	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	474	1021
HCM Lane V/C Ratio	-	-	0.074	0.052
HCM Control Delay (s)	-	-	13.2	8.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.2

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	175	63	64	120	1	92	1	104	2	0	0
Future Vol, veh/h	2	175	63	64	120	1	92	1	104	2	0	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	20	20	20	9	9	9	14	14	14	0	0	0
Mvmt Flow	3	236	85	86	162	1	124	1	141	3	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.9	11.6	12.1	9.2
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	47%	1%	35%	100%
Vol Thru, %	1%	73%	65%	0%
Vol Right, %	53%	26%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	197	240	185	2
LT Vol	92	2	64	2
Through Vol	1	175	120	0
RT Vol	104	63	1	0
Lane Flow Rate	266	324	250	3
Geometry Grp	1	1	1	1
Degree of Util (X)	0.401	0.474	0.373	0.005
Departure Headway (Hd)	5.425	5.258	5.366	6.142
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	663	691	670	581
Service Time	3.46	3.258	3.396	4.192
HCM Lane V/C Ratio	0.401	0.469	0.373	0.005
HCM Control Delay	12.1	12.9	11.6	9.2
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	1.9	2.6	1.7	0

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	5	0	2	0	551	36	15	484	0
Future Vol, veh/h	0	0	0	5	0	2	0	551	36	15	484	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	43	43	43	17	17	17	20	20	20
Mvmt Flow	0	0	0	6	0	2	0	612	40	17	538	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	878	1224	269	935	1204	326	538	0	0	652	0	0
Stage 1	572	572	-	632	632	-	-	-	-	-	-	-
Stage 2	306	652	-	303	572	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	8.36	7.36	7.76	4.44	-	-	4.5	-	-
Critical Hdwy Stg 1	6.6	5.6	-	7.36	6.36	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	7.36	6.36	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.93	4.43	3.73	2.37	-	-	2.4	-	-
Pot Cap-1 Maneuver	237	174	720	167	133	563	929	-	-	819	-	-
Stage 1	465	495	-	348	383	-	-	-	-	-	-	-
Stage 2	670	455	-	579	412	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	232	170	720	164	130	563	929	-	-	819	-	-
Mov Cap-2 Maneuver	232	170	-	164	130	-	-	-	-	-	-	-
Stage 1	465	485	-	348	383	-	-	-	-	-	-	-
Stage 2	667	455	-	567	403	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	23.2	0	0.3
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	929	-	-	-	206	819	-
HCM Lane V/C Ratio	-	-	-	-	0.038	0.02	-
HCM Control Delay (s)	0	-	-	0	23.2	9.5	-
HCM Lane LOS	A	-	-	A	C	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	11	82	471	488	21
Future Vol, veh/h	3	11	82	471	488	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	17	17	20	20
Mvmt Flow	3	12	91	523	542	23

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	998	283	565	0	0
Stage 1	554	-	-	-	-
Stage 2	444	-	-	-	-
Critical Hdwy	6.9	7	4.44	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-
Follow-up Hdwy	3.55	3.35	2.37	-	-
Pot Cap-1 Maneuver	235	705	906	-	-
Stage 1	531	-	-	-	-
Stage 2	605	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	212	705	906	-	-
Mov Cap-2 Maneuver	212	-	-	-	-
Stage 1	478	-	-	-	-
Stage 2	605	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	906	-	471	-	-
HCM Lane V/C Ratio	0.101	-	0.033	-	-
HCM Control Delay (s)	9.4	-	12.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.1	-	-

HCM 6th TWSC  
 11: SW 124th Avenue & SW Myslony Street

12/06/2021

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	1	3	30	1	19	18	416	40	45	476	25
Future Vol, veh/h	4	1	3	30	1	19	18	416	40	45	476	25
Conflicting Peds, #/hr	3	0	1	1	0	3	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	13	13	13	41	41	41	18	18	18	17	17	17
Mvmt Flow	5	1	4	36	1	23	21	495	48	54	567	30

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	984	1276	301	954	1267	275	598	0	0	543	0	0
Stage 1	691	691	-	561	561	-	-	-	-	-	-	-
Stage 2	293	585	-	393	706	-	-	-	-	-	-	-
Critical Hdwy	7.76	6.76	7.16	8.32	7.32	7.72	4.46	-	-	4.44	-	-
Critical Hdwy Stg 1	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.63	4.13	3.43	3.91	4.41	3.71	2.38	-	-	2.37	-	-
Pot Cap-1 Maneuver	188	151	663	163	122	618	873	-	-	925	-	-
Stage 1	376	418	-	393	422	-	-	-	-	-	-	-
Stage 2	661	469	-	509	353	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	168	139	662	151	112	616	872	-	-	925	-	-
Mov Cap-2 Maneuver	168	139	-	151	112	-	-	-	-	-	-	-
Stage 1	367	393	-	384	412	-	-	-	-	-	-	-
Stage 2	618	458	-	475	332	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	21.7		28.8		0.4		0.8	
HCM LOS	C		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	872	-	-	225	210	925	-	-
HCM Lane V/C Ratio	0.025	-	-	0.042	0.283	0.058	-	-
HCM Control Delay (s)	9.2	-	-	21.7	28.8	9.1	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	1.1	0.2	-	-

# HCM Signalized Intersection Capacity Analysis

## 12: SW 124th Avenue & SW Herman Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	232	58	55	161	40	39	334	66	183	432	91
Future Volume (vph)	35	232	58	55	161	40	39	334	66	183	432	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1631		1597	1627		1504	2923		1702	3305	
Flt Permitted	0.58	1.00		0.33	1.00		0.43	1.00		0.32	1.00	
Satd. Flow (perm)	967	1631		561	1627		682	2923		582	3305	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	39	261	65	62	181	45	44	375	74	206	485	102
RTOR Reduction (vph)	0	8	0	0	8	0	0	14	0	0	15	0
Lane Group Flow (vph)	39	318	0	62	218	0	44	435	0	206	572	0
Confl. Peds. (#/hr)	1						1			1		
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	6%	6%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	25.1	22.5		29.3	24.6		24.0	20.6		36.6	28.2	
Effective Green, g (s)	27.1	24.0		31.3	26.1		26.0	22.1		37.6	29.7	
Actuated g/C Ratio	0.34	0.30		0.39	0.33		0.33	0.28		0.47	0.37	
Clearance Time (s)	5.0	5.5		5.0	5.5		5.0	5.5		5.0	5.5	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	356	490		294	532		267	809		442	1230	
v/s Ratio Prot	0.00	c0.20		c0.02	0.13		0.01	c0.15		c0.07	0.17	
v/s Ratio Perm	0.03			0.07			0.04			0.15		
v/c Ratio	0.11	0.65		0.21	0.41		0.16	0.54		0.47	0.46	
Uniform Delay, d1	17.9	24.2		16.1	20.9		18.7	24.5		13.3	19.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	3.0		0.1	0.5		0.1	0.7		0.3	0.3	
Delay (s)	17.9	27.2		16.2	21.4		18.8	25.2		13.6	19.3	
Level of Service	B	C		B	C		B	C		B	B	
Approach Delay (s)		26.2			20.3			24.6			17.8	
Approach LOS		C			C			C			B	

### Intersection Summary

HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	79.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 12: SW 124th Avenue & SW Herman Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	35	232	58	55	161	40	39	334	66	183	432	91
Future Volume (veh/h)	35	232	58	55	161	40	39	334	66	183	432	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
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	1707	1707	1707	1707	1707	1707	1604	1604	1604	1811	1811	1811
Adj Flow Rate, veh/h	39	261	0	62	181	0	44	375	74	206	485	102
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	13	13	13	13	13	13	20	20	20	6	6	6
Cap, veh/h	406	408		353	434		351	624	122	465	898	188
Arrive On Green	0.06	0.24	0.00	0.08	0.25	0.00	0.06	0.25	0.22	0.14	0.32	0.29
Sat Flow, veh/h	1626	1707	0	1626	1707	0	1527	2530	494	1725	2820	589
Grp Volume(v), veh/h	39	261	0	62	181	0	44	224	225	206	295	292
Grp Sat Flow(s),veh/h/ln	1626	1707	0	1626	1707	0	1527	1523	1500	1725	1721	1689
Q Serve(g_s), s	0.9	7.2	0.0	1.5	4.7	0.0	1.1	6.9	7.1	4.2	7.4	7.6
Cycle Q Clear(g_c), s	0.9	7.2	0.0	1.5	4.7	0.0	1.1	6.9	7.1	4.2	7.4	7.6
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.33	1.00		0.35
Lane Grp Cap(c), veh/h	406	408		353	434		351	376	370	465	548	538
V/C Ratio(X)	0.10	0.64		0.18	0.42		0.13	0.60	0.61	0.44	0.54	0.54
Avail Cap(c_a), veh/h	493	1358		477	1423		485	923	909	950	1499	1471
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	18.0	0.0	13.8	16.4	0.0	13.4	17.6	17.9	11.5	14.8	15.1
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.1	0.6	0.0	0.1	1.5	1.6	0.2	0.8	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	0.3	2.7	0.0	0.5	1.7	0.0	0.3	2.1	2.2	1.2	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	19.7	0.0	13.9	17.1	0.0	13.5	19.1	19.5	11.8	15.6	15.9
LnGrp LOS	B	B		B	B		B	B	B	B	B	B
Approach Vol, veh/h		300	A		243	A		493			793	
Approach Delay, s/veh		18.9			16.2			18.8			14.7	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	17.0	8.0	16.6	7.4	20.8	7.2	17.4				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5	5.0	5.5	5.0	5.5				
Max Green Setting (Gmax), s	21.0	30.5	7.0	40.5	7.0	44.5	5.0	42.5				
Max Q Clear Time (g_c+I1), s	6.2	9.1	3.5	9.2	3.1	9.6	2.9	6.7				
Green Ext Time (p_c), s	0.2	2.4	0.0	1.6	0.0	3.5	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

# HCM Signalized Intersection Capacity Analysis

## 1: SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	856	125	403	1112	8	134	1	188	12	11	8
Future Volume (vph)	7	856	125	403	1112	8	134	1	188	12	11	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1736	3471	1512	1752	3500			1740	1545		1797	
Flt Permitted	0.23	1.00	1.00	0.22	1.00			0.78	1.00		0.88	
Satd. Flow (perm)	427	3471	1512	401	3500			1420	1545		1612	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	8	920	134	433	1196	9	144	1	202	13	12	9
RTOR Reduction (vph)	0	0	55	0	0	0	0	0	28	0	8	0
Lane Group Flow (vph)	8	920	79	433	1205	0	0	145	174	0	26	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			3						
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	64.5	63.5	63.5	93.9	88.9			16.6	43.0		16.6	
Effective Green, g (s)	64.5	65.0	65.0	93.9	90.4			16.6	43.0		16.6	
Actuated g/C Ratio	0.54	0.54	0.54	0.78	0.75			0.14	0.36		0.14	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5			4.0	4.0		4.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5			1.5	1.5		1.5	
Lane Grp Cap (vph)	240	1880	819	611	2636			196	605		222	
v/s Ratio Prot	0.00	0.27		c0.16	0.34				0.06			
v/s Ratio Perm	0.02		0.05	c0.40				c0.10	0.05		0.02	
v/c Ratio	0.03	0.49	0.10	0.71	0.46			0.74	0.29		0.12	
Uniform Delay, d1	13.1	17.2	13.3	11.9	5.6			49.6	27.6		45.3	
Progression Factor	1.00	1.00	1.00	0.57	0.72			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.9	0.2	2.5	0.5			11.9	0.1		0.1	
Delay (s)	13.1	18.1	13.5	9.3	4.5			61.5	27.6		45.4	
Level of Service	B	B	B	A	A			E	C		D	
Approach Delay (s)		17.5			5.8			41.8			45.4	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



HCM 6th Signalized Intersection Summary  
 1: SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	856	125	403	1112	8	134	1	188	12	11	8
Future Volume (veh/h)	7	856	125	403	1112	8	134	1	188	12	11	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1841	1841	1841	1900	1900	1900
Adj Flow Rate, veh/h	8	920	102	433	1196	9	144	1	127	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	276	2010	877	491	2445	18	219	1	507	50	44	19
Arrive On Green	0.01	0.57	0.57	0.08	0.46	0.46	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1753	3497	1525	1767	3586	27	764	5	1558	41	210	90
Grp Volume(v), veh/h	8	920	102	433	588	617	145	0	127	34	0	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1525	1767	1763	1850	769	0	1558	341	0	0
Q Serve(g_s), s	0.2	18.2	3.7	11.2	28.0	28.0	0.0	0.0	7.2	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.2	18.2	3.7	11.2	28.0	28.0	23.3	0.0	7.2	23.7	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	276	2010	877	491	1202	1261	220	0	507	112	0	0
V/C Ratio(X)	0.03	0.46	0.12	0.88	0.49	0.49	0.66	0.00	0.25	0.30	0.00	0.00
Avail Cap(c_a), veh/h	341	2010	877	830	1202	1261	220	0	507	112	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.71	0.71	0.71	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.0	14.7	11.6	15.8	18.0	18.0	46.8	0.0	29.7	40.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.3	2.2	1.0	1.0	5.7	0.0	0.1	0.6	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	6.8	1.2	5.7	12.2	12.8	4.6	0.0	2.7	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.0	15.5	11.9	18.0	19.0	18.9	52.5	0.0	29.8	40.6	0.0	0.0
LnGrp LOS	B	B	B	B	B	B	D	A	C	D	A	A
Approach Vol, veh/h		1030			1638			272				34
Approach Delay, s/veh		15.1			18.7			41.9				40.6
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	73.0		29.0	5.2	85.8		29.0				
Change Period (Y+Rc), s	4.0	5.5		4.0	4.0	5.5		4.0				
Max Green Setting (Gmax), s	37.0	44.5		25.0	5.6	75.9		25.0				
Max Q Clear Time (g_c+I1), s	13.2	20.2		25.7	2.2	30.0		25.3				
Green Ext Time (p_c), s	0.9	16.5		0.0	0.0	32.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				19.8								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗		↘	↗↗		↘	↗		↘	↗	
Traffic Volume (vph)	42	1025	18	17	1299	27	60	9	45	163	2	162
Future Volume (vph)	42	1025	18	17	1299	27	60	9	45	163	2	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.5	4.0		4.5	4.5		4.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.88		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3460		1752	3493		1805	1663		1736	1556	
Flt Permitted	0.10	1.00		0.19	1.00		0.64	1.00		0.51	1.00	
Satd. Flow (perm)	189	3460		350	3493		1225	1663		938	1556	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	1114	20	18	1412	29	65	10	49	177	2	176
RTOR Reduction (vph)	0	1	0	0	1	0	0	45	0	0	144	0
Lane Group Flow (vph)	46	1133	0	18	1440	0	65	14	0	177	34	0
Confl. Peds. (#/hr)	1		2	2		1						
Confl. Bikes (#/hr)			6			4						
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	0%	0%	0%	4%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	76.9	72.7		73.6	71.3		13.7	9.5		30.0	21.3	
Effective Green, g (s)	76.9	74.2		73.6	72.8		13.7	9.5		31.0	21.3	
Actuated g/C Ratio	0.64	0.62		0.61	0.61		0.11	0.08		0.26	0.18	
Clearance Time (s)	4.0	5.5		4.5	5.5		4.5	4.5		5.0	5.0	
Vehicle Extension (s)	1.5	3.5		3.0	3.5		3.0	3.0		2.0	2.0	
Lane Grp Cap (vph)	175	2139		241	2119		160	131		355	276	
v/s Ratio Prot	c0.01	0.33		0.00	c0.41		0.01	0.01		c0.07	0.02	
v/s Ratio Perm	0.16			0.04			0.03			c0.06		
v/c Ratio	0.26	0.53		0.07	0.68		0.41	0.11		0.50	0.12	
Uniform Delay, d1	12.8	13.0		10.4	15.8		48.8	51.3		36.8	41.5	
Progression Factor	0.57	0.95		0.70	0.62		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.9		0.1	1.6		1.7	0.4		0.4	0.1	
Delay (s)	7.6	13.2		7.3	11.3		50.5	51.7		37.2	41.6	
Level of Service	A	B		A	B		D	D		D	D	
Approach Delay (s)		13.0			11.3			51.1			39.4	
Approach LOS		B			B			D			D	

### Intersection Summary

HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 2: SW Tualatin Sherwood Road & SW Cipole Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗		↗	↗↗		↗	↗		↗	↗	
Traffic Volume (veh/h)	42	1025	18	17	1299	27	60	9	45	163	2	162
Future Volume (veh/h)	42	1025	18	17	1299	27	60	9	45	163	2	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1900	1900	1900	1841	1841	1841
Adj Flow Rate, veh/h	46	1114	20	18	1412	29	65	10	49	177	2	122
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	3	3	3	0	0	0	4	4	4
Cap, veh/h	351	2332	42	278	2309	47	202	15	74	302	3	190
Arrive On Green	0.01	0.22	0.21	0.04	1.00	1.00	0.04	0.05	0.05	0.12	0.12	0.13
Sat Flow, veh/h	1753	3513	63	1767	3531	72	1810	280	1373	1753	25	1539
Grp Volume(v), veh/h	46	554	580	18	704	737	65	0	59	177	0	124
Grp Sat Flow(s),veh/h/ln	1753	1749	1827	1767	1763	1840	1810	0	1653	1753	0	1564
Q Serve(g_s), s	1.1	33.2	33.2	0.4	0.0	0.0	4.0	0.0	4.2	10.8	0.0	9.0
Cycle Q Clear(g_c), s	1.1	33.2	33.2	0.4	0.0	0.0	4.0	0.0	4.2	10.8	0.0	9.0
Prop In Lane	1.00		0.03	1.00		0.04	1.00		0.83	1.00		0.98
Lane Grp Cap(c), veh/h	351	1161	1213	278	1153	1204	202	0	89	302	0	193
V/C Ratio(X)	0.13	0.48	0.48	0.06	0.61	0.61	0.32	0.00	0.66	0.59	0.00	0.64
Avail Cap(c_a), veh/h	376	1161	1213	320	1153	1204	202	0	387	432	0	584
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.7	28.7	28.7	11.2	0.0	0.0	50.7	0.0	55.7	43.3	0.0	49.6
Incr Delay (d2), s/veh	0.1	1.2	1.2	0.1	2.0	1.9	0.9	0.0	8.2	0.7	0.0	1.3
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	0.4	15.8	16.5	0.1	0.6	0.6	1.9	0.0	2.0	4.8	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.7	30.0	29.9	11.3	2.0	1.9	51.6	0.0	64.0	43.9	0.0	50.9
LnGrp LOS	A	C	C	B	A	A	D	A	E	D	A	D
Approach Vol, veh/h		1180			1459			124				301
Approach Delay, s/veh		29.0			2.1			57.5				46.8
Approach LOS		C			A			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	83.6	9.8	19.8	7.9	82.5	18.2	11.4				
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.0	5.5	5.0	* 5				
Max Green Setting (Gmax), s	5.1	45.3	5.3	44.8	5.6	45.3	22.0	* 28				
Max Q Clear Time (g_c+I1), s	2.4	35.2	6.0	11.0	3.1	2.0	12.8	6.2				
Green Ext Time (p_c), s	0.0	9.4	0.0	0.5	0.0	40.4	0.3	0.2				

Intersection Summary

HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖↗	↕		↖↗	↕	↖
Traffic Volume (vph)	66	954	212	81	955	129	153	230	160	232	329	235
Future Volume (vph)	66	954	212	81	955	129	153	230	160	232	329	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3471	1533	3433	3539	1565	3335	3207		3433	1863	1565
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3471	1533	3433	3539	1565	3335	3207		3433	1863	1565
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	68	984	219	84	985	133	158	237	165	239	339	242
RTOR Reduction (vph)	0	0	90	0	0	55	0	113	0	0	0	43
Lane Group Flow (vph)	68	984	129	84	985	78	158	289	0	239	339	199
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			1			2			1			2
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	5%	5%	5%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Actuated Green, G (s)	6.9	60.2	69.5	5.5	58.8	70.7	9.3	23.4		11.9	26.0	32.9
Effective Green, g (s)	6.9	61.7	69.5	5.5	60.3	70.7	9.3	24.9		11.9	27.5	32.9
Actuated g/C Ratio	0.06	0.51	0.58	0.05	0.50	0.59	0.08	0.21		0.10	0.23	0.27
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	4.0
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	1.5
Lane Grp Cap (vph)	193	1784	887	157	1778	922	258	665		340	426	429
v/s Ratio Prot	0.02	c0.28	0.01	0.02	0.28	0.01	0.05	0.09		c0.07	c0.18	c0.03
v/s Ratio Perm			0.07			0.04						0.10
v/c Ratio	0.35	0.55	0.15	0.54	0.55	0.08	0.61	0.44		0.70	0.80	0.46
Uniform Delay, d1	54.4	19.8	11.6	56.0	20.6	10.7	53.6	41.4		52.3	43.6	36.2
Progression Factor	1.29	0.56	0.17	1.10	0.65	1.83	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	1.1	0.0	1.6	1.1	0.0	3.0	0.2		5.3	9.3	0.3
Delay (s)	70.6	12.1	2.0	63.3	14.4	19.6	56.6	41.6		57.6	52.9	36.5
Level of Service	E	B	A	E	B	B	E	D		E	D	D
Approach Delay (s)		13.5			18.4			45.8			49.4	
Approach LOS		B			B			D			D	

Intersection Summary		
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.64	C
Actuated Cycle Length (s)	120.0	Sum of lost time (s)
Intersection Capacity Utilization	66.5%	16.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		C

HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↖	↖	↖↗	↖↖	↖	↖↗	↖↖		↖↗	↖	↖
Traffic Volume (veh/h)	66	954	212	81	955	129	153	230	160	232	329	235
Future Volume (veh/h)	66	954	212	81	955	129	153	230	160	232	329	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.98
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	1870	1870	1870	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	68	984	157	84	985	92	158	237	144	239	339	149
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	2	2	2	5	5	5	2	2	2
Cap, veh/h	127	1872	906	135	1908	963	221	424	247	312	424	394
Arrive On Green	0.07	1.00	1.00	0.04	0.54	0.52	0.07	0.20	0.19	0.09	0.23	0.21
Sat Flow, veh/h	3401	3497	1539	3456	3554	1563	3374	2097	1222	3456	1870	1561
Grp Volume(v), veh/h	68	984	157	84	985	92	158	194	187	239	339	149
Grp Sat Flow(s),veh/h/ln	1700	1749	1539	1728	1777	1563	1687	1735	1584	1728	1870	1561
Q Serve(g_s), s	2.3	0.0	0.0	2.9	21.3	2.9	5.5	12.1	12.9	8.1	20.5	9.5
Cycle Q Clear(g_c), s	2.3	0.0	0.0	2.9	21.3	2.9	5.5	12.1	12.9	8.1	20.5	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.77	1.00		1.00
Lane Grp Cap(c), veh/h	127	1872	906	135	1908	963	221	351	320	312	424	394
V/C Ratio(X)	0.54	0.53	0.17	0.62	0.52	0.10	0.72	0.55	0.58	0.77	0.80	0.38
Avail Cap(c_a), veh/h	315	1872	906	202	1908	963	309	448	409	403	530	482
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.0	56.8	17.8	9.5	55.0	43.0	43.9	53.3	43.8	37.1
Incr Delay (d2), s/veh	1.1	0.9	0.4	1.7	1.0	0.2	2.0	0.5	0.6	4.5	5.4	0.2
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	1.0	0.2	0.1	1.3	8.4	1.0	2.3	5.1	5.0	3.6	9.8	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.9	0.4	58.5	18.8	9.7	57.0	43.5	44.5	57.9	49.2	37.4
LnGrp LOS	E	A	A	E	B	A	E	D	D	E	D	D
Approach Vol, veh/h		1209			1161			539			727	
Approach Delay, s/veh		3.9			20.9			47.8			49.6	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	68.2	11.9	31.2	8.5	68.4	14.8	28.3				
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	7.0	50.5	11.0	32.5	11.1	46.4	14.0	29.5				
Max Q Clear Time (g_c+I1), s	4.9	2.0	7.5	22.5	4.3	23.3	10.1	14.9				
Green Ext Time (p_c), s	0.1	34.5	0.4	3.2	0.2	18.6	0.7	3.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				25.0								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1325	23	0	1144	0	18
Future Vol, veh/h	1325	23	0	1144	0	18
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	130	-	-	-	0
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	4	4	2	2	0	0
Mvmt Flow	1410	24	0	1217	0	19

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	707
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	382
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	381
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	381	-	-	-
HCM Lane V/C Ratio	0.05	-	-	-
HCM Control Delay (s)	14.9	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

# HCM Signalized Intersection Capacity Analysis

## 5: SW 115th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	1267	64	58	982	17	146	0	243	17	1	16
Future Volume (vph)	13	1267	64	58	982	17	146	0	243	17	1	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.5		4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00		0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1735	3471	1530	3400	3494		1717		1520	1767	1579	
Flt Permitted	0.21	1.00	1.00	0.95	1.00		0.75		1.00	0.76	1.00	
Satd. Flow (perm)	376	3471	1530	3400	3494		1348		1520	1408	1579	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	14	1320	67	60	1023	18	152	0	253	18	1	17
RTOR Reduction (vph)	0	0	33	0	1	0	0	0	20	0	11	0
Lane Group Flow (vph)	14	1320	34	60	1040	0	152	0	233	18	7	0
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	Prot	NA		Perm		pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Actuated Green, G (s)	61.9	59.9	59.9	6.5	64.4		39.1		45.6	39.1	39.1	
Effective Green, g (s)	62.9	61.4	61.4	7.0	65.9		39.1		46.6	39.6	39.6	
Actuated g/C Ratio	0.52	0.51	0.51	0.06	0.55		0.33		0.39	0.33	0.33	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5		4.5	4.5	4.5	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	225	1775	782	198	1918		439		640	464	521	
v/s Ratio Prot	0.00	c0.38		0.02	0.30				c0.02		0.00	
v/s Ratio Perm	0.03		0.02				0.11		0.13	0.01		
v/c Ratio	0.06	0.74	0.04	0.30	0.54		0.35		0.36	0.04	0.01	
Uniform Delay, d1	14.7	23.1	14.6	54.2	17.4		30.7		26.2	27.3	27.0	
Progression Factor	0.45	0.86	1.38	1.08	0.69		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.0	1.6	0.0	0.3	0.3		2.2		0.1	0.2	0.0	
Delay (s)	6.7	21.5	20.2	58.9	12.2		32.9		26.3	27.4	27.1	
Level of Service	A	C	C	E	B		C		C	C	C	
Approach Delay (s)		21.3			14.8			28.8			27.3	
Approach LOS		C			B			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			20.0				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			65.9%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												



# HCM 6th Signalized Intersection Summary

## 5: SW 115th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘↘	↗↗		↘	↗	↘	↘	↗	↘
Traffic Volume (veh/h)	13	1267	64	58	982	17	146	0	243	17	1	16
Future Volume (veh/h)	13	1267	64	58	982	17	146	0	243	17	1	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	14	1320	46	60	1023	18	152	0	164	18	1	12
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	5	5	5	2	2	2
Cap, veh/h	254	1704	749	138	1799	32	557	680	638	515	46	551
Arrive On Green	0.02	0.49	0.49	0.04	0.51	0.50	0.37	0.00	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1753	3497	1538	3428	3545	62	1367	1826	1546	1221	123	1479
Grp Volume(v), veh/h	14	1320	46	60	509	532	152	0	164	18	0	13
Grp Sat Flow(s),veh/h/ln	1753	1749	1538	1714	1763	1844	1367	1826	1546	1221	0	1603
Q Serve(g_s), s	0.5	37.3	1.9	2.1	24.0	24.0	9.6	0.0	8.4	1.1	0.0	0.6
Cycle Q Clear(g_c), s	0.5	37.3	1.9	2.1	24.0	24.0	10.2	0.0	8.4	1.1	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	254	1704	749	138	895	936	557	680	638	515	0	597
V/C Ratio(X)	0.06	0.77	0.06	0.44	0.57	0.57	0.27	0.00	0.26	0.03	0.00	0.02
Avail Cap(c_a), veh/h	300	1778	782	377	1009	1056	557	680	638	515	0	597
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	0.84	0.84	0.84	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	25.4	16.3	56.3	20.4	20.5	27.4	0.0	23.1	24.0	0.0	24.0
Incr Delay (d2), s/veh	0.0	2.2	0.0	0.7	0.6	0.6	1.2	0.0	1.0	0.1	0.0	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	0.2	14.9	0.7	0.9	9.3	9.8	3.3	0.0	3.2	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	27.6	16.3	56.9	21.0	21.0	28.6	0.0	24.1	24.1	0.0	24.0
LnGrp LOS	B	C	B	E	C	C	C	A	C	C	A	C
Approach Vol, veh/h		1380			1101			316				31
Approach Delay, s/veh		27.1			23.0			26.3				24.1
Approach LOS		C			C			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	62.5		48.7	6.4	64.9		48.7				
Change Period (Y+Rc), s	4.5	5.5		4.5	4.5	5.5		4.5				
Max Green Setting (Gmax), s	12.7	59.5		33.3	5.0	67.2		33.3				
Max Q Clear Time (g_c+I1), s	4.1	39.3		3.1	2.5	26.0		12.2				
Green Ext Time (p_c), s	0.1	17.6		0.1	0.0	25.4		0.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				25.4								
HCM 6th LOS				C								



# HCM Signalized Intersection Capacity Analysis

## 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	31	1069	418	5	774	39	214	20	15	106	45	67
Future Volume (vph)	31	1069	418	5	774	39	214	20	15	106	45	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.4	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3471	1520	1719	3410		1770	1732		1736	1649	
Flt Permitted	0.25	1.00	1.00	0.17	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	465	3471	1520	299	3410		1770	1732		1736	1649	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	1125	440	5	815	41	225	21	16	112	47	71
RTOR Reduction (vph)	0	0	193	0	2	0	0	14	0	0	52	0
Lane Group Flow (vph)	33	1125	247	5	854	0	225	23	0	112	66	0
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)			2			3						
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								
Actuated Green, G (s)	73.8	67.2	67.2	62.0	60.9		19.5	14.4		19.3	14.2	
Effective Green, g (s)	73.8	68.7	67.3	62.0	62.4		19.5	14.9		19.3	14.7	
Actuated g/C Ratio	0.61	0.57	0.56	0.52	0.52		0.16	0.12		0.16	0.12	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	364	1987	852	167	1773		287	215		279	202	
v/s Ratio Prot	c0.01	c0.32		0.00	0.25		c0.13	0.01		0.06	c0.04	
v/s Ratio Perm	0.05		0.16	0.02								
v/c Ratio	0.09	0.57	0.29	0.03	0.48		0.78	0.11		0.40	0.33	
Uniform Delay, d1	16.6	16.2	13.8	26.4	18.4		48.2	46.6		45.2	48.1	
Progression Factor	0.49	0.55	0.17	1.00	1.00		1.00	1.00		1.00	1.01	
Incremental Delay, d2	0.1	0.9	0.6	0.1	0.9		13.1	0.2		0.9	1.0	
Delay (s)	8.2	9.9	3.0	26.5	19.4		61.3	46.9		46.1	49.7	
Level of Service	A	A	A	C	B		E	D		D	D	
Approach Delay (s)		7.9			19.4			59.3			47.9	
Approach LOS		A			B			E			D	

### Intersection Summary

HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	1069	418	5	774	39	214	20	15	106	45	67
Future Volume (veh/h)	31	1069	418	5	774	39	214	20	15	106	45	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1826	1826	1826	1870	1870	1870	1841	1841	1841
Adj Flow Rate, veh/h	33	1125	377	5	815	20	225	21	11	112	47	66
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, %	4	4	4	5	5	5	2	2	2	4	4	4
Cap, veh/h	641	1319	558	528	1148	28	257	185	97	139	66	92
Arrive On Green	0.59	0.75	0.73	0.25	0.33	0.33	0.14	0.16	0.16	0.08	0.09	0.09
Sat Flow, veh/h	1753	3497	1526	1739	3458	85	1781	1155	605	1753	691	971
Grp Volume(v), veh/h	33	1125	377	5	409	426	225	0	32	112	0	113
Grp Sat Flow(s),veh/h/ln	1753	1749	1526	1739	1735	1808	1781	0	1760	1753	0	1662
Q Serve(g_s), s	0.0	26.6	10.2	0.0	24.7	24.7	14.8	0.0	1.9	7.5	0.0	7.9
Cycle Q Clear(g_c), s	0.0	26.6	10.2	0.0	24.7	24.7	14.8	0.0	1.9	7.5	0.0	7.9
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.34	1.00		0.58
Lane Grp Cap(c), veh/h	641	1319	558	528	576	600	257	0	282	139	0	158
V/C Ratio(X)	0.05	0.85	0.68	0.01	0.71	0.71	0.87	0.00	0.11	0.81	0.00	0.72
Avail Cap(c_a), veh/h	641	1399	592	528	694	723	341	0	515	225	0	381
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.2	12.5	5.2	25.9	35.0	35.0	50.3	0.0	43.2	54.4	0.0	52.9
Incr Delay (d2), s/veh	0.0	4.7	4.2	0.0	7.3	7.0	17.3	0.0	0.2	10.5	0.0	5.9
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	0.3	5.2	3.7	0.1	11.2	11.6	7.8	0.0	0.8	3.7	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	17.2	9.4	25.9	42.3	42.0	67.6	0.0	43.3	64.9	0.0	58.8
LnGrp LOS	B	B	A	C	D	D	E	A	D	E	A	E
Approach Vol, veh/h		1535			840			257				225
Approach Delay, s/veh		15.2			42.1			64.6				61.8
Approach LOS		B			D			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.0	49.3	21.3	15.4	39.4	43.8	13.5	23.2				
Change Period (Y+Rc), s	4.0	5.5	4.0	4.5	4.0	5.5	4.0	4.5				
Max Green Setting (Gmax), s	5.5	46.5	23.0	27.0	5.5	46.5	15.4	34.6				
Max Q Clear Time (g_c+I1), s	2.0	28.6	16.8	9.9	2.0	26.7	9.5	3.9				
Green Ext Time (p_c), s	0.0	15.2	0.5	0.4	0.0	11.6	0.2	0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			31.2									
HCM 6th LOS			C									

HCM 6th TWSC  
7: SW Cipole Road & Project Driveway #3

12/13/2021

Intersection						
Int Delay, s/veh	5.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	150	36	100	33	8	177
Future Vol, veh/h	150	36	100	33	8	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	5	5	11	11	5	5
Mvmt Flow	183	44	122	40	10	216

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	378	142	0	0	162
Stage 1	142	-	-	-	-
Stage 2	236	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245
Pot Cap-1 Maneuver	618	898	-	-	1399
Stage 1	878	-	-	-	-
Stage 2	796	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	613	898	-	-	1399
Mov Cap-2 Maneuver	613	-	-	-	-
Stage 1	878	-	-	-	-
Stage 2	790	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	653	1399
HCM Lane V/C Ratio	-	-	0.347	0.007
HCM Control Delay (s)	-	-	13.4	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.6	0

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	124	78	126	254	1	69	0	84	1	0	0
Future Vol, veh/h	0	124	78	126	254	1	69	0	84	1	0	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	7	7	7	7	7	7	5	5	5	0	0	0
Mvmt Flow	0	148	93	150	302	1	82	0	100	1	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	15.4	10.5	9.2
HCM LOS	B	C	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	45%	0%	33%	100%
Vol Thru, %	0%	61%	67%	0%
Vol Right, %	55%	39%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	153	202	381	1
LT Vol	69	0	126	1
Through Vol	0	124	254	0
RT Vol	84	78	1	0
Lane Flow Rate	182	240	454	1
Geometry Grp	1	1	1	1
Degree of Util (X)	0.271	0.322	0.612	0.002
Departure Headway (Hd)	5.348	4.821	4.856	6.186
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	665	738	739	582
Service Time	3.441	2.904	2.926	4.186
HCM Lane V/C Ratio	0.274	0.325	0.614	0.002
HCM Control Delay	10.5	10.2	15.4	9.2
HCM Lane LOS	B	B	C	A
HCM 95th-tile Q	1.1	1.4	4.2	0

HCM 6th TWSC  
 9: SW 124th Avenue & SW Cimino Street

12/13/2021

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	38	0	21	0	418	7	3	757	0
Future Vol, veh/h	0	0	0	38	0	21	0	418	7	3	757	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	2	2	2	4	4	4	4	4	4
Mvmt Flow	0	0	0	43	0	24	0	475	8	3	860	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1104	1350	430	916	1346	243	860	0	0	484	0	0
Stage 1	866	866	-	480	480	-	-	-	-	-	-	-
Stage 2	238	484	-	436	866	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.54	6.54	6.94	4.18	-	-	4.18	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.24	-	-	2.24	-	-
Pot Cap-1 Maneuver	162	145	565	227	150	758	765	-	-	1061	-	-
Stage 1	308	362	-	536	553	-	-	-	-	-	-	-
Stage 2	735	543	-	569	369	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	156	144	565	226	149	757	765	-	-	1060	-	-
Mov Cap-2 Maneuver	156	144	-	226	149	-	-	-	-	-	-	-
Stage 1	308	361	-	535	552	-	-	-	-	-	-	-
Stage 2	712	542	-	567	368	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	20.4	0	0
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	765	-	-	-	301	1060	-
HCM Lane V/C Ratio	-	-	-	-	0.223	0.003	-
HCM Control Delay (s)	0	-	-	0	20.4	8.4	-
HCM Lane LOS	A	-	-	A	C	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0	-

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	
Traffic Vol, veh/h	18	71	12	427	689	2
Future Vol, veh/h	18	71	12	427	689	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	4	4	4	4
Mvmt Flow	20	81	14	485	783	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1055	393	785	0	0
Stage 1	784	-	-	-	-
Stage 2	271	-	-	-	-
Critical Hdwy	6.9	7	4.18	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-
Follow-up Hdwy	3.55	3.35	2.24	-	-
Pot Cap-1 Maneuver	216	598	817	-	-
Stage 1	403	-	-	-	-
Stage 2	741	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	212	598	817	-	-
Mov Cap-2 Maneuver	212	-	-	-	-
Stage 1	396	-	-	-	-
Stage 2	741	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	817	-	437	-	-
HCM Lane V/C Ratio	0.017	-	0.231	-	-
HCM Control Delay (s)	9.5	-	15.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	-	-

HCM 6th TWSC  
 11: SW 124th Avenue & SW Myslony Street

12/13/2021

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	18	1	20	67	0	32	0	433	12	8	604	1
Future Vol, veh/h	18	1	20	67	0	32	0	433	12	8	604	1
Conflicting Peds, #/hr	3	0	1	1	0	3	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	13	13	13	41	41	41	18	18	18	17	17	17
Mvmt Flow	21	1	24	80	0	38	0	515	14	10	719	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1002	1270	362	903	1263	268	721	0	0	529	0	0
Stage 1	741	741	-	522	522	-	-	-	-	-	-	-
Stage 2	261	529	-	381	741	-	-	-	-	-	-	-
Critical Hdwy	7.76	6.76	7.16	8.32	7.32	7.72	4.46	-	-	4.44	-	-
Critical Hdwy Stg 1	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.63	4.13	3.43	3.91	4.41	3.71	2.38	-	-	2.37	-	-
Pot Cap-1 Maneuver	182	153	604	179	123	625	778	-	-	937	-	-
Stage 1	350	395	-	417	442	-	-	-	-	-	-	-
Stage 2	691	499	-	518	338	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	169	151	603	169	122	623	777	-	-	937	-	-
Mov Cap-2 Maneuver	169	151	-	169	122	-	-	-	-	-	-	-
Stage 1	350	390	-	417	442	-	-	-	-	-	-	-
Stage 2	647	499	-	490	334	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.3	38.5	0	0.1
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	777	-	-	267	221	937	-
HCM Lane V/C Ratio	-	-	-	0.174	0.533	0.01	-
HCM Control Delay (s)	0	-	-	21.3	38.5	8.9	-
HCM Lane LOS	A	-	-	C	E	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	2.8	0	-

# HCM Signalized Intersection Capacity Analysis

## 12: SW 124th Avenue & SW Herman Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (vph)	106	189	33	155	341	183	16	400	68	99	426	34
Future Volume (vph)	106	189	33	155	341	183	16	400	68	99	426	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1644		1597	1586		1504	2933		1703	3362	
Flt Permitted	0.18	1.00		0.50	1.00		0.41	1.00		0.26	1.00	
Satd. Flow (perm)	300	1644		838	1586		651	2933		468	3362	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	119	212	37	174	383	206	18	449	76	111	479	38
RTOR Reduction (vph)	0	6	0	0	18	0	0	12	0	0	5	0
Lane Group Flow (vph)	119	243	0	174	571	0	18	513	0	111	512	0
Confl. Peds. (#/hr)	1						1			1	1	
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	6%	6%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	45.3	38.3		48.1	39.7		27.6	25.9		37.8	31.1	
Effective Green, g (s)	47.3	39.8		50.1	41.2		29.6	27.4		38.8	32.6	
Actuated g/C Ratio	0.47	0.40		0.50	0.41		0.29	0.27		0.39	0.32	
Clearance Time (s)	5.0	5.5		5.0	5.5		5.0	5.5		5.0	5.5	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	244	651		488	650		214	799		277	1090	
v/s Ratio Prot	c0.04	0.15		0.03	c0.36		0.00	c0.18		c0.03	0.15	
v/s Ratio Perm	0.19			0.14			0.02			0.12		
v/c Ratio	0.49	0.37		0.36	0.88		0.08	0.64		0.40	0.47	
Uniform Delay, d1	18.5	21.5		14.5	27.3		25.4	32.2		21.3	27.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.4		0.2	12.9		0.1	1.8		0.3	0.3	
Delay (s)	19.0	21.9		14.7	40.2		25.4	34.0		21.6	27.4	
Level of Service	B	C		B	D		C	C		C	C	
Approach Delay (s)		21.0			34.4			33.7			26.4	
Approach LOS		C			C			C			C	

### Intersection Summary

HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



HCM 6th Signalized Intersection Summary  
 12: SW 124th Avenue & SW Herman Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	106	189	33	155	341	183	16	400	68	99	426	34
Future Volume (veh/h)	106	189	33	155	341	183	16	400	68	99	426	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
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	1707	1707	1707	1707	1707	1707	1604	1604	1604	1811	1811	1811
Adj Flow Rate, veh/h	119	212	0	174	383	0	18	449	59	111	479	32
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	13	13	13	13	13	13	20	20	20	6	6	6
Cap, veh/h	353	472		489	522		309	685	90	351	985	66
Arrive On Green	0.09	0.28	0.00	0.12	0.31	0.00	0.04	0.25	0.23	0.09	0.30	0.28
Sat Flow, veh/h	1626	1707	0	1626	1707	0	1527	2708	354	1725	3268	218
Grp Volume(v), veh/h	119	212	0	174	383	0	18	252	256	111	252	259
Grp Sat Flow(s),veh/h/ln	1626	1707	0	1626	1707	0	1527	1523	1539	1725	1721	1765
Q Serve(g_s), s	3.1	6.2	0.0	4.4	12.1	0.0	0.5	8.9	9.0	2.7	7.2	7.3
Cycle Q Clear(g_c), s	3.1	6.2	0.0	4.4	12.1	0.0	0.5	8.9	9.0	2.7	7.2	7.3
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.23	1.00		0.12
Lane Grp Cap(c), veh/h	353	472		489	522		309	385	389	351	519	532
V/C Ratio(X)	0.34	0.45		0.36	0.73		0.06	0.65	0.66	0.32	0.49	0.49
Avail Cap(c_a), veh/h	423	1529		566	1586		403	809	817	430	970	995
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	18.0	0.0	13.1	18.7	0.0	15.9	20.2	20.4	14.7	17.2	17.3
Incr Delay (d2), s/veh	0.2	0.7	0.0	0.2	2.0	0.0	0.0	1.9	1.9	0.2	0.7	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	1.0	2.3	0.0	1.5	4.6	0.0	0.2	2.9	3.0	0.9	2.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.6	18.7	0.0	13.2	20.8	0.0	15.9	22.0	22.3	14.9	17.9	18.0
LnGrp LOS	B	B		B	C		B	C	C	B	B	B
Approach Vol, veh/h		331	A		557	A		526			622	
Approach Delay, s/veh		17.2			18.4			21.9			17.4	
Approach LOS		B			B			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	19.3	11.1	20.7	6.3	22.2	9.4	22.4				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5	5.0	5.5	5.0	5.5				
Max Green Setting (Gmax), s	7.0	30.5	9.0	52.5	5.0	32.5	7.0	54.5				
Max Q Clear Time (g_c+I1), s	4.7	11.0	6.4	8.2	2.5	9.3	5.1	14.1				
Green Ext Time (p_c), s	0.0	2.7	0.1	1.3	0.0	2.7	0.0	2.7				

Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

# HCM Signalized Intersection Capacity Analysis

## 1: SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	974	128	125	677	6	92	3	398	4	0	0
Future Volume (vph)	8	974	128	125	677	6	92	3	398	4	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.95	
Satd. Flow (prot)	1655	3312	1448	1570	3135			1676	1487		1444	
Flt Permitted	0.38	1.00	1.00	0.21	1.00			0.73	1.00		0.58	
Satd. Flow (perm)	659	3312	1448	341	3135			1283	1487		888	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	8	1025	135	132	713	6	97	3	419	4	0	0
RTOR Reduction (vph)	0	0	47	0	0	0	0	0	34	0	0	0
Lane Group Flow (vph)	8	1025	88	132	719	0	0	100	385	0	4	0
Confl. Peds. (#/hr)	1					1	1					1
Confl. Bikes (#/hr)			4						2			
Heavy Vehicles (%)	9%	9%	9%	15%	15%	15%	8%	8%	8%	25%	25%	25%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	72.9	71.9	71.9	96.3	91.3			14.2	34.6		14.2	
Effective Green, g (s)	72.9	73.4	73.4	96.3	92.8			14.2	34.6		14.2	
Actuated g/C Ratio	0.61	0.61	0.61	0.80	0.77			0.12	0.29		0.12	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5			4.0	4.0		4.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5			1.5	1.5		1.5	
Lane Grp Cap (vph)	408	2025	885	482	2424			151	478		105	
v/s Ratio Prot	0.00	c0.31		0.05	0.23				c0.14			
v/s Ratio Perm	0.01		0.06	0.17				0.08	0.12		0.00	
v/c Ratio	0.02	0.51	0.10	0.27	0.30			0.66	0.81		0.04	
Uniform Delay, d1	9.3	13.1	9.6	4.9	4.0			50.6	39.6		46.9	
Progression Factor	1.00	1.00	1.00	3.43	1.34			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.9	0.2	0.1	0.3			8.2	9.0		0.1	
Delay (s)	9.3	14.0	9.9	16.8	5.6			58.8	48.6		46.9	
Level of Service	A	B	A	B	A			E	D		D	
Approach Delay (s)		13.5			7.4			50.6			46.9	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 1: SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑			↑	↗		↕	
Traffic Volume (veh/h)	8	974	128	125	677	6	92	3	398	4	0	0
Future Volume (veh/h)	8	974	128	125	677	6	92	3	398	4	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	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	1767	1767	1767	1678	1678	1678	1781	1781	1781	1530	1530	1530
Adj Flow Rate, veh/h	8	1025	109	132	713	6	97	3	324	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	514	2165	944	347	2209	19	350	10	380	197	0	0
Arrive On Green	0.01	0.65	0.65	0.09	1.00	1.00	0.21	0.21	0.21	0.21	0.00	0.00
Sat Flow, veh/h	1682	3357	1463	1598	3239	27	1398	48	1486	656	0	0
Grp Volume(v), veh/h	8	1025	109	132	351	368	100	0	324	4	0	0
Grp Sat Flow(s),veh/h/ln	1682	1678	1463	1598	1594	1673	1445	0	1486	656	0	0
Q Serve(g_s), s	0.2	18.7	3.4	3.4	0.0	0.0	0.0	0.0	24.9	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.2	18.7	3.4	3.4	0.0	0.0	5.9	0.0	24.9	6.4	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	514	2165	944	347	1087	1141	360	0	380	197	0	0
V/C Ratio(X)	0.02	0.47	0.12	0.38	0.32	0.32	0.28	0.00	0.85	0.02	0.00	0.00
Avail Cap(c_a), veh/h	582	2165	944	672	1087	1141	360	0	380	197	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	10.9	8.2	8.1	0.0	0.0	40.0	0.0	42.6	42.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.2	0.2	0.7	0.7	0.2	0.0	16.1	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	6.3	1.0	0.9	0.2	0.2	2.5	0.0	10.8	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	11.6	8.4	8.4	0.7	0.7	40.1	0.0	58.7	42.7	0.0	0.0
LnGrp LOS	A	B	A	A	A	A	D	A	E	D	A	A
Approach Vol, veh/h		1142			851			424				4
Approach Delay, s/veh		11.3			1.9			54.3				42.7
Approach LOS		B			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	81.4		29.0	5.2	85.8		29.0				
Change Period (Y+Rc), s	4.0	5.5		4.0	4.0	5.5		4.0				
Max Green Setting (Gmax), s	30.0	51.5		25.0	6.0	75.5		25.0				
Max Q Clear Time (g_c+I1), s	5.4	20.7		8.4	2.2	2.0		26.9				
Green Ext Time (p_c), s	0.2	21.6		0.0	0.0	19.9		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				15.6								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑		↖	↑↑		↖	↗		↖	↗	
Traffic Volume (vph)	145	1172	68	62	757	165	15	2	11	54	9	33
Future Volume (vph)	145	1172	68	62	757	165	15	2	11	54	9	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.5	4.0		4.5	4.5		4.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.87		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	3311		1583	3070		1805	1659		1399	1298	
Flt Permitted	0.25	1.00		0.16	1.00		0.73	1.00		0.49	1.00	
Satd. Flow (perm)	440	3311		269	3070		1385	1659		716	1298	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	151	1221	71	65	789	172	16	2	11	56	9	34
RTOR Reduction (vph)	0	2	0	0	8	0	0	10	0	0	30	0
Lane Group Flow (vph)	151	1290	0	65	953	0	16	3	0	56	13	0
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	8%	8%	8%	14%	14%	14%	0%	0%	0%	29%	29%	29%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	85.3	78.9		83.0	78.0		8.9	6.9		21.1	14.6	
Effective Green, g (s)	85.3	80.4		83.0	79.5		8.9	6.9		22.1	14.6	
Actuated g/C Ratio	0.71	0.67		0.69	0.66		0.07	0.06		0.18	0.12	
Clearance Time (s)	4.0	5.5		4.5	5.5		4.5	4.5		5.0	5.0	
Vehicle Extension (s)	1.5	3.5		3.0	3.5		3.0	3.0		2.0	2.0	
Lane Grp Cap (vph)	378	2218		240	2033		109	95		192	157	
v/s Ratio Prot	c0.02	c0.39		0.01	0.31		0.00	0.00		c0.03	0.01	
v/s Ratio Perm	0.26			0.18			0.01			c0.03		
v/c Ratio	0.40	0.58		0.27	0.47		0.15	0.03		0.29	0.08	
Uniform Delay, d1	6.5	10.7		7.8	9.9		51.9	53.4		41.7	46.8	
Progression Factor	1.29	0.96		0.88	0.61		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.9		0.5	0.7		0.6	0.1		0.3	0.1	
Delay (s)	8.6	11.2		7.4	6.8		52.5	53.5		42.0	46.8	
Level of Service	A	B		A	A		D	D		D	D	
Approach Delay (s)		11.0			6.8			53.0			44.1	
Approach LOS		B			A			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			11.0			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			59.6%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

# HCM 6th Signalized Intersection Summary

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑		↘	↑↑		↘	↑		↘	↑	
Traffic Volume (veh/h)	145	1172	68	62	757	165	15	2	11	54	9	33
Future Volume (veh/h)	145	1172	68	62	757	165	15	2	11	54	9	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1781	1781	1781	1693	1693	1693	1900	1900	1900	1470	1470	1470
Adj Flow Rate, veh/h	151	1221	71	65	789	156	16	2	11	56	9	34
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, %	8	8	8	14	14	14	0	0	0	29	29	29
Cap, veh/h	531	2332	135	391	1909	377	144	10	53	188	21	79
Arrive On Green	0.09	1.00	1.00	0.07	1.00	1.00	0.02	0.04	0.04	0.06	0.08	0.09
Sat Flow, veh/h	1697	3246	189	1612	2666	527	1810	254	1395	1400	269	1018
Grp Volume(v), veh/h	151	636	656	65	476	469	16	0	13	56	0	43
Grp Sat Flow(s),veh/h/ln	1697	1692	1742	1612	1608	1585	1810	0	1649	1400	0	1287
Q Serve(g_s), s	3.1	0.0	0.0	1.3	0.0	0.0	1.0	0.0	0.9	4.4	0.0	3.8
Cycle Q Clear(g_c), s	3.1	0.0	0.0	1.3	0.0	0.0	1.0	0.0	0.9	4.4	0.0	3.8
Prop In Lane	1.00		0.11	1.00		0.33	1.00		0.85	1.00		0.79
Lane Grp Cap(c), veh/h	531	1216	1251	391	1152	1135	144	0	62	188	0	100
V/C Ratio(X)	0.28	0.52	0.52	0.17	0.41	0.41	0.11	0.00	0.21	0.30	0.00	0.43
Avail Cap(c_a), veh/h	575	1216	1251	403	1152	1135	189	0	385	371	0	482
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.1	0.0	0.0	4.0	0.0	0.0	54.0	0.0	56.0	48.0	0.0	52.4
Incr Delay (d2), s/veh	0.1	1.2	1.2	0.2	0.9	0.9	0.3	0.0	1.6	0.3	0.0	1.1
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	0.8	0.4	0.4	0.3	0.3	0.3	0.5	0.0	0.4	1.5	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.1	1.2	1.2	4.2	0.9	0.9	54.4	0.0	57.6	48.3	0.0	53.5
LnGrp LOS	A	A	A	A	A	A	D	A	E	D	A	D
Approach Vol, veh/h		1443			1010			29				99
Approach Delay, s/veh		1.5			1.2			55.8				50.6
Approach LOS		A			A			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	90.2	6.6	14.3	9.2	89.9	11.3	9.5				
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.0	5.5	5.0	* 5				
Max Green Setting (Gmax), s	5.3	45.2	5.1	44.9	8.3	42.7	22.0	* 28				
Max Q Clear Time (g_c+I1), s	3.3	2.0	3.0	5.8	5.1	2.0	6.4	2.9				
Green Ext Time (p_c), s	0.0	38.5	0.0	0.1	0.1	29.8	0.1	0.0				

### Intersection Summary






























HCM 6th Ctrl Delay	3.9
HCM 6th LOS	A

### Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
































HCM Signalized Intersection Capacity Analysis  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 		
Traffic Volume (vph)	105	1009	124	127	662	230	243	259	101	185	237	78
Future Volume (vph)	105	1009	124	127	662	230	243	259	101	185	237	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3127	3223	1423	3072	3167	1402	3155	3115		3072	1667	1403
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3127	3223	1423	3072	3167	1402	3155	3115		3072	1667	1403
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	113	1085	133	137	712	247	261	278	109	199	255	84
RTOR Reduction (vph)	0	0	55	0	0	90	0	36	0	0	0	63
Lane Group Flow (vph)	113	1085	78	137	712	157	261	351	0	199	255	21
Confl. Peds. (#/hr)			2	2			1					1
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	12%	12%	12%	14%	14%	14%	11%	11%	11%	14%	14%	14%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Actuated Green, G (s)	7.3	57.6	70.2	8.8	59.1	70.4	12.6	23.3		11.3	22.0	29.3
Effective Green, g (s)	7.3	59.1	70.2	8.8	60.6	70.4	12.6	24.8		11.3	23.5	29.3
Actuated g/C Ratio	0.06	0.49	0.59	0.07	0.51	0.59	0.10	0.21		0.09	0.20	0.24
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	4.0
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	1.5
Lane Grp Cap (vph)	190	1587	832	225	1599	822	331	643		289	326	342
v/s Ratio Prot	0.04	c0.34	0.01	c0.04	0.22	0.02	c0.08	0.11		0.06	c0.15	0.00
v/s Ratio Perm			0.04			0.09						0.01
v/c Ratio	0.59	0.68	0.09	0.61	0.45	0.19	0.79	0.55		0.69	0.78	0.06
Uniform Delay, d1	54.9	23.3	10.9	53.9	19.0	11.5	52.4	42.6		52.6	45.8	34.8
Progression Factor	1.14	0.50	0.77	1.05	0.93	2.11	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.9	2.1	0.0	3.0	0.8	0.0	10.9	0.5		5.4	10.7	0.0
Delay (s)	65.7	13.8	8.5	59.5	18.5	24.4	63.3	43.1		58.0	56.5	34.8
Level of Service	E	B	A	E	B	C	E	D		E	E	C
Approach Delay (s)		17.7			25.0			51.2			53.7	
Approach LOS		B			C			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			31.3				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			65.1%				ICU Level of Service			C		
Analysis Period (min)			15									
c	Critical Lane Group											

HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (veh/h)	105	1009	124	127	662	230	243	259	101	185	237	78
Future Volume (veh/h)	105	1009	124	127	662	230	243	259	101	185	237	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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	1722	1722	1722	1693	1693	1693	1737	1737	1737	1693	1693	1693
Adj Flow Rate, veh/h	113	1085	117	137	712	172	261	278	87	199	255	62
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, %	12	12	12	14	14	14	11	11	11	14	14	14
Cap, veh/h	160	1683	868	194	1692	846	322	514	158	261	321	326
Arrive On Green	0.10	1.00	1.00	0.02	0.17	0.17	0.10	0.21	0.19	0.08	0.19	0.18
Sat Flow, veh/h	3182	3272	1437	3127	3216	1415	3209	2486	762	3127	1693	1432
Grp Volume(v), veh/h	113	1085	117	137	712	172	261	183	182	199	255	62
Grp Sat Flow(s),veh/h/ln	1591	1636	1437	1564	1608	1415	1605	1650	1598	1564	1693	1432
Q Serve(g_s), s	4.1	0.0	0.0	5.2	23.7	10.5	9.6	11.8	12.3	7.5	17.2	4.2
Cycle Q Clear(g_c), s	4.1	0.0	0.0	5.2	23.7	10.5	9.6	11.8	12.3	7.5	17.2	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	160	1683	868	194	1692	846	322	341	331	261	321	326
V/C Ratio(X)	0.70	0.64	0.13	0.71	0.42	0.20	0.81	0.53	0.55	0.76	0.79	0.19
Avail Cap(c_a), veh/h	186	1683	868	266	1692	846	369	408	396	341	409	400
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	0.0	0.0	57.7	33.3	20.2	52.9	42.4	43.0	53.8	46.4	37.4
Incr Delay (d2), s/veh	5.9	1.6	0.3	2.4	0.8	0.5	9.8	0.5	0.5	4.9	6.2	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	1.7	0.4	0.1	2.1	10.3	3.8	4.2	4.7	4.8	3.0	7.6	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	1.6	0.3	60.1	34.1	20.8	62.7	42.9	43.5	58.8	52.6	37.5
LnGrp LOS	E	A	A	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1315			1021			626			516	
Approach Delay, s/veh		6.4			35.3			51.3			53.2	
Approach LOS		A			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	65.7	16.1	26.8	10.1	67.1	14.0	28.8				
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	10.2	49.5	13.8	27.5	7.0	52.7	13.1	28.2				
Max Q Clear Time (g_c+I1), s	7.2	2.0	11.6	19.2	6.1	25.7	9.5	14.3				
Green Ext Time (p_c), s	0.3	36.3	0.5	1.8	0.1	17.7	0.5	3.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.9								
HCM 6th LOS				C								



Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1252	41	0	1038	0	16
Future Vol, veh/h	1252	41	0	1038	0	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	-	130	-	-	-	0
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	13	13	93	93
Mvmt Flow	1318	43	0	1093	0	17

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	659
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	8.76
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	4.23
Pot Cap-1 Maneuver	-	-	0	-	246
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	246
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	246	-	-	-
HCM Lane V/C Ratio	0.068	-	-	-
HCM Control Delay (s)	20.7	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-



HCM Signalized Intersection Capacity Analysis  
5: SW 115th Ave & SW T-S Rd

12/13/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1126	137	220	976	11	60	0	89	3	1	2
Future Volume (vph)	5	1126	137	220	976	11	60	0	89	3	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.5		4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00		0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1641	3282	1449	3127	3217		1337		1187	1538	1462	
Flt Permitted	0.27	1.00	1.00	0.95	1.00		0.76		1.00	0.76	1.00	
Satd. Flow (perm)	471	3282	1449	3127	3217		1064		1187	1226	1462	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	1198	146	234	1038	12	64	0	95	3	1	2
RTOR Reduction (vph)	0	0	42	0	0	0	0	0	39	0	2	0
Lane Group Flow (vph)	5	1198	104	234	1050	0	64	0	56	3	1	0
Confl. Peds. (#/hr)	2					2			2	2		
Confl. Bikes (#/hr)			4			2						
Heavy Vehicles (%)	10%	10%	10%	12%	12%	12%	35%	35%	35%	17%	17%	17%
Turn Type	pm+pt	NA	Perm	Prot	NA		Perm		pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Actuated Green, G (s)	80.8	79.8	79.8	12.9	91.7		12.8		25.7	12.8	12.8	
Effective Green, g (s)	81.8	81.3	81.3	13.4	93.2		12.8		26.7	13.3	13.3	
Actuated g/C Ratio	0.68	0.68	0.68	0.11	0.78		0.11		0.22	0.11	0.11	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5		4.5	4.5	4.5	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	335	2223	981	349	2498		113		303	135	162	
v/s Ratio Prot	0.00	c0.37		c0.07	0.33				0.02		0.00	
v/s Ratio Perm	0.01		0.07				c0.06		0.03	0.00		
v/c Ratio	0.01	0.54	0.11	0.67	0.42		0.57		0.19	0.02	0.01	
Uniform Delay, d1	6.1	9.8	6.7	51.2	4.4		51.0		37.8	47.6	47.5	
Progression Factor	0.45	0.47	0.21	0.95	0.96		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.7	0.2	2.8	0.4		3.8		0.1	0.0	0.0	
Delay (s)	2.7	5.3	1.6	51.5	4.6		54.8		37.9	47.6	47.5	
Level of Service	A	A	A	D	A		D		D	D	D	
Approach Delay (s)		4.9			13.2			44.7			47.5	
Approach LOS		A			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			11.1				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			58.0%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

# HCM 6th Signalized Intersection Summary

## 5: SW 115th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘↗	↑↑		↘	↑	↗	↘	↗	
Traffic Volume (veh/h)	5	1126	137	220	976	11	60	0	89	3	1	2
Future Volume (veh/h)	5	1126	137	220	976	11	60	0	89	3	1	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	0.99		0.99	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	1752	1752	1752	1722	1722	1722	1381	1381	1381	1648	1648	1648
Adj Flow Rate, veh/h	5	1198	119	234	1038	12	64	0	63	3	1	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
Percent Heavy Veh, %	10	10	10	12	12	12	35	35	35	17	17	17
Cap, veh/h	428	2371	1043	303	2640	31	150	128	219	168	45	90
Arrive On Green	0.01	0.71	0.71	0.10	0.80	0.78	0.09	0.00	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1668	3328	1464	3182	3312	38	1037	1381	1163	1173	488	976
Grp Volume(v), veh/h	5	1198	119	234	513	537	64	0	63	3	0	3
Grp Sat Flow(s),veh/h/ln	1668	1664	1464	1591	1636	1714	1037	1381	1163	1173	0	1464
Q Serve(g_s), s	0.1	19.4	3.1	8.6	11.1	11.1	7.2	0.0	5.6	0.3	0.0	0.2
Cycle Q Clear(g_c), s	0.1	19.4	3.1	8.6	11.1	11.1	7.4	0.0	5.6	0.3	0.0	0.2
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	1.00		0.67
Lane Grp Cap(c), veh/h	428	2371	1043	303	1304	1366	150	128	219	168	0	135
V/C Ratio(X)	0.01	0.51	0.11	0.77	0.39	0.39	0.43	0.00	0.29	0.02	0.00	0.02
Avail Cap(c_a), veh/h	487	2371	1043	424	1304	1366	309	340	397	348	0	360
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	0.65	0.65	0.65	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.9	7.8	5.4	53.0	3.6	3.6	53.4	0.0	41.9	49.5	0.0	49.7
Incr Delay (d2), s/veh	0.0	0.8	0.2	2.2	0.6	0.6	0.7	0.0	0.3	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	0.0	5.9	0.8	3.5	2.6	2.7	1.9	0.0	1.6	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.9	8.5	5.6	55.3	4.2	4.2	54.1	0.0	42.1	49.6	0.0	49.7
LnGrp LOS	A	A	A	E	A	A	D	A	D	D	A	D
Approach Vol, veh/h		1322			1284			127				6
Approach Delay, s/veh		8.3			13.5			48.2				49.6
Approach LOS		A			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.4	89.5		15.1	5.3	99.6		15.1				
Change Period (Y+Rc), s	4.5	5.5		4.5	4.5	5.5		4.5				
Max Green Setting (Gmax), s	15.5	61.0		29.0	5.0	71.5		29.0				
Max Q Clear Time (g_c+I1), s	10.6	21.4		2.3	2.1	13.1		9.4				
Green Ext Time (p_c), s	0.3	30.0		0.0	0.0	31.8		0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				12.6								
HCM 6th LOS				B								

HCM Signalized Intersection Capacity Analysis  
 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	853	298	20	879	125	309	64	17	27	10	16
Future Volume (vph)	76	853	298	20	879	125	309	64	17	27	10	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.4	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.97		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1626	3252	1422	1570	3071		1703	1733		1347	1289	
Flt Permitted	0.17	1.00	1.00	0.22	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	288	3252	1422	371	3071		1703	1733		1347	1289	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	927	324	22	955	136	336	70	18	29	11	17
RTOR Reduction (vph)	0	0	156	0	7	0	0	9	0	0	16	0
Lane Group Flow (vph)	83	927	168	22	1084	0	336	79	0	29	12	0
Confl. Peds. (#/hr)	1						1		1	1		
Confl. Bikes (#/hr)			4			2						
Heavy Vehicles (%)	11%	11%	11%	15%	15%	15%	6%	6%	6%	34%	34%	34%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								
Actuated Green, G (s)	67.8	62.3	62.3	68.0	62.4		25.8	28.8		5.3	8.3	
Effective Green, g (s)	67.8	63.8	62.4	68.0	63.9		25.8	29.3		5.3	8.8	
Actuated g/C Ratio	0.56	0.53	0.52	0.57	0.53		0.22	0.24		0.04	0.07	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	224	1728	739	266	1635		366	423		59	94	
v/s Ratio Prot	c0.02	0.29		0.00	c0.35		c0.20	c0.05		0.02	0.01	
v/s Ratio Perm	0.19		0.12	0.04								
v/c Ratio	0.37	0.54	0.23	0.08	0.66		0.92	0.19		0.49	0.13	
Uniform Delay, d1	28.4	18.4	15.7	20.7	20.3		46.1	35.9		56.0	52.0	
Progression Factor	0.45	0.44	0.41	1.00	1.00		1.00	1.00		0.90	1.08	
Incremental Delay, d2	0.9	1.1	0.6	0.1	2.1		27.2	0.2		6.3	0.6	
Delay (s)	13.5	9.1	7.0	20.8	22.4		73.2	36.1		56.5	56.8	
Level of Service	B	A	A	C	C		E	D		E	E	
Approach Delay (s)		8.8			22.4			65.5			56.6	
Approach LOS		A			C			E			E	

Intersection Summary

HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘	↗		↘	↗	
Traffic Volume (veh/h)	76	853	298	20	879	125	309	64	17	27	10	16
Future Volume (veh/h)	76	853	298	20	879	125	309	64	17	27	10	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	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	1737	1737	1737	1678	1678	1678	1811	1811	1811	1396	1396	1396
Adj Flow Rate, veh/h	83	927	275	22	955	87	336	70	13	29	11	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	15	15	15	6	6	6	34	34	34
Cap, veh/h	478	1186	499	489	1079	98	361	349	65	34	31	34
Arrive On Green	0.16	0.24	0.23	0.25	0.37	0.37	0.21	0.24	0.23	0.03	0.05	0.05
Sat Flow, veh/h	1654	3300	1434	1598	2947	268	1725	1485	276	1330	608	663
Grp Volume(v), veh/h	83	927	275	22	516	526	336	0	83	29	0	23
Grp Sat Flow(s),veh/h/ln	1654	1650	1434	1598	1594	1622	1725	0	1761	1330	0	1272
Q Serve(g_s), s	0.0	31.5	11.3	0.0	36.5	36.5	22.9	0.0	4.5	2.6	0.0	2.1
Cycle Q Clear(g_c), s	0.0	31.5	11.3	0.0	36.5	36.5	22.9	0.0	4.5	2.6	0.0	2.1
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.16	1.00		0.52
Lane Grp Cap(c), veh/h	478	1186	499	489	584	594	361	0	414	34	0	66
V/C Ratio(X)	0.17	0.78	0.55	0.05	0.88	0.88	0.93	0.00	0.20	0.84	0.00	0.35
Avail Cap(c_a), veh/h	478	1238	521	489	594	604	374	0	650	102	0	291
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.6	41.2	11.7	28.4	35.6	35.7	46.6	0.0	36.9	58.2	0.0	55.1
Incr Delay (d2), s/veh	0.1	4.4	3.7	0.0	17.7	17.4	29.0	0.0	0.2	39.4	0.0	3.2
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	2.0	13.8	4.3	0.4	16.3	16.5	12.6	0.0	2.0	1.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	45.6	15.4	28.4	53.3	53.1	75.6	0.0	37.1	97.6	0.0	58.3
LnGrp LOS	D	D	B	C	D	D	E	A	D	F	A	E
Approach Vol, veh/h		1285			1064			419				52
Approach Delay, s/veh		38.6			52.7			67.9				80.2
Approach LOS		D			D			E				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.6	47.1	29.1	10.2	32.7	47.9	7.1	32.2				
Change Period (Y+Rc), s	4.0	5.5	4.0	4.5	4.0	5.5	4.0	4.5				
Max Green Setting (Gmax), s	5.5	43.5	26.0	27.0	5.8	43.2	9.2	43.8				
Max Q Clear Time (g_c+I1), s	2.0	33.5	24.9	4.1	2.0	38.5	4.6	6.5				
Green Ext Time (p_c), s	0.0	8.1	0.2	0.1	0.1	4.0	0.0	0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			49.0									
HCM 6th LOS			D									

HCM 6th TWSC  
7: SW Cipole Road & Project Driveway #3

12/13/2021

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	10	4	238	73	30	85
Future Vol, veh/h	10	4	238	73	30	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	5	5	10	10	17	17
Mvmt Flow	14	5	322	99	41	115

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	569	372	0	0	421
Stage 1	372	-	-	-	-
Stage 2	197	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.27
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.353
Pot Cap-1 Maneuver	479	667	-	-	1062
Stage 1	691	-	-	-	-
Stage 2	829	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	459	667	-	-	1062
Mov Cap-2 Maneuver	459	-	-	-	-
Stage 1	691	-	-	-	-
Stage 2	795	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	2.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	504	1062
HCM Lane V/C Ratio	-	-	0.038	0.038
HCM Control Delay (s)	-	-	12.4	8.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	175	63	55	120	1	92	1	149	2	0	0
Future Vol, veh/h	2	175	63	55	120	1	92	1	149	2	0	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	20	20	20	9	9	9	14	14	14	0	0	0
Mvmt Flow	3	236	85	74	162	1	124	1	201	3	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.5	11.8	13.4	9.4
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	38%	1%	31%	100%
Vol Thru, %	0%	73%	68%	0%
Vol Right, %	62%	26%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	242	240	176	2
LT Vol	92	2	55	2
Through Vol	1	175	120	0
RT Vol	149	63	1	0
Lane Flow Rate	327	324	238	3
Geometry Grp	1	1	1	1
Degree of Util (X)	0.488	0.487	0.367	0.005
Departure Headway (Hd)	5.368	5.404	5.556	6.27
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	670	668	647	569
Service Time	3.401	3.437	3.591	4.326
HCM Lane V/C Ratio	0.488	0.485	0.368	0.005
HCM Control Delay	13.4	13.5	11.8	9.4
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	2.7	2.7	1.7	0

HCM 6th TWSC  
 9: SW 124th Avenue & SW Cimino Street

12/13/2021

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	0	10	5	0	2	90	469	36	15	485	13
Future Vol, veh/h	4	0	10	5	0	2	90	469	36	15	485	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	43	43	43	17	17	17	20	20	20
Mvmt Flow	4	0	11	6	0	2	100	521	40	17	539	14

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1041	1341	277	1045	1328	281	553	0	0	561	0	0
Stage 1	580	580	-	741	741	-	-	-	-	-	-	-
Stage 2	461	761	-	304	587	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	8.36	7.36	7.76	4.44	-	-	4.5	-	-
Critical Hdwy Stg 1	6.6	5.6	-	7.36	6.36	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	7.36	6.36	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.93	4.43	3.73	2.37	-	-	2.4	-	-
Pot Cap-1 Maneuver	180	147	711	136	109	607	916	-	-	892	-	-
Stage 1	460	491	-	294	335	-	-	-	-	-	-	-
Stage 2	542	405	-	578	405	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	162	128	711	121	95	607	916	-	-	892	-	-
Mov Cap-2 Maneuver	162	128	-	121	95	-	-	-	-	-	-	-
Stage 1	410	482	-	262	298	-	-	-	-	-	-	-
Stage 2	481	361	-	558	397	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	15.4		29.1		1.4		0.3	
HCM LOS	C		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	916	-	-	361	157	892	-
HCM Lane V/C Ratio	0.109	-	-	0.043	0.05	0.019	-
HCM Control Delay (s)	9.4	-	-	15.4	29.1	9.1	-
HCM Lane LOS	A	-	-	C	D	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	0.2	0.1	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	0	475	501	89
Future Vol, veh/h	0	12	0	475	501	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	17	17	20	20
Mvmt Flow	0	13	0	528	557	99

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	871	328	656	0	0
Stage 1	607	-	-	-	-
Stage 2	264	-	-	-	-
Critical Hdwy	6.9	7	4.44	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-
Follow-up Hdwy	3.55	3.35	2.37	-	-
Pot Cap-1 Maneuver	285	659	833	-	-
Stage 1	498	-	-	-	-
Stage 2	747	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	285	659	833	-	-
Mov Cap-2 Maneuver	285	-	-	-	-
Stage 1	498	-	-	-	-
Stage 2	747	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	833	-	659	-	-
HCM Lane V/C Ratio	-	-	0.02	-	-
HCM Control Delay (s)	0	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



HCM 6th TWSC  
 11: SW 124th Avenue & SW Myslony Street

12/13/2021

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	1	3	60	1	19	18	417	40	45	527	25
Future Vol, veh/h	4	1	3	60	1	19	18	417	40	45	527	25
Conflicting Peds, #/hr	3	0	1	1	0	3	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	13	13	13	41	41	41	18	18	18	17	17	17
Mvmt Flow	5	1	4	71	1	23	21	496	48	54	627	30

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1045	1337	331	985	1328	275	658	0	0	544	0	0
Stage 1	751	751	-	562	562	-	-	-	-	-	-	-
Stage 2	294	586	-	423	766	-	-	-	-	-	-	-
Critical Hdwy	7.76	6.76	7.16	8.32	7.32	7.72	4.46	-	-	4.44	-	-
Critical Hdwy Stg 1	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.63	4.13	3.43	3.91	4.41	3.71	2.38	-	-	2.37	-	-
Pot Cap-1 Maneuver	169	138	634	154	111	618	826	-	-	924	-	-
Stage 1	345	391	-	392	421	-	-	-	-	-	-	-
Stage 2	660	469	-	486	328	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	151	127	633	142	102	616	825	-	-	924	-	-
Mov Cap-2 Maneuver	151	127	-	142	102	-	-	-	-	-	-	-
Stage 1	336	368	-	382	410	-	-	-	-	-	-	-
Stage 2	616	457	-	453	309	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	23.4		48.7		0.4		0.7	
HCM LOS	C		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	825	-	-	205	173	924	-
HCM Lane V/C Ratio	0.026	-	-	0.046	0.551	0.058	-
HCM Control Delay (s)	9.5	-	-	23.4	48.7	9.1	-
HCM Lane LOS	A	-	-	C	E	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	2.8	0.2	-

# HCM Signalized Intersection Capacity Analysis

## 12: SW 124th Avenue & SW Herman Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (vph)	34	232	104	55	161	40	39	335	66	183	437	82
Future Volume (vph)	34	232	104	55	161	40	39	335	66	183	437	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.97		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1603		1597	1627		1504	2923		1702	3314	
Flt Permitted	0.58	1.00		0.29	1.00		0.43	1.00		0.32	1.00	
Satd. Flow (perm)	968	1603		487	1627		684	2923		570	3314	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	38	261	117	62	181	45	44	376	74	206	491	92
RTOR Reduction (vph)	0	14	0	0	8	0	0	14	0	0	13	0
Lane Group Flow (vph)	38	364	0	62	218	0	44	436	0	206	570	0
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	6%	6%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.4	25.8		32.6	27.9		24.8	21.4		38.0	29.6	
Effective Green, g (s)	30.4	27.3		34.6	29.4		26.8	22.9		39.0	31.1	
Actuated g/C Ratio	0.36	0.32		0.41	0.35		0.32	0.27		0.46	0.37	
Clearance Time (s)	5.0	5.5		5.0	5.5		5.0	5.5		5.0	5.5	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	375	517		274	566		259	792		431	1219	
v/s Ratio Prot	0.00	c0.23		c0.02	0.13		0.01	c0.15		c0.07	0.17	
v/s Ratio Perm	0.03			0.08			0.04			0.15		
v/c Ratio	0.10	0.70		0.23	0.39		0.17	0.55		0.48	0.47	
Uniform Delay, d1	17.8	25.1		16.5	20.7		20.3	26.4		14.6	20.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	4.3		0.2	0.4		0.1	0.8		0.3	0.3	
Delay (s)	17.8	29.4		16.6	21.2		20.4	27.2		14.9	20.7	
Level of Service	B	C		B	C		C	C		B	C	
Approach Delay (s)		28.3			20.2			26.6			19.2	
Approach LOS		C			C			C			B	

### Intersection Summary

HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	84.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 12: SW 124th Avenue & SW Herman Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	34	232	104	55	161	40	39	335	66	183	437	82
Future Volume (veh/h)	34	232	104	55	161	40	39	335	66	183	437	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
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	1707	1707	1707	1707	1707	1707	1604	1604	1604	1811	1811	1811
Adj Flow Rate, veh/h	38	261	0	62	181	0	44	376	74	206	491	92
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	13	13	13	13	13	13	20	20	20	6	6	6
Cap, veh/h	405	408		353	436		353	626	122	464	919	171
Arrive On Green	0.06	0.24	0.00	0.08	0.26	0.00	0.06	0.25	0.22	0.14	0.32	0.29
Sat Flow, veh/h	1626	1707	0	1626	1707	0	1527	2531	493	1725	2883	537
Grp Volume(v), veh/h	38	261	0	62	181	0	44	225	225	206	292	291
Grp Sat Flow(s),veh/h/ln	1626	1707	0	1626	1707	0	1527	1523	1501	1725	1721	1700
Q Serve(g_s), s	0.9	7.3	0.0	1.5	4.7	0.0	1.1	6.9	7.1	4.2	7.4	7.5
Cycle Q Clear(g_c), s	0.9	7.3	0.0	1.5	4.7	0.0	1.1	6.9	7.1	4.2	7.4	7.5
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.33	1.00		0.32
Lane Grp Cap(c), veh/h	405	408		353	436		353	376	371	464	548	542
V/C Ratio(X)	0.09	0.64		0.18	0.42		0.12	0.60	0.61	0.44	0.53	0.54
Avail Cap(c_a), veh/h	494	1357		477	1422		487	923	909	949	1498	1480
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	18.1	0.0	13.8	16.4	0.0	13.4	17.6	17.9	11.5	14.8	15.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.1	0.6	0.0	0.1	1.5	1.6	0.2	0.8	0.8
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	0.3	2.7	0.0	0.5	1.7	0.0	0.3	2.1	2.2	1.2	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.9	19.7	0.0	13.9	17.0	0.0	13.5	19.1	19.5	11.8	15.6	15.8
LnGrp LOS	B	B		B	B		B	B	B	B	B	B
Approach Vol, veh/h		299	A		243	A		494			789	
Approach Delay, s/veh		19.0			16.2			18.8			14.7	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	17.1	8.0	16.6	7.4	20.8	7.1	17.5				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5	5.0	5.5	5.0	5.5				
Max Green Setting (Gmax), s	21.0	30.5	7.0	40.5	7.0	44.5	5.0	42.5				
Max Q Clear Time (g_c+I1), s	6.2	9.1	3.5	9.3	3.1	9.5	2.9	6.7				
Green Ext Time (p_c), s	0.2	2.4	0.0	1.6	0.0	3.5	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

Notes

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

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

# HCM Signalized Intersection Capacity Analysis

## 1: SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	856	125	403	1112	8	134	1	188	12	11	8
Future Volume (vph)	7	856	125	403	1112	8	134	1	188	12	11	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1736	3471	1512	1752	3500			1740	1545		1797	
Flt Permitted	0.23	1.00	1.00	0.22	1.00			0.78	1.00		0.88	
Satd. Flow (perm)	427	3471	1512	401	3500			1420	1545		1612	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	8	920	134	433	1196	9	144	1	202	13	12	9
RTOR Reduction (vph)	0	0	55	0	0	0	0	0	28	0	8	0
Lane Group Flow (vph)	8	920	79	433	1205	0	0	145	174	0	26	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			3						
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	64.5	63.5	63.5	93.9	88.9			16.6	43.0		16.6	
Effective Green, g (s)	64.5	65.0	65.0	93.9	90.4			16.6	43.0		16.6	
Actuated g/C Ratio	0.54	0.54	0.54	0.78	0.75			0.14	0.36		0.14	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5			4.0	4.0		4.0	
Vehicle Extension (s)	1.5	3.5	3.5	1.5	3.5			1.5	1.5		1.5	
Lane Grp Cap (vph)	240	1880	819	611	2636			196	605		222	
v/s Ratio Prot	0.00	0.27		c0.16	0.34				0.06			
v/s Ratio Perm	0.02		0.05	c0.40				c0.10	0.05		0.02	
v/c Ratio	0.03	0.49	0.10	0.71	0.46			0.74	0.29		0.12	
Uniform Delay, d1	13.1	17.2	13.3	11.9	5.6			49.6	27.6		45.3	
Progression Factor	1.00	1.00	1.00	0.72	0.84			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.9	0.2	2.5	0.5			11.9	0.1		0.1	
Delay (s)	13.1	18.1	13.5	11.1	5.2			61.5	27.6		45.4	
Level of Service	B	B	B	B	A			E	C		D	
Approach Delay (s)		17.5			6.7			41.8			45.4	
Approach LOS		B			A			D			D	

### Intersection Summary

HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 1: SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	856	125	403	1112	8	134	1	188	12	11	8
Future Volume (veh/h)	7	856	125	403	1112	8	134	1	188	12	11	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1841	1841	1841	1900	1900	1900
Adj Flow Rate, veh/h	8	920	102	433	1196	9	144	1	127	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	276	2010	877	491	2445	18	219	1	507	50	44	19
Arrive On Green	0.01	0.57	0.57	0.08	0.46	0.46	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1753	3497	1525	1767	3586	27	764	5	1558	41	210	90
Grp Volume(v), veh/h	8	920	102	433	588	617	145	0	127	34	0	0
Grp Sat Flow(s),veh/h/ln	1753	1749	1525	1767	1763	1850	769	0	1558	341	0	0
Q Serve(g_s), s	0.2	18.2	3.7	11.2	28.0	28.0	0.0	0.0	7.2	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.2	18.2	3.7	11.2	28.0	28.0	23.3	0.0	7.2	23.7	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	276	2010	877	491	1202	1261	220	0	507	112	0	0
V/C Ratio(X)	0.03	0.46	0.12	0.88	0.49	0.49	0.66	0.00	0.25	0.30	0.00	0.00
Avail Cap(c_a), veh/h	341	2010	877	830	1202	1261	220	0	507	112	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.73	0.73	0.73	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.0	14.7	11.6	15.8	18.0	18.0	46.8	0.0	29.7	40.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.3	2.3	1.0	1.0	5.7	0.0	0.1	0.6	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	6.8	1.2	5.7	12.3	12.8	4.6	0.0	2.7	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.0	15.5	11.9	18.1	19.0	19.0	52.5	0.0	29.8	40.6	0.0	0.0
LnGrp LOS	B	B	B	B	B	B	D	A	C	D	A	A
Approach Vol, veh/h		1030			1638			272				34
Approach Delay, s/veh		15.1			18.7			41.9				40.6
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	73.0		29.0	5.2	85.8		29.0				
Change Period (Y+Rc), s	4.0	5.5		4.0	4.0	5.5		4.0				
Max Green Setting (Gmax), s	37.0	44.5		25.0	5.6	75.9		25.0				
Max Q Clear Time (g_c+I1), s	13.2	20.2		25.7	2.2	30.0		25.3				
Green Ext Time (p_c), s	0.9	16.5		0.0	0.0	32.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				19.8								
HCM 6th LOS				B								

# HCM Signalized Intersection Capacity Analysis

## 2: SW Tualatin Sherwood Road & SW Cipole Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗		↘	↗↗		↘	↗		↘	↗	
Traffic Volume (vph)	41	1026	18	17	1314	23	60	9	45	109	2	147
Future Volume (vph)	41	1026	18	17	1314	23	60	9	45	109	2	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.5	4.0		4.5	4.5		4.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.88		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3460		1752	3494		1805	1663		1736	1556	
Flt Permitted	0.11	1.00		0.20	1.00		0.65	1.00		0.51	1.00	
Satd. Flow (perm)	200	3460		363	3494		1243	1663		938	1556	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	1115	20	18	1428	25	65	10	49	118	2	160
RTOR Reduction (vph)	0	1	0	0	1	0	0	45	0	0	136	0
Lane Group Flow (vph)	45	1134	0	18	1452	0	65	14	0	118	26	0
Confl. Peds. (#/hr)	1		2	2		1						
Confl. Bikes (#/hr)			6			4						
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	0%	0%	0%	4%	4%	4%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	79.9	75.7		76.6	74.3		13.7	9.5		27.0	18.3	
Effective Green, g (s)	79.9	77.2		76.6	75.8		13.7	9.5		28.0	18.3	
Actuated g/C Ratio	0.67	0.64		0.64	0.63		0.11	0.08		0.23	0.15	
Clearance Time (s)	4.0	5.5		4.5	5.5		4.5	4.5		5.0	5.0	
Vehicle Extension (s)	1.5	3.5		3.0	3.5		3.0	3.0		2.0	2.0	
Lane Grp Cap (vph)	186	2225		258	2207		161	131		311	237	
v/s Ratio Prot	c0.01	0.33		0.00	c0.42		0.01	0.01		c0.04	0.02	
v/s Ratio Perm	0.15			0.04			0.03			c0.04		
v/c Ratio	0.24	0.51		0.07	0.66		0.40	0.11		0.38	0.11	
Uniform Delay, d1	11.2	11.4		9.0	13.9		48.8	51.3		37.9	43.8	
Progression Factor	0.52	0.90		0.69	0.63		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.8		0.1	1.4		1.7	0.4		0.3	0.1	
Delay (s)	6.1	11.0		6.4	10.1		50.5	51.7		38.2	43.9	
Level of Service	A	B		A	B		D	D		D	D	
Approach Delay (s)		10.8			10.1			51.1			41.5	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 2: SW Tualatin Sherwood Road & SW Cipole Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑		↵	↑↑		↵	↑		↵	↑	
Traffic Volume (veh/h)	41	1026	18	17	1314	23	60	9	45	109	2	147
Future Volume (veh/h)	41	1026	18	17	1314	23	60	9	45	109	2	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1900	1900	1900	1841	1841	1841
Adj Flow Rate, veh/h	45	1115	20	18	1428	25	65	10	49	118	2	106
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	3	3	3	0	0	0	4	4	4
Cap, veh/h	359	2440	44	294	2428	42	173	15	74	248	3	142
Arrive On Green	0.01	0.23	0.23	0.04	1.00	1.00	0.04	0.05	0.05	0.09	0.09	0.10
Sat Flow, veh/h	1753	3513	63	1767	3543	62	1810	280	1373	1753	29	1535
Grp Volume(v), veh/h	45	555	580	18	710	743	65	0	59	118	0	108
Grp Sat Flow(s),veh/h/ln	1753	1749	1827	1767	1763	1843	1810	0	1653	1753	0	1564
Q Serve(g_s), s	0.9	32.8	32.8	0.4	0.0	0.0	4.0	0.0	4.2	7.2	0.0	8.1
Cycle Q Clear(g_c), s	0.9	32.8	32.8	0.4	0.0	0.0	4.0	0.0	4.2	7.2	0.0	8.1
Prop In Lane	1.00		0.03	1.00		0.03	1.00		0.83	1.00		0.98
Lane Grp Cap(c), veh/h	359	1215	1269	294	1208	1263	173	0	89	248	0	145
V/C Ratio(X)	0.13	0.46	0.46	0.06	0.59	0.59	0.38	0.00	0.66	0.48	0.00	0.75
Avail Cap(c_a), veh/h	384	1215	1269	336	1208	1263	173	0	387	432	0	584
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.81	0.81	0.81	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.5	26.8	26.8	9.9	0.0	0.0	50.7	0.0	55.7	44.9	0.0	52.6
Incr Delay (d2), s/veh	0.1	1.1	1.0	0.1	1.7	1.6	1.3	0.0	8.2	0.5	0.0	2.9
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	0.3	15.6	16.3	0.1	0.6	0.6	1.9	0.0	2.0	3.2	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.5	27.9	27.8	10.0	1.7	1.6	52.0	0.0	64.0	45.5	0.0	55.5
LnGrp LOS	A	C	C	A	A	A	D	A	E	D	A	E
Approach Vol, veh/h		1180			1471			124			226	
Approach Delay, s/veh		27.0			1.8			57.7			50.2	
Approach LOS		C			A			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	87.3	9.8	16.1	7.9	86.2	14.5	11.4				
Change Period (Y+Rc), s	4.5	5.5	4.5	5.0	4.0	5.5	5.0	* 5				
Max Green Setting (Gmax), s	5.1	45.3	5.3	44.8	5.6	45.3	22.0	* 28				
Max Q Clear Time (g_c+I1), s	2.4	34.8	6.0	10.1	2.9	2.0	9.2	6.2				
Green Ext Time (p_c), s	0.0	9.7	0.0	0.4	0.0	40.5	0.2	0.2				

Intersection Summary												
HCM 6th Ctrl Delay											17.6	
HCM 6th LOS											B	

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖↗	↕		↖↗	↕	↖
Traffic Volume (vph)	67	928	184	81	951	129	153	229	160	258	357	250
Future Volume (vph)	67	928	184	81	951	129	153	229	160	258	357	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3471	1533	3433	3539	1565	3335	3207		3433	1863	1565
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3471	1533	3433	3539	1565	3335	3207		3433	1863	1565
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	69	957	190	84	980	133	158	236	165	266	368	258
RTOR Reduction (vph)	0	0	82	0	0	56	0	112	0	0	0	42
Lane Group Flow (vph)	69	957	108	84	980	77	158	289	0	266	368	216
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			1			2			1			2
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	5%	5%	5%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6						4
Actuated Green, G (s)	6.9	58.7	68.0	5.5	57.3	69.9	9.3	24.2		12.6	27.5	34.4
Effective Green, g (s)	6.9	60.2	68.0	5.5	58.8	69.9	9.3	25.7		12.6	29.0	34.4
Actuated g/C Ratio	0.06	0.50	0.57	0.05	0.49	0.58	0.08	0.21		0.10	0.24	0.29
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	4.0
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	1.5
Lane Grp Cap (vph)	193	1741	868	157	1734	911	258	686		360	450	448
v/s Ratio Prot	0.02	0.28	0.01	0.02	c0.28	0.01	0.05	0.09		c0.08	c0.20	c0.03
v/s Ratio Perm			0.06			0.04						0.11
v/c Ratio	0.36	0.55	0.12	0.54	0.57	0.09	0.61	0.42		0.74	0.82	0.48
Uniform Delay, d1	54.4	20.6	12.1	56.0	21.6	11.0	53.6	40.7		52.1	43.0	35.4
Progression Factor	1.32	0.59	0.22	1.06	0.66	2.06	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	1.1	0.0	1.6	1.2	0.0	3.0	0.2		6.7	10.5	0.3
Delay (s)	72.4	13.2	2.7	60.8	15.5	22.7	56.6	40.9		58.8	53.5	35.7
Level of Service	E	B	A	E	B	C	E	D		E	D	D
Approach Delay (s)		14.9			19.5			45.3			49.9	
Approach LOS		B			B			D			D	

Intersection Summary		
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.66	C
Actuated Cycle Length (s)	120.0	Sum of lost time (s)
Intersection Capacity Utilization	67.9%	16.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		C



HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗↘	↗↗	↗	↗↘	↗↗	↗	↗↘	↗↘		↗↘	↗	↗
Traffic Volume (veh/h)	67	928	184	81	951	129	153	229	160	258	357	250
Future Volume (veh/h)	67	928	184	81	951	129	153	229	160	258	357	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.98
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	1870	1870	1870	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	69	957	128	84	980	92	158	236	144	266	368	165
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	2	2	2	5	5	5	2	2	2
Cap, veh/h	127	1825	886	135	1860	953	221	436	255	336	449	415
Arrive On Green	0.07	1.00	1.00	0.04	0.52	0.51	0.07	0.21	0.20	0.10	0.24	0.23
Sat Flow, veh/h	3401	3497	1539	3456	3554	1563	3374	2093	1225	3456	1870	1561
Grp Volume(v), veh/h	69	957	128	84	980	92	158	194	186	266	368	165
Grp Sat Flow(s),veh/h/ln	1700	1749	1539	1728	1777	1563	1687	1735	1584	1728	1870	1561
Q Serve(g_s), s	2.3	0.0	0.0	2.9	21.8	2.9	5.5	12.0	12.7	9.0	22.3	10.4
Cycle Q Clear(g_c), s	2.3	0.0	0.0	2.9	21.8	2.9	5.5	12.0	12.7	9.0	22.3	10.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.77	1.00		1.00
Lane Grp Cap(c), veh/h	127	1825	886	135	1860	953	221	361	330	336	449	415
V/C Ratio(X)	0.54	0.52	0.14	0.62	0.53	0.10	0.72	0.54	0.56	0.79	0.82	0.40
Avail Cap(c_a), veh/h	315	1825	886	202	1860	953	309	448	409	403	530	482
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.0	56.8	18.8	9.8	55.0	42.3	43.2	53.0	43.1	36.2
Incr Delay (d2), s/veh	1.2	0.9	0.3	1.7	1.1	0.2	2.0	0.5	0.6	7.0	7.3	0.2
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	1.0	0.2	0.1	1.3	8.6	1.0	2.3	5.0	4.9	4.2	10.9	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	0.9	0.3	58.5	19.9	10.0	57.0	42.8	43.7	60.0	50.4	36.4
LnGrp LOS	E	A	A	E	B	A	E	D	D	E	D	D
Approach Vol, veh/h		1154			1156			538			799	
Approach Delay, s/veh		4.1			21.9			47.3			50.7	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	66.6	11.9	32.8	8.5	66.8	15.7	29.0				
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	7.0	50.5	11.0	32.5	11.1	46.4	14.0	29.5				
Max Q Clear Time (g_c+I1), s	4.9	2.0	7.5	24.3	4.3	23.8	11.0	14.7				
Green Ext Time (p_c), s	0.1	33.3	0.4	3.0	0.2	18.3	0.7	3.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				26.3								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑		↑
Traffic Vol, veh/h	1325	23	0	1140	0	18
Future Vol, veh/h	1325	23	0	1140	0	18
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	130	-	-	-	0
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	4	4	2	2	0	0
Mvmt Flow	1410	24	0	1213	0	19



























Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	707
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	382
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	381
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	381	-	-	-
HCM Lane V/C Ratio	0.05	-	-	-
HCM Control Delay (s)	14.9	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

HCM Signalized Intersection Capacity Analysis  
5: SW 115th Ave & SW T-S Rd

12/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 							
Traffic Volume (vph)	13	1267	64	58	978	17	146	0	243	17	1	16
Future Volume (vph)	13	1267	64	58	978	17	146	0	243	17	1	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.5		4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00		1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00		0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00		0.85	1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1735	3471	1530	3400	3494		1717		1520	1767	1579	
Flt Permitted	0.21	1.00	1.00	0.95	1.00		0.75		1.00	0.76	1.00	
Satd. Flow (perm)	379	3471	1530	3400	3494		1348		1520	1408	1579	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	14	1320	67	60	1019	18	152	0	253	18	1	17
RTOR Reduction (vph)	0	0	33	0	1	0	0	0	20	0	11	0
Lane Group Flow (vph)	14	1320	34	60	1036	0	152	0	233	18	7	0
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	Prot	NA		Perm		pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2				8		8	4		
Actuated Green, G (s)	61.9	59.9	59.9	6.5	64.4		39.1		45.6	39.1	39.1	
Effective Green, g (s)	62.9	61.4	61.4	7.0	65.9		39.1		46.6	39.6	39.6	
Actuated g/C Ratio	0.52	0.51	0.51	0.06	0.55		0.33		0.39	0.33	0.33	
Clearance Time (s)	4.5	5.5	5.5	4.5	5.5		4.5		4.5	4.5	4.5	
Vehicle Extension (s)	2.0	3.5	3.5	2.0	3.5		2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	226	1775	782	198	1918		439		640	464	521	
v/s Ratio Prot	0.00	c0.38		0.02	0.30				c0.02		0.00	
v/s Ratio Perm	0.03		0.02				0.11		0.13	0.01		
v/c Ratio	0.06	0.74	0.04	0.30	0.54		0.35		0.36	0.04	0.01	
Uniform Delay, d1	14.7	23.1	14.6	54.2	17.3		30.7		26.2	27.3	27.0	
Progression Factor	0.45	0.82	1.21	1.09	0.69		1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.0	1.5	0.0	0.3	0.3		2.2		0.1	0.2	0.0	
Delay (s)	6.6	20.6	17.8	59.1	12.2		32.9		26.3	27.4	27.1	
Level of Service	A	C	B	E	B		C		C	C	C	
Approach Delay (s)		20.3			14.8			28.8			27.3	
Approach LOS		C			B			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			19.5				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			65.9%				ICU Level of Service		C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary  
 5: SW 115th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘↘	↗↗		↘	↗	↘	↘	↗	↘
Traffic Volume (veh/h)	13	1267	64	58	978	17	146	0	243	17	1	16
Future Volume (veh/h)	13	1267	64	58	978	17	146	0	243	17	1	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	14	1320	46	60	1019	18	152	0	164	18	1	12
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	5	5	5	2	2	2
Cap, veh/h	255	1704	749	138	1799	32	557	680	638	515	46	551
Arrive On Green	0.02	0.49	0.49	0.04	0.51	0.50	0.37	0.00	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1753	3497	1538	3428	3544	63	1367	1826	1546	1221	123	1479
Grp Volume(v), veh/h	14	1320	46	60	507	530	152	0	164	18	0	13
Grp Sat Flow(s),veh/h/ln	1753	1749	1538	1714	1763	1844	1367	1826	1546	1221	0	1603
Q Serve(g_s), s	0.5	37.3	1.9	2.1	23.8	23.9	9.6	0.0	8.4	1.1	0.0	0.6
Cycle Q Clear(g_c), s	0.5	37.3	1.9	2.1	23.8	23.9	10.2	0.0	8.4	1.1	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	255	1704	749	138	895	936	557	680	638	515	0	597
V/C Ratio(X)	0.05	0.77	0.06	0.44	0.57	0.57	0.27	0.00	0.26	0.03	0.00	0.02
Avail Cap(c_a), veh/h	301	1778	782	377	1009	1056	557	680	638	515	0	597
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	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	25.4	16.3	56.3	20.4	20.4	27.4	0.0	23.1	24.0	0.0	24.0
Incr Delay (d2), s/veh	0.0	2.2	0.0	0.7	0.6	0.6	1.2	0.0	1.0	0.1	0.0	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	0.2	14.9	0.7	0.9	9.3	9.7	3.3	0.0	3.2	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	27.6	16.3	56.9	21.0	21.0	28.6	0.0	24.1	24.1	0.0	24.0
LnGrp LOS	B	C	B	E	C	C	C	A	C	C	A	C
Approach Vol, veh/h		1380			1097			316				31
Approach Delay, s/veh		27.1			23.0			26.3				24.1
Approach LOS		C			C			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	62.5		48.7	6.4	64.9		48.7				
Change Period (Y+Rc), s	4.5	5.5		4.5	4.5	5.5		4.5				
Max Green Setting (Gmax), s	12.7	59.5		33.3	5.0	67.2		33.3				
Max Q Clear Time (g_c+I1), s	4.1	39.3		3.1	2.5	25.9		12.2				
Green Ext Time (p_c), s	0.1	17.6		0.1	0.0	25.4		0.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				25.4								
HCM 6th LOS				C								

# HCM Signalized Intersection Capacity Analysis

## 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘	↗		↘	↗	
Traffic Volume (vph)	31	1069	418	5	772	41	212	22	15	106	45	67
Future Volume (vph)	31	1069	418	5	772	41	212	22	15	106	45	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.4	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3471	1520	1719	3408		1770	1739		1736	1649	
Flt Permitted	0.26	1.00	1.00	0.17	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	466	3471	1520	299	3408		1770	1739		1736	1649	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	1125	440	5	813	43	223	23	16	112	47	71
RTOR Reduction (vph)	0	0	193	0	2	0	0	14	0	0	52	0
Lane Group Flow (vph)	33	1125	247	5	854	0	223	25	0	112	66	0
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)			2			3						
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								
Actuated Green, G (s)	73.9	67.3	67.3	62.1	61.0		19.4	14.4		19.2	14.2	
Effective Green, g (s)	73.9	68.8	67.4	62.1	62.5		19.4	14.9		19.2	14.7	
Actuated g/C Ratio	0.62	0.57	0.56	0.52	0.52		0.16	0.12		0.16	0.12	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	4.5		4.0	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	365	1990	853	167	1775		286	215		277	202	
v/s Ratio Prot	c0.01	c0.32		0.00	0.25		c0.13	0.01		0.06	c0.04	
v/s Ratio Perm	0.05		0.16	0.02								
v/c Ratio	0.09	0.57	0.29	0.03	0.48		0.78	0.12		0.40	0.33	
Uniform Delay, d1	16.6	16.2	13.8	26.3	18.4		48.3	46.7		45.3	48.1	
Progression Factor	0.50	0.59	0.21	1.00	1.00		1.00	1.00		1.00	1.01	
Incremental Delay, d2	0.1	0.9	0.6	0.1	0.9		12.6	0.2		1.0	1.0	
Delay (s)	8.4	10.4	3.5	26.4	19.3		60.9	46.9		46.2	49.7	
Level of Service	A	B	A	C	B		E	D		D	D	
Approach Delay (s)		8.5			19.4			58.8			48.0	
Approach LOS		A			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 6: SW Avery St/SW 112th Ave & SW T-S Rd

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	1069	418	5	772	41	212	22	15	106	45	67
Future Volume (veh/h)	31	1069	418	5	772	41	212	22	15	106	45	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	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	1826	1826	1826	1870	1870	1870	1841	1841	1841
Adj Flow Rate, veh/h	33	1125	377	5	813	22	223	23	11	112	47	66
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, %	4	4	4	5	5	5	2	2	2	4	4	4
Cap, veh/h	643	1319	558	530	1144	31	255	190	91	139	66	92
Arrive On Green	0.59	0.75	0.73	0.25	0.33	0.33	0.14	0.16	0.16	0.08	0.09	0.09
Sat Flow, veh/h	1753	3497	1526	1739	3448	93	1781	1195	571	1753	691	971
Grp Volume(v), veh/h	33	1125	377	5	409	426	223	0	34	112	0	113
Grp Sat Flow(s),veh/h/ln	1753	1749	1526	1739	1735	1806	1781	0	1766	1753	0	1662
Q Serve(g_s), s	0.0	26.6	10.2	0.0	24.7	24.7	14.7	0.0	2.0	7.5	0.0	7.9
Cycle Q Clear(g_c), s	0.0	26.6	10.2	0.0	24.7	24.7	14.7	0.0	2.0	7.5	0.0	7.9
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.32	1.00		0.58
Lane Grp Cap(c), veh/h	643	1319	558	530	576	600	255	0	281	139	0	158
V/C Ratio(X)	0.05	0.85	0.68	0.01	0.71	0.71	0.87	0.00	0.12	0.81	0.00	0.72
Avail Cap(c_a), veh/h	643	1399	592	530	694	723	341	0	517	225	0	381
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.2	12.5	5.2	25.8	35.0	35.0	50.3	0.0	43.3	54.4	0.0	52.9
Incr Delay (d2), s/veh	0.0	4.7	4.2	0.0	7.3	7.0	17.0	0.0	0.2	10.5	0.0	5.9
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	0.3	5.2	3.7	0.1	11.2	11.6	7.7	0.0	0.9	3.7	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	17.2	9.4	25.8	42.3	42.0	67.4	0.0	43.5	64.9	0.0	58.8
LnGrp LOS	B	B	A	C	D	D	E	A	D	E	A	E
Approach Vol, veh/h		1535			840			257			225	
Approach Delay, s/veh		15.2			42.1			64.2			61.8	
Approach LOS		B			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.1	49.3	21.2	15.4	39.6	43.8	13.5	23.1				
Change Period (Y+Rc), s	4.0	5.5	4.0	4.5	4.0	5.5	4.0	4.5				
Max Green Setting (Gmax), s	5.5	46.5	23.0	27.0	5.5	46.5	15.4	34.6				
Max Q Clear Time (g_c+I1), s	2.0	28.6	16.7	9.9	2.0	26.7	9.5	4.0				
Green Ext Time (p_c), s	0.0	15.2	0.5	0.4	0.0	11.6	0.2	0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			31.2									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	3.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	30	106	22	6	177
Future Vol, veh/h	81	30	106	22	6	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	5	5	11	11	5	5
Mvmt Flow	99	37	129	27	7	216

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	373	143	0	0	156
Stage 1	143	-	-	-	-
Stage 2	230	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245
Pot Cap-1 Maneuver	622	897	-	-	1406
Stage 1	877	-	-	-	-
Stage 2	801	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	618	897	-	-	1406
Mov Cap-2 Maneuver	618	-	-	-	-
Stage 1	877	-	-	-	-
Stage 2	796	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	675	1406
HCM Lane V/C Ratio	-	-	0.201	0.005
HCM Control Delay (s)	-	-	11.7	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.7	0

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	124	78	124	254	1	69	0	84	1	0	0
Future Vol, veh/h	0	124	78	124	254	1	69	0	84	1	0	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	7	7	7	7	7	7	5	5	5	0	0	0
Mvmt Flow	0	148	93	148	302	1	82	0	100	1	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	15.3	10.4	9.2
HCM LOS	B	C	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	45%	0%	33%	100%
Vol Thru, %	0%	61%	67%	0%
Vol Right, %	55%	39%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	153	202	379	1
LT Vol	69	0	124	1
Through Vol	0	124	254	0
RT Vol	84	78	1	0
Lane Flow Rate	182	240	451	1
Geometry Grp	1	1	1	1
Degree of Util (X)	0.27	0.322	0.608	0.002
Departure Headway (Hd)	5.341	4.816	4.853	6.177
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	665	738	740	583
Service Time	3.434	2.898	2.924	4.177
HCM Lane V/C Ratio	0.274	0.325	0.609	0.002
HCM Control Delay	10.4	10.2	15.3	9.2
HCM Lane LOS	B	B	C	A
HCM 95th-tile Q	1.1	1.4	4.2	0



HCM 6th TWSC  
 9: SW 124th Avenue & SW Cimino Street

12/13/2021

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	24	0	64	38	0	21	12	406	7	3	762	3
Future Vol, veh/h	24	0	64	38	0	21	12	406	7	3	762	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	105	-	-	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	2	2	2	4	4	4	4	4	4
Mvmt Flow	27	0	73	43	0	24	14	461	8	3	866	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1133	1372	435	933	1369	236	869	0	0	470	0	0
Stage 1	874	874	-	494	494	-	-	-	-	-	-	-
Stage 2	259	498	-	439	875	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.54	6.54	6.94	4.18	-	-	4.18	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.24	-	-	2.24	-	-
Pot Cap-1 Maneuver	154	141	561	221	145	766	759	-	-	1074	-	-
Stage 1	305	359	-	526	545	-	-	-	-	-	-	-
Stage 2	715	535	-	567	365	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	147	138	561	189	142	765	759	-	-	1073	-	-
Mov Cap-2 Maneuver	147	138	-	189	142	-	-	-	-	-	-	-
Stage 1	300	358	-	516	535	-	-	-	-	-	-	-
Stage 2	680	525	-	492	364	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	21.5		23.8		0.3		0	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	759	-	-	317	258	1073	-
HCM Lane V/C Ratio	0.018	-	-	0.315	0.26	0.003	-
HCM Control Delay (s)	9.8	-	-	21.5	23.8	8.4	-
HCM Lane LOS	A	-	-	C	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	1	0	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	76	0	451	692	12
Future Vol, veh/h	0	76	0	451	692	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	250	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	5	5	4	4	4	4
Mvmt Flow	0	86	0	513	786	14

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1050	400	800	0	0
Stage 1	793	-	-	-	-
Stage 2	257	-	-	-	-
Critical Hdwy	6.9	7	4.18	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-
Follow-up Hdwy	3.55	3.35	2.24	-	-
Pot Cap-1 Maneuver	218	591	806	-	-
Stage 1	399	-	-	-	-
Stage 2	753	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	218	591	806	-	-
Mov Cap-2 Maneuver	218	-	-	-	-
Stage 1	399	-	-	-	-
Stage 2	753	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	806	-	591	-	-
HCM Lane V/C Ratio	-	-	0.146	-	-
HCM Control Delay (s)	0	-	12.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

HCM 6th TWSC  
 11: SW 124th Avenue & SW Myslony Street

12/13/2021

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	18	1	20	71	0	32	0	439	12	8	613	1
Future Vol, veh/h	18	1	20	71	0	32	0	439	12	8	613	1
Conflicting Peds, #/hr	3	0	1	1	0	3	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	13	13	13	41	41	41	18	18	18	17	17	17
Mvmt Flow	21	1	24	85	0	38	0	523	14	10	730	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1017	1289	368	917	1282	272	732	0	0	537	0	0
Stage 1	752	752	-	530	530	-	-	-	-	-	-	-
Stage 2	265	537	-	387	752	-	-	-	-	-	-	-
Critical Hdwy	7.76	6.76	7.16	8.32	7.32	7.72	4.46	-	-	4.44	-	-
Critical Hdwy Stg 1	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.76	5.76	-	7.32	6.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.63	4.13	3.43	3.91	4.41	3.71	2.38	-	-	2.37	-	-
Pot Cap-1 Maneuver	177	148	598	175	119	621	770	-	-	930	-	-
Stage 1	345	391	-	412	438	-	-	-	-	-	-	-
Stage 2	687	494	-	513	334	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	164	146	597	165	118	619	769	-	-	930	-	-
Mov Cap-2 Maneuver	164	146	-	165	118	-	-	-	-	-	-	-
Stage 1	345	386	-	412	438	-	-	-	-	-	-	-
Stage 2	643	494	-	485	330	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	21.8		42.2		0		0.1	
HCM LOS	C		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	769	-	-	260	214	930	-
HCM Lane V/C Ratio	-	-	-	0.179	0.573	0.01	-
HCM Control Delay (s)	0	-	-	21.8	42.2	8.9	-
HCM Lane LOS	A	-	-	C	E	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	3.2	0	-

# HCM Signalized Intersection Capacity Analysis

## 12: SW 124th Avenue & SW Herman Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (vph)	100	189	39	155	341	183	16	406	68	99	429	32
Future Volume (vph)	100	189	39	155	341	183	16	406	68	99	429	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.95		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1638		1597	1586		1504	2934		1703	3364	
Flt Permitted	0.18	1.00		0.49	1.00		0.41	1.00		0.26	1.00	
Satd. Flow (perm)	302	1638		822	1586		650	2934		461	3364	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	112	212	44	174	383	206	18	456	76	111	482	36
RTOR Reduction (vph)	0	7	0	0	18	0	0	11	0	0	4	0
Lane Group Flow (vph)	112	249	0	174	571	0	18	521	0	111	514	0
Confl. Peds. (#/hr)	1						1			1	1	
Confl. Bikes (#/hr)												4
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	6%	6%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	45.3	38.4		48.3	39.9		27.8	26.1		38.0	31.3	
Effective Green, g (s)	47.3	39.9		50.3	41.4		29.8	27.6		39.0	32.8	
Actuated g/C Ratio	0.47	0.40		0.50	0.41		0.30	0.27		0.39	0.33	
Clearance Time (s)	5.0	5.5		5.0	5.5		5.0	5.5		5.0	5.5	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	243	648		482	651		215	803		275	1094	
v/s Ratio Prot	c0.04	0.15		0.03	c0.36		0.00	c0.18		c0.03	0.15	
v/s Ratio Perm	0.18			0.15			0.02			0.12		
v/c Ratio	0.46	0.38		0.36	0.88		0.08	0.65		0.40	0.47	
Uniform Delay, d1	18.5	21.7		14.5	27.4		25.4	32.3		21.3	27.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.4		0.2	12.8		0.1	1.8		0.4	0.3	
Delay (s)	19.0	22.1		14.7	40.1		25.4	34.1		21.7	27.4	
Level of Service	B	C		B	D		C	C		C	C	
Approach Delay (s)		21.1			34.3			33.9			26.4	
Approach LOS		C			C			C			C	

### Intersection Summary

HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 12: SW 124th Avenue & SW Herman Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	100	189	39	155	341	183	16	406	68	99	429	32
Future Volume (veh/h)	100	189	39	155	341	183	16	406	68	99	429	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
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	1707	1707	1707	1707	1707	1707	1604	1604	1604	1811	1811	1811
Adj Flow Rate, veh/h	112	212	0	174	383	0	18	456	59	111	482	30
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	13	13	13	13	13	13	20	20	20	6	6	6
Cap, veh/h	349	467		486	522		311	693	89	351	998	62
Arrive On Green	0.09	0.27	0.00	0.12	0.31	0.00	0.04	0.26	0.23	0.09	0.30	0.28
Sat Flow, veh/h	1626	1707	0	1626	1707	0	1527	2714	349	1725	3284	204
Grp Volume(v), veh/h	112	212	0	174	383	0	18	255	260	111	252	260
Grp Sat Flow(s),veh/h/ln	1626	1707	0	1626	1707	0	1527	1523	1540	1725	1721	1768
Q Serve(g_s), s	2.9	6.2	0.0	4.4	12.1	0.0	0.5	9.0	9.1	2.7	7.2	7.3
Cycle Q Clear(g_c), s	2.9	6.2	0.0	4.4	12.1	0.0	0.5	9.0	9.1	2.7	7.2	7.3
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.23	1.00		0.12
Lane Grp Cap(c), veh/h	349	467		486	522		311	389	393	351	523	537
V/C Ratio(X)	0.32	0.45		0.36	0.73		0.06	0.66	0.66	0.32	0.48	0.48
Avail Cap(c_a), veh/h	423	1529		563	1586		405	809	817	430	970	997
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	18.1	0.0	13.2	18.7	0.0	15.7	20.1	20.3	14.6	17.1	17.2
Incr Delay (d2), s/veh	0.2	0.7	0.0	0.2	2.0	0.0	0.0	1.9	1.9	0.2	0.7	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	1.0	2.3	0.0	1.5	4.6	0.0	0.2	2.9	3.0	0.9	2.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.8	18.8	0.0	13.3	20.7	0.0	15.8	21.9	22.2	14.8	17.8	17.9
LnGrp LOS	B	B		B	C		B	C	C	B	B	B
Approach Vol, veh/h		324	A		557	A		533			623	
Approach Delay, s/veh		17.4			18.4			21.8			17.3	
Approach LOS		B			B			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	19.4	11.2	20.5	6.3	22.3	9.2	22.4				
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5	5.0	5.5	5.0	5.5				
Max Green Setting (Gmax), s	7.0	30.5	9.0	52.5	5.0	32.5	7.0	54.5				
Max Q Clear Time (g_c+I1), s	4.7	11.1	6.4	8.2	2.5	9.3	4.9	14.1				
Green Ext Time (p_c), s	0.0	2.7	0.1	1.3	0.0	2.7	0.0	2.7				

Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

- User approved pedestrian interval to be less than phase max green.
- Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection: 2: SW Tualatin Sherwood Road & SW Cipole Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	119	276	285	139	225	229	66	47	130	153
Average Queue (ft)	52	87	114	40	69	84	17	10	55	44
95th Queue (ft)	100	206	242	94	173	194	52	35	118	109
Link Distance (ft)		1804	1804		784	784		558		1005
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	360			150			150		175	
Storage Blk Time (%)					2			0	0	
Queuing Penalty (veh)					1			0	0	

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	87	122	354	365	90	132	137	341	298	121	149	172
Average Queue (ft)	25	47	168	191	29	49	72	128	139	48	57	102
95th Queue (ft)	66	92	286	310	73	104	122	232	246	100	123	163
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			1	0				0				
Queuing Penalty (veh)			1	0				0				

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	R
Maximum Queue (ft)	192	210	140	231	445	73
Average Queue (ft)	90	102	60	92	163	23
95th Queue (ft)	162	189	119	182	315	55
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			2	3	20	
Queuing Penalty (veh)			4	6	36	

Intersection: 7: SW Cipole Road & Project Driveway #3

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	27	10
Average Queue (ft)	3	0
95th Queue (ft)	17	5
Link Distance (ft)	224	1244
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: SW 124th Avenue & SW Cimino Street

Movement	WB	SB
Directions Served	LTR	L
Maximum Queue (ft)	69	38
Average Queue (ft)	12	5
95th Queue (ft)	48	24
Link Distance (ft)	386	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		110
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: SW 124th Avenue & Project Driveway #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Zone Summary

Zone wide Queuing Penalty: 48

Intersection: 2: SW Tualatin Sherwood Road & SW Cipole Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	63	321	350	51	256	264	114	92	138	125
Average Queue (ft)	21	94	119	10	103	100	53	34	58	60
95th Queue (ft)	51	243	277	37	219	206	99	73	110	107
Link Distance (ft)		1804	1804		784	784		558		1005
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	360			150			150		300	
Storage Blk Time (%)		0			3		0			
Queuing Penalty (veh)		0			1		0			

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	60	76	297	301	77	73	92	285	274	74	141	166
Average Queue (ft)	15	31	121	136	27	24	39	140	139	23	51	85
95th Queue (ft)	44	64	242	262	62	58	75	249	249	56	114	150
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			1	0								
Queuing Penalty (veh)			0	0								

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	R
Maximum Queue (ft)	183	207	131	252	330	141
Average Queue (ft)	91	108	69	95	177	63
95th Queue (ft)	165	191	124	189	285	124
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			1	1	25	
Queuing Penalty (veh)			2	4	52	



Intersection: 7: SW Cipole Road & Project Driveway #3

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	45	10
Average Queue (ft)	20	0
95th Queue (ft)	44	4
Link Distance (ft)	224	1244
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: SW 124th Avenue & SW Cimino Street

Movement	WB	SB
Directions Served	LTR	L
Maximum Queue (ft)	83	10
Average Queue (ft)	33	0
95th Queue (ft)	64	5
Link Distance (ft)	386	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		110
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: SW 124th Avenue & Project Driveway #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Zone Summary

Zone wide Queuing Penalty: 60

Intersection: 2: SW Tualatin Sherwood Road & SW Cipole Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	132	280	342	157	308	315	64	52	144	137
Average Queue (ft)	63	108	135	50	106	127	17	14	67	49
95th Queue (ft)	118	238	285	114	244	269	48	41	130	107
Link Distance (ft)		1804	1804		784	784		558		1005
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	360			150			150		175	
Storage Blk Time (%)				0	4				0	0
Queuing Penalty (veh)				1	3				0	0

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	106	166	420	427	221	149	174	320	314	159	211	232
Average Queue (ft)	36	58	203	226	32	48	69	157	163	62	92	138
95th Queue (ft)	80	130	351	381	121	111	132	255	263	124	190	215
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			4	2				0				
Queuing Penalty (veh)			4	2				0				

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	R
Maximum Queue (ft)	253	236	179	240	314	78
Average Queue (ft)	106	114	79	99	154	24
95th Queue (ft)	192	205	153	179	262	58
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			3	5	19	
Queuing Penalty (veh)			6	12	35	

**Intersection: 7: SW Cipole Road & Project Driveway #3**

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	58	9	70
Average Queue (ft)	18	0	10
95th Queue (ft)	46	3	41
Link Distance (ft)	224	1005	1244
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Intersection: 9: SW 124th Avenue & SW Cimino Street**

Movement	EB	WB	NB	SB	SB	SB
Directions Served	LTR	LTR	L	L	T	TR
Maximum Queue (ft)	50	47	100	34	10	12
Average Queue (ft)	16	7	34	4	1	0
95th Queue (ft)	43	32	73	21	9	7
Link Distance (ft)	175	386			1216	1216
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			105	110		
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

**Intersection: 10: SW 124th Avenue & Project Driveway #2**

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

**Zone Summary**

Zone wide Queuing Penalty: 63

Intersection: 2: SW Tualatin Sherwood Road & SW Cipole Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	94	320	349	39	318	307	102	111	187	150
Average Queue (ft)	28	105	132	10	126	117	50	40	101	67
95th Queue (ft)	72	248	287	33	264	252	95	79	173	119
Link Distance (ft)		1804	1804		784	784		558		1005
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	360			150			150		300	
Storage Blk Time (%)		0			5			0		
Queuing Penalty (veh)		0			1			0		

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	81	93	323	325	77	72	88	309	334	77	132	157
Average Queue (ft)	19	39	139	154	31	25	38	160	151	23	43	78
95th Queue (ft)	54	76	264	274	64	60	75	276	273	51	99	137
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			2	0								
Queuing Penalty (veh)			1	0								

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	R
Maximum Queue (ft)	206	239	175	260	394	210
Average Queue (ft)	95	115	85	119	190	77
95th Queue (ft)	173	208	143	228	322	165
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			3	5	24	
Queuing Penalty (veh)			9	18	60	

Intersection: 7: SW Cipole Road & Project Driveway #3

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	86	10
Average Queue (ft)	44	1
95th Queue (ft)	75	7
Link Distance (ft)	224	1244
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: SW 124th Avenue & SW Cimino Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	96	75	41	5
Average Queue (ft)	47	32	6	0
95th Queue (ft)	80	59	26	3
Link Distance (ft)	175	386		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			105	110
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: SW 124th Avenue & Project Driveway #2

Movement	SB
Directions Served	T
Maximum Queue (ft)	7
Average Queue (ft)	0
95th Queue (ft)	5
Link Distance (ft)	437
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 89
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Intersection: 2: SW Tualatin Sherwood Road & SW Cipole Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	197	404	381	97	435	476	69	47	155	100
Average Queue (ft)	81	115	144	37	134	163	15	13	64	38
95th Queue (ft)	156	280	305	75	304	334	47	38	132	81
Link Distance (ft)		1804	1804		784	784		558		1005
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	360			150			150		175	
Storage Blk Time (%)		1			6				0	
Queuing Penalty (veh)		1			4				0	

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	95	349	410	451	170	110	117	309	333	122	234	275
Average Queue (ft)	28	57	185	210	33	39	59	156	171	50	112	165
95th Queue (ft)	71	150	331	371	105	92	105	262	280	98	217	249
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			3	1				0				
Queuing Penalty (veh)			2	2				0				

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	R
Maximum Queue (ft)	161	215	167	253	339	92
Average Queue (ft)	80	97	72	105	162	25
95th Queue (ft)	150	184	140	203	283	63
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			2	6	21	
Queuing Penalty (veh)			4	14	37	

Intersection: 7: SW Cipole Road & Project Driveway #3

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	50	18	81
Average Queue (ft)	18	1	13
95th Queue (ft)	43	9	48
Link Distance (ft)	224	1005	1244
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: SW 124th Avenue & SW Cimino Street

Movement	WB	NB	SB
Directions Served	LTR	TR	L
Maximum Queue (ft)	65	4	45
Average Queue (ft)	9	0	5
95th Queue (ft)	38	3	26
Link Distance (ft)	386	705	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			110
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: SW 124th Avenue & Project Driveway #2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	44
Average Queue (ft)	10
95th Queue (ft)	34
Link Distance (ft)	149
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 64
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Intersection: 2: SW Tualatin Sherwood Road & SW Cipole Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	69	354	346	39	302	290	101	93	262	126
Average Queue (ft)	25	120	141	10	129	127	49	38	119	66
95th Queue (ft)	58	277	314	33	256	246	94	72	205	111
Link Distance (ft)		1804	1804		784	784		558		1005
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	360			150			150		300	
Storage Blk Time (%)		0			5				0	
Queuing Penalty (veh)		0			1				0	

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	60	131	348	365	91	76	85	292	289	65	125	159
Average Queue (ft)	16	39	145	161	35	24	37	151	152	27	41	81
95th Queue (ft)	46	110	274	299	69	58	74	261	263	59	98	142
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			1	0								
Queuing Penalty (veh)			1	1								

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	R
Maximum Queue (ft)	191	229	162	280	439	177
Average Queue (ft)	91	119	79	123	220	70
95th Queue (ft)	164	208	138	255	362	140
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			2	4	31	
Queuing Penalty (veh)			7	14	73	



**Intersection: 7: SW Cipole Road & Project Driveway #3**

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	108	21
Average Queue (ft)	51	1
95th Queue (ft)	85	10
Link Distance (ft)	224	1244
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

**Intersection: 9: SW 124th Avenue & SW Cimino Street**

Movement	WB	SB
Directions Served	LTR	L
Maximum Queue (ft)	70	20
Average Queue (ft)	32	1
95th Queue (ft)	59	10
Link Distance (ft)	386	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		110
Storage Blk Time (%)		
Queuing Penalty (veh)		

**Intersection: 10: SW 124th Avenue & Project Driveway #2**

Movement	EB	SB
Directions Served	LR	TR
Maximum Queue (ft)	66	10
Average Queue (ft)	33	0
95th Queue (ft)	57	8
Link Distance (ft)	149	437
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

**Zone Summary**

Zone wide Queuing Penalty: 96

Intersection: 2: SW Tualatin Sherwood Road & SW Cipole Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	169	332	361	137	306	319	51	35	168	90
Average Queue (ft)	67	109	137	42	102	123	16	11	71	39
95th Queue (ft)	128	245	281	94	229	256	43	35	149	82
Link Distance (ft)		1804	1804		784	784		558		1005
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	360			150			150		175	
Storage Blk Time (%)		0			3				1	
Queuing Penalty (veh)		0			2				0	

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	114	213	440	452	312	117	148	294	309	155	204	230
Average Queue (ft)	36	54	197	219	36	43	65	156	167	57	93	140
95th Queue (ft)	81	136	353	380	130	93	118	259	268	117	184	212
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			4	1					0			
Queuing Penalty (veh)			4	2					0			

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	R
Maximum Queue (ft)	224	235	174	222	327	82
Average Queue (ft)	104	116	74	92	150	24
95th Queue (ft)	189	199	142	170	261	61
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			2	4	19	
Queuing Penalty (veh)			4	9	34	

Intersection: 7: SW Cipole Road & Project Driveway #3

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	52	17	75
Average Queue (ft)	18	1	17
95th Queue (ft)	47	8	54
Link Distance (ft)	224	1005	1244
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: SW 124th Avenue & SW Cimino Street

Movement	WB	NB	SB
Directions Served	LTR	TR	L
Maximum Queue (ft)	62	11	43
Average Queue (ft)	8	0	5
95th Queue (ft)	37	8	25
Link Distance (ft)	386	705	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			110
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: SW 124th Avenue & Project Driveway #2

Movement	EB	NB	SB
Directions Served	LR	L	T
Maximum Queue (ft)	42	81	15
Average Queue (ft)	12	28	1
95th Queue (ft)	38	69	11
Link Distance (ft)	149		437
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		250	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 55

Intersection: 2: SW Tualatin Sherwood Road & SW Cipole Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	76	320	370	47	330	347	98	88	219	167
Average Queue (ft)	27	120	149	9	134	133	44	36	117	75
95th Queue (ft)	61	286	326	34	261	262	89	69	193	132
Link Distance (ft)		1804	1804		784	784		558		1005
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	360			150			150		300	
Storage Blk Time (%)		0			6					
Queuing Penalty (veh)		0			1					

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	67	84	340	347	77	88	94	296	329	68	151	171
Average Queue (ft)	17	37	131	153	34	24	40	156	153	25	50	81
95th Queue (ft)	45	74	245	269	67	65	78	282	289	56	114	144
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			1	0				0				
Queuing Penalty (veh)			0	0				0				

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	R
Maximum Queue (ft)	195	226	163	279	364	187
Average Queue (ft)	94	115	81	109	192	71
95th Queue (ft)	163	194	134	209	304	142
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			2	4	25	
Queuing Penalty (veh)			5	14	57	

Intersection: 7: SW Cipole Road & Project Driveway #3

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	111	22
Average Queue (ft)	49	1
95th Queue (ft)	81	7
Link Distance (ft)	224	1244
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: SW 124th Avenue & SW Cimino Street

Movement	WB	SB
Directions Served	LTR	L
Maximum Queue (ft)	78	19
Average Queue (ft)	33	1
95th Queue (ft)	59	9
Link Distance (ft)	386	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		110
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: SW 124th Avenue & Project Driveway #2

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	92	29
Average Queue (ft)	37	6
95th Queue (ft)	65	24
Link Distance (ft)	149	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 79

Intersection: 2: SW Tualatin Sherwood Road & SW Cipole Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	174	291	307	129	337	381	65	47	173	136
Average Queue (ft)	67	103	132	45	114	134	17	11	65	39
95th Queue (ft)	128	231	268	102	255	283	47	36	134	97
Link Distance (ft)		1804	1804		784	784		558		1005
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	360			150			150		175	
Storage Blk Time (%)		0		0	5			0	0	
Queuing Penalty (veh)		0		0	3			0	0	

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	105	206	383	404	188	98	126	312	344	173	228	268
Average Queue (ft)	42	58	192	208	35	39	57	156	168	57	87	136
95th Queue (ft)	93	136	332	345	112	84	109	267	285	120	187	224
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			3	1					0			
Queuing Penalty (veh)			3	1					0			

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	R
Maximum Queue (ft)	230	225	163	280	366	98
Average Queue (ft)	106	109	83	111	169	25
95th Queue (ft)	187	202	150	208	294	67
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			3	6	22	
Queuing Penalty (veh)			8	14	40	

**Intersection: 7: SW Cipole Road & Project Driveway #3**

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	46	4	50
Average Queue (ft)	12	0	9
95th Queue (ft)	39	3	33
Link Distance (ft)	224	1005	1244
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

**Intersection: 9: SW 124th Avenue & SW Cimino Street**

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	L	T
Maximum Queue (ft)	53	62	90	31	15
Average Queue (ft)	13	10	30	6	1
95th Queue (ft)	40	43	71	24	8
Link Distance (ft)	175	386			1216
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			105	110	
Storage Blk Time (%)			0		
Queuing Penalty (veh)			0		

**Intersection: 10: SW 124th Avenue & Project Driveway #2**

Movement	EB
Directions Served	LR
Maximum Queue (ft)	51
Average Queue (ft)	13
95th Queue (ft)	40
Link Distance (ft)	149
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

**Zone Summary**

Zone wide Queuing Penalty: 71

Intersection: 2: SW Tualatin Sherwood Road & SW Cipole Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	65	291	342	35	320	325	108	119	171	146
Average Queue (ft)	25	97	122	9	122	120	54	35	85	72
95th Queue (ft)	55	244	289	32	247	243	95	80	146	128
Link Distance (ft)		1804	1804		784	784		558		1005
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	360			150			150		300	
Storage Blk Time (%)					6			0		
Queuing Penalty (veh)					1			0		

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	85	159	338	333	122	79	83	301	289	87	143	160
Average Queue (ft)	20	40	142	161	34	22	39	166	165	26	42	78
95th Queue (ft)	59	82	267	292	78	55	74	273	268	62	101	134
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			1	0								
Queuing Penalty (veh)			1	0								

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	R
Maximum Queue (ft)	181	238	172	280	483	192
Average Queue (ft)	91	104	92	132	214	77
95th Queue (ft)	157	196	147	251	365	155
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			3	6	30	
Queuing Penalty (veh)			11	21	77	



**Intersection: 7: SW Cipole Road & Project Driveway #3**

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	82	6
Average Queue (ft)	38	0
95th Queue (ft)	63	4
Link Distance (ft)	224	1244
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

**Intersection: 9: SW 124th Avenue & SW Cimino Street**

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	L	T
Maximum Queue (ft)	108	74	26	10	5
Average Queue (ft)	45	33	4	0	0
95th Queue (ft)	84	62	20	5	4
Link Distance (ft)	175	386			1216
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)			105	110	
Storage Blk Time (%)					
Queuing Penalty (veh)					

**Intersection: 10: SW 124th Avenue & Project Driveway #2**

Movement	EB
Directions Served	LR
Maximum Queue (ft)	91
Average Queue (ft)	34
95th Queue (ft)	63
Link Distance (ft)	149
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

**Zone Summary**

Zone wide Queuing Penalty: 110

# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔↔	↑↑	↔	↔↔	↑↔		↔↔	↑↔	
Traffic Volume (vph)	75	1007	122	127	635	200	185	229	101	177	228	73
Future Volume (vph)	75	1007	122	127	635	200	185	229	101	177	228	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3127	3223	1422	3072	3167	1402	3155	3102		3072	3042	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3127	3223	1422	3072	3167	1402	3155	3102		3072	3042	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	1083	131	137	683	215	199	246	109	190	245	78
RTOR Reduction (vph)	0	0	49	0	0	76	0	46	0	0	28	0
Lane Group Flow (vph)	81	1083	82	137	683	139	199	309	0	190	295	0
Confl. Peds. (#/hr)			2	2			1					1
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	12%	12%	12%	14%	14%	14%	11%	11%	11%	14%	14%	14%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	5.7	63.8	74.8	8.6	66.7	77.8	11.0	17.5		11.1	17.6	
Effective Green, g (s)	5.7	65.3	74.8	8.6	68.2	77.8	11.0	19.0		11.1	19.1	
Actuated g/C Ratio	0.05	0.54	0.62	0.07	0.57	0.65	0.09	0.16		0.09	0.16	
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	
Lane Grp Cap (vph)	148	1753	886	220	1799	908	289	491		284	484	
v/s Ratio Prot	0.03	c0.34	0.01	c0.04	c0.22	0.01	c0.06	c0.10		0.06	0.10	
v/s Ratio Perm			0.05			0.09						
v/c Ratio	0.55	0.62	0.09	0.62	0.38	0.15	0.69	0.63		0.67	0.61	
Uniform Delay, d1	55.9	18.8	9.0	54.1	14.3	8.2	52.8	47.2		52.7	47.0	
Progression Factor	1.21	0.42	0.58	1.12	0.91	2.81	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	1.5	0.0	3.7	0.6	0.0	5.4	1.8		4.6	1.6	
Delay (s)	69.3	9.4	5.3	64.4	13.6	23.1	58.2	49.0		57.2	48.6	
Level of Service	E	A	A	E	B	C	E	D		E	D	
Approach Delay (s)		12.7			22.3			52.3			51.8	
Approach LOS		B			C			D			D	

### Intersection Summary

HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

# HCM 6th Signalized Intersection Summary

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑		↔↔	↑↑	
Traffic Volume (veh/h)	75	1007	122	127	635	200	185	229	101	177	228	73
Future Volume (veh/h)	75	1007	122	127	635	200	185	229	101	177	228	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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	1722	1722	1722	1693	1693	1693	1737	1737	1737	1693	1693	1693
Adj Flow Rate, veh/h	81	1083	115	137	683	140	199	246	87	190	245	56
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, %	12	12	12	14	14	14	11	11	11	14	14	14
Cap, veh/h	126	1862	920	191	1900	934	263	375	129	252	403	90
Arrive On Green	0.08	1.00	1.00	0.02	0.19	0.19	0.08	0.16	0.14	0.08	0.15	0.14
Sat Flow, veh/h	3182	3272	1437	3127	3216	1415	3209	2407	829	3127	2608	585
Grp Volume(v), veh/h	81	1083	115	137	683	140	199	167	166	190	149	152
Grp Sat Flow(s),veh/h/ln	1591	1636	1437	1564	1608	1415	1605	1650	1586	1564	1608	1586
Q Serve(g_s), s	3.0	0.0	0.0	5.2	22.1	8.0	7.3	11.4	11.9	7.1	10.4	10.8
Cycle Q Clear(g_c), s	3.0	0.0	0.0	5.2	22.1	8.0	7.3	11.4	11.9	7.1	10.4	10.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.37
Lane Grp Cap(c), veh/h	126	1862	920	191	1900	934	263	257	247	252	248	245
V/C Ratio(X)	0.65	0.58	0.13	0.72	0.36	0.15	0.76	0.65	0.67	0.75	0.60	0.62
Avail Cap(c_a), veh/h	194	1862	920	235	1900	934	348	393	378	339	383	378
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.0	57.8	28.6	16.0	53.9	47.6	48.2	54.0	47.3	47.7
Incr Delay (d2), s/veh	1.7	1.1	0.2	5.4	0.5	0.3	4.4	1.0	1.2	4.1	0.9	1.0
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	1.2	0.3	0.1	2.2	9.5	2.7	3.0	4.6	4.7	2.9	4.1	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	1.1	0.2	63.1	29.2	16.4	58.3	48.6	49.3	58.1	48.2	48.7
LnGrp LOS	E	A	A	E	C	B	E	D	D	E	D	D
Approach Vol, veh/h		1279			960			532			491	
Approach Delay, s/veh		4.5			32.2			52.5			52.1	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	72.3	13.8	22.5	8.7	74.9	13.7	22.7				
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	9.0	51.9	13.0	27.1	7.3	53.6	13.0	27.1				
Max Q Clear Time (g_c+I1), s	7.2	2.0	9.3	12.8	5.0	24.1	9.1	13.9				
Green Ext Time (p_c), s	0.2	37.6	0.6	2.8	0.1	17.9	0.5	3.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				27.6								
HCM 6th LOS				C								

# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	905	165	81	950	125	146	225	160	207	301	217
Future Volume (vph)	63	905	165	81	950	125	146	225	160	207	301	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3367	3471	1533	3433	3539	1565	3335	3204		3433	3295	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3367	3471	1533	3433	3539	1565	3335	3204		3433	3295	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	65	933	170	84	979	129	151	232	165	213	310	224
RTOR Reduction (vph)	0	0	66	0	0	47	0	120	0	0	124	0
Lane Group Flow (vph)	65	933	104	84	979	82	151	277	0	213	410	0
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			1			2			1			2
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	5%	5%	5%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	5.4	64.5	73.6	6.0	65.1	76.6	9.1	19.0		11.5	21.4	
Effective Green, g (s)	5.4	66.0	73.6	6.0	66.6	76.6	9.1	20.5		11.5	22.9	
Actuated g/C Ratio	0.05	0.55	0.61	0.05	0.55	0.64	0.08	0.17		0.10	0.19	
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	
Lane Grp Cap (vph)	151	1909	940	171	1964	998	252	547		328	628	
v/s Ratio Prot	0.02	0.27	0.01	c0.02	c0.28	0.01	0.05	0.09		c0.06	c0.12	
v/s Ratio Perm			0.06			0.04						
v/c Ratio	0.43	0.49	0.11	0.49	0.50	0.08	0.60	0.51		0.65	0.65	
Uniform Delay, d1	55.8	16.6	9.6	55.5	16.4	8.3	53.7	45.2		52.3	44.9	
Progression Factor	1.20	0.69	0.18	1.29	0.52	1.22	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.8	0.0	0.7	0.8	0.0	2.5	0.3		3.3	1.9	
Delay (s)	67.8	12.3	1.7	72.4	9.4	10.2	56.2	45.4		55.6	46.7	
Level of Service	E	B	A	E	A	B	E	D		E	D	
Approach Delay (s)		13.8			13.9			48.4			49.3	
Approach LOS		B			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			26.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)					16.0			
Intersection Capacity Utilization			64.4%	ICU Level of Service			C					
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗↘	↗↗	↗	↗↘	↗↗	↗	↗↘	↗↗		↗↘	↗↗	
Traffic Volume (veh/h)	63	905	165	81	950	125	146	225	160	207	301	217
Future Volume (veh/h)	63	905	165	81	950	125	146	225	160	207	301	217
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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	1870	1870	1870	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	65	933	108	84	979	88	151	232	144	213	310	131
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	2	2	2	5	5	5	2	2	2
Cap, veh/h	125	2002	960	135	2042	1012	214	356	212	291	468	193
Arrive On Green	0.07	1.00	1.00	0.08	1.00	1.00	0.06	0.17	0.16	0.08	0.19	0.18
Sat Flow, veh/h	3401	3497	1539	3456	3554	1563	3374	2079	1236	3456	2440	1007
Grp Volume(v), veh/h	65	933	108	84	979	88	151	192	184	213	224	217
Grp Sat Flow(s),veh/h/ln	1700	1749	1539	1728	1777	1563	1687	1735	1581	1728	1777	1670
Q Serve(g_s), s	2.2	0.0	0.0	2.8	0.0	0.0	5.3	12.4	13.2	7.2	14.0	14.6
Cycle Q Clear(g_c), s	2.2	0.0	0.0	2.8	0.0	0.0	5.3	12.4	13.2	7.2	14.0	14.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.78	1.00		0.60
Lane Grp Cap(c), veh/h	125	2002	960	135	2042	1012	214	297	270	291	341	320
V/C Ratio(X)	0.52	0.47	0.11	0.62	0.48	0.09	0.71	0.65	0.68	0.73	0.66	0.68
Avail Cap(c_a), veh/h	170	2002	960	230	2042	1012	309	448	408	432	518	487
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.0	54.4	0.0	0.0	55.1	46.4	47.2	53.6	44.8	45.5
Incr Delay (d2), s/veh	1.1	0.7	0.2	1.7	0.8	0.2	1.6	0.9	1.1	1.3	0.8	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	0.9	0.2	0.1	1.2	0.2	0.0	2.2	5.3	5.2	3.1	6.1	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.7	0.2	56.2	0.8	0.2	56.7	47.2	48.4	55.0	45.6	46.4
LnGrp LOS	E	A	A	E	A	A	E	D	D	D	D	D
Approach Vol, veh/h		1106			1151			527			654	
Approach Delay, s/veh		3.9			4.8			50.3			48.9	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	72.7	11.6	27.0	8.4	72.9	14.1	24.5				
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	48.5	11.0	33.5	6.0	50.5	15.0	29.5				
Max Q Clear Time (g_c+I1), s	4.8	2.0	7.3	16.6	4.2	2.0	9.2	15.2				
Green Ext Time (p_c), s	0.2	31.3	0.4	4.7	0.1	33.3	0.9	3.6				

Intersection Summary

HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	1011	127	127	676	244	228	273	101	183	234	77
Future Volume (vph)	105	1011	127	127	676	244	228	273	101	183	234	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3127	3223	1423	3072	3167	1402	3155	3120		3072	3039	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3127	3223	1423	3072	3167	1402	3155	3120		3072	3039	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	113	1087	137	137	727	262	245	294	109	197	252	83
RTOR Reduction (vph)	0	0	53	0	0	83	0	35	0	0	29	0
Lane Group Flow (vph)	113	1087	84	137	727	179	245	368	0	197	306	0
Confl. Peds. (#/hr)			2	2			1					1
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	12%	12%	12%	14%	14%	14%	11%	11%	11%	14%	14%	14%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	7.8	61.6	73.9	8.7	62.5	73.5	12.3	19.7		11.0	18.4	
Effective Green, g (s)	7.8	63.1	73.9	8.7	64.0	73.5	12.3	21.2		11.0	19.9	
Actuated g/C Ratio	0.06	0.53	0.62	0.07	0.53	0.61	0.10	0.18		0.09	0.17	
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	
Lane Grp Cap (vph)	203	1694	876	222	1689	858	323	551		281	503	
v/s Ratio Prot	0.04	c0.34	0.01	c0.04	0.23	0.02	c0.08	c0.12		0.06	0.10	
v/s Ratio Perm			0.05			0.11						
v/c Ratio	0.56	0.64	0.10	0.62	0.43	0.21	0.76	0.67		0.70	0.61	
Uniform Delay, d1	54.4	20.4	9.4	54.0	17.0	10.3	52.4	46.1		52.9	46.4	
Progression Factor	1.19	0.47	0.57	1.16	0.84	1.80	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	1.6	0.0	3.3	0.8	0.0	8.7	2.4		6.3	1.4	
Delay (s)	66.1	11.1	5.4	65.9	15.0	18.6	61.2	48.5		59.2	47.9	
Level of Service	E	B	A	E	B	B	E	D		E	D	
Approach Delay (s)		15.2			22.0			53.3			52.1	
Approach LOS		B			C			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.5				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)				16.0	
Intersection Capacity Utilization			61.4%				ICU Level of Service				B	
Analysis Period (min)			15									
c Critical Lane Group												

# HCM 6th Signalized Intersection Summary

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021

































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑		↔↔	↑↑	
Traffic Volume (veh/h)	105	1011	127	127	676	244	228	273	101	183	234	77
Future Volume (veh/h)	105	1011	127	127	676	244	228	273	101	183	234	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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	1722	1722	1722	1693	1693	1693	1737	1737	1737	1693	1693	1693
Adj Flow Rate, veh/h	113	1087	121	137	727	187	245	294	87	197	252	61
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, %	12	12	12	14	14	14	11	11	11	14	14	14
Cap, veh/h	163	1802	914	192	1804	894	309	435	126	257	407	97
Arrive On Green	0.10	1.00	1.00	0.02	0.19	0.18	0.10	0.17	0.16	0.08	0.16	0.15
Sat Flow, veh/h	3182	3272	1437	3127	3216	1415	3209	2521	732	3127	2577	612
Grp Volume(v), veh/h	113	1087	121	137	727	187	245	190	191	197	155	158
Grp Sat Flow(s),veh/h/ln	1591	1636	1437	1564	1608	1415	1605	1650	1604	1564	1608	1581
Q Serve(g_s), s	4.1	0.0	0.0	5.2	23.9	11.1	9.0	13.0	13.4	7.4	10.8	11.2
Cycle Q Clear(g_c), s	4.1	0.0	0.0	5.2	23.9	11.1	9.0	13.0	13.4	7.4	10.8	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		0.39
Lane Grp Cap(c), veh/h	163	1802	914	192	1804	894	309	284	276	257	254	250
V/C Ratio(X)	0.69	0.60	0.13	0.71	0.40	0.21	0.79	0.67	0.69	0.77	0.61	0.63
Avail Cap(c_a), veh/h	217	1802	914	242	1804	894	374	419	408	326	389	382
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	0.0	0.0	57.7	31.2	18.6	53.0	46.5	47.0	53.9	47.1	47.5
Incr Delay (d2), s/veh	2.4	1.3	0.2	4.5	0.7	0.5	7.5	1.0	1.2	5.9	0.9	1.0
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	1.6	0.3	0.1	2.2	10.4	4.0	3.8	5.3	5.3	3.1	4.3	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.4	1.3	0.2	62.3	31.9	19.1	60.5	47.5	48.1	59.9	48.0	48.5
LnGrp LOS	E	A	A	E	C	B	E	D	D	E	D	D
Approach Vol, veh/h		1321			1051			626			510	
Approach Delay, s/veh		5.8			33.6			52.8			52.7	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	70.1	15.6	23.0	10.1	71.3	13.9	24.7				
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	9.3	50.2	14.0	27.5	8.2	51.3	12.5	29.0				
Max Q Clear Time (g_c+I1), s	7.2	2.0	11.0	13.2	6.1	25.9	9.4	15.4				
Green Ext Time (p_c), s	0.2	36.8	0.6	2.9	0.2	17.3	0.5	3.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.3								
HCM 6th LOS				C								



HCM Signalized Intersection Capacity Analysis  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (vph)	67	941	202	81	953	131	151	231	160	245	339	242
Future Volume (vph)	67	941	202	81	953	131	151	231	160	245	339	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3367	3471	1533	3433	3539	1565	3335	3208		3433	3297	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3367	3471	1533	3433	3539	1565	3335	3208		3433	3297	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	69	970	208	84	982	135	156	238	165	253	349	249
RTOR Reduction (vph)	0	0	84	0	0	51	0	117	0	0	121	0
Lane Group Flow (vph)	69	970	124	84	982	84	156	286	0	253	477	0
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			1			2			1			2
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	5%	5%	5%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	5.5	62.1	71.4	5.9	62.5	74.9	9.3	20.6		12.4	23.7	
Effective Green, g (s)	5.5	63.6	71.4	5.9	64.0	74.9	9.3	22.1		12.4	25.2	
Actuated g/C Ratio	0.05	0.53	0.60	0.05	0.53	0.62	0.08	0.18		0.10	0.21	
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	
Lane Grp Cap (vph)	154	1839	912	168	1887	976	258	590		354	692	
v/s Ratio Prot	0.02	c0.28	0.01	c0.02	0.28	0.01	0.05	0.09		c0.07	c0.14	
v/s Ratio Perm			0.07			0.04						
v/c Ratio	0.45	0.53	0.14	0.50	0.52	0.09	0.60	0.49		0.71	0.69	
Uniform Delay, d1	55.8	18.4	10.7	55.6	18.1	9.0	53.6	43.9		52.1	43.8	
Progression Factor	1.26	0.55	0.13	1.17	0.64	1.54	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	1.0	0.0	0.8	0.9	0.0	2.7	0.2		5.6	2.3	
Delay (s)	71.0	11.0	1.4	65.6	12.5	13.8	56.3	44.1		57.7	46.1	
Level of Service	E	B	A	E	B	B	E	D		E	D	
Approach Delay (s)		12.7			16.4			47.5			49.5	
Approach LOS		B			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			27.0				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			66.3%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												



HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021

































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑		↖↗	↑↑	
Traffic Volume (veh/h)	67	941	202	81	953	131	151	231	160	245	339	242
Future Volume (veh/h)	67	941	202	81	953	131	151	231	160	245	339	242
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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	1870	1870	1870	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	69	970	146	84	982	94	156	238	144	253	349	156
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	2	2	2	5	5	5	2	2	2
Cap, veh/h	127	1931	932	135	1968	996	219	379	220	327	503	221
Arrive On Green	0.07	1.00	1.00	0.04	0.55	0.54	0.06	0.18	0.17	0.09	0.21	0.20
Sat Flow, veh/h	3401	3497	1539	3456	3554	1563	3374	2100	1219	3456	2391	1048
Grp Volume(v), veh/h	69	970	146	84	982	94	156	195	187	253	258	247
Grp Sat Flow(s),veh/h/ln	1700	1749	1539	1728	1777	1563	1687	1735	1584	1728	1777	1662
Q Serve(g_s), s	2.3	0.0	0.0	2.9	20.4	2.8	5.4	12.4	13.2	8.6	16.1	16.6
Cycle Q Clear(g_c), s	2.3	0.0	0.0	2.9	20.4	2.8	5.4	12.4	13.2	8.6	16.1	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.77	1.00		0.63
Lane Grp Cap(c), veh/h	127	1931	932	135	1968	996	219	313	286	327	374	350
V/C Ratio(X)	0.54	0.50	0.16	0.62	0.50	0.09	0.71	0.62	0.65	0.77	0.69	0.71
Avail Cap(c_a), veh/h	323	1931	932	202	1968	996	309	455	416	418	518	485
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.0	56.8	16.5	8.5	55.0	45.4	46.2	53.1	43.8	44.4
Incr Delay (d2), s/veh	1.1	0.8	0.3	1.7	0.9	0.2	1.8	0.8	0.9	4.9	0.9	1.2
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	1.0	0.2	0.1	1.3	7.9	0.9	2.3	5.3	5.2	3.9	7.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.8	0.3	58.5	17.4	8.6	56.8	46.1	47.2	58.0	44.6	45.6
LnGrp LOS	E	A	A	E	B	A	E	D	D	E	D	D
Approach Vol, veh/h		1185			1160			538			758	
Approach Delay, s/veh		3.9			19.7			49.6			49.4	
Approach LOS		A			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	70.3	11.8	29.2	8.5	70.5	15.4	25.7				
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	7.0	49.5	11.0	33.5	11.4	45.1	14.5	30.0				
Max Q Clear Time (g_c+I1), s	4.9	2.0	7.4	18.6	4.3	22.4	10.6	15.2				
Green Ext Time (p_c), s	0.1	33.4	0.4	5.0	0.2	18.3	0.8	3.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				25.2								
HCM 6th LOS				C								

# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (vph)	75	1013	128	127	691	200	273	229	101	181	233	76
Future Volume (vph)	75	1013	128	127	691	200	273	229	101	181	233	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3127	3223	1423	3072	3167	1402	3155	3102		3072	3040	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3127	3223	1423	3072	3167	1402	3155	3102		3072	3040	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	1089	138	137	743	215	294	246	109	195	251	82
RTOR Reduction (vph)	0	0	52	0	0	82	0	47	0	0	29	0
Lane Group Flow (vph)	81	1089	86	137	743	133	294	308	0	195	304	0
Confl. Peds. (#/hr)			2	2			1					1
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	12%	12%	12%	14%	14%	14%	11%	11%	11%	14%	14%	14%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	5.5	60.3	74.8	8.6	63.4	74.3	14.5	21.2		10.9	17.6	
Effective Green, g (s)	5.5	61.8	74.8	8.6	64.9	74.3	14.5	22.7		10.9	19.1	
Actuated g/C Ratio	0.05	0.51	0.62	0.07	0.54	0.62	0.12	0.19		0.09	0.16	
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	
Lane Grp Cap (vph)	143	1659	887	220	1712	868	381	586		279	483	
v/s Ratio Prot	0.03	c0.34	0.01	c0.04	c0.23	0.01	c0.09	c0.10		0.06	c0.10	
v/s Ratio Perm			0.05			0.08						
v/c Ratio	0.57	0.66	0.10	0.62	0.43	0.15	0.77	0.53		0.70	0.63	
Uniform Delay, d1	56.1	21.3	9.1	54.1	16.5	9.6	51.1	43.8		53.0	47.1	
Progression Factor	1.18	0.51	0.64	1.13	0.82	2.33	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	1.8	0.0	3.7	0.8	0.0	8.5	0.4		6.1	1.8	
Delay (s)	68.9	12.7	5.8	64.8	14.3	22.4	59.7	44.2		59.0	49.0	
Level of Service	E	B	A	E	B	C	E	D		E	D	
Approach Delay (s)		15.4			22.2			51.2			52.7	
Approach LOS		B			C			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.5				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)				16.0	
Intersection Capacity Utilization			62.6%				ICU Level of Service				B	
Analysis Period (min)			15									
c Critical Lane Group												

# HCM 6th Signalized Intersection Summary

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑		↔↔	↑↑	
Traffic Volume (veh/h)	75	1013	128	127	691	200	273	229	101	181	233	76
Future Volume (veh/h)	75	1013	128	127	691	200	273	229	101	181	233	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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	1722	1722	1722	1693	1693	1693	1737	1737	1737	1693	1693	1693
Adj Flow Rate, veh/h	81	1089	122	137	743	140	294	246	87	195	251	60
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, %	12	12	12	14	14	14	11	11	11	14	14	14
Cap, veh/h	125	1775	928	192	1816	898	364	437	151	254	386	90
Arrive On Green	0.08	1.00	1.00	0.02	0.19	0.18	0.11	0.18	0.17	0.08	0.15	0.14
Sat Flow, veh/h	3182	3272	1437	3127	3216	1415	3209	2407	829	3127	2584	606
Grp Volume(v), veh/h	81	1089	122	137	743	140	294	167	166	195	154	157
Grp Sat Flow(s),veh/h/ln	1591	1636	1437	1564	1608	1415	1605	1650	1586	1564	1608	1582
Q Serve(g_s), s	3.0	0.0	0.0	5.2	24.4	8.2	10.7	11.0	11.6	7.3	10.8	11.2
Cycle Q Clear(g_c), s	3.0	0.0	0.0	5.2	24.4	8.2	10.7	11.0	11.6	7.3	10.8	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.38
Lane Grp Cap(c), veh/h	125	1775	928	192	1816	898	364	300	288	254	240	236
V/C Ratio(X)	0.65	0.61	0.13	0.71	0.41	0.16	0.81	0.56	0.58	0.77	0.64	0.66
Avail Cap(c_a), veh/h	175	1775	928	242	1816	898	439	450	432	318	382	376
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.0	57.7	31.2	17.5	51.9	44.7	45.3	54.0	48.0	48.5
Incr Delay (d2), s/veh	1.8	1.3	0.2	4.5	0.7	0.4	7.5	0.6	0.7	6.4	1.1	1.2
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	1.2	0.3	0.1	2.2	10.6	2.8	4.6	4.5	4.5	3.0	4.3	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	1.3	0.2	62.3	31.9	17.8	59.4	45.3	46.0	60.4	49.1	49.7
LnGrp LOS	E	A	A	E	C	B	E	D	D	E	D	D
Approach Vol, veh/h		1292			1020			627			506	
Approach Delay, s/veh		4.7			34.0			52.1			53.6	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	69.1	17.6	21.9	8.7	71.8	13.7	25.8				
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	9.3	48.3	16.4	27.0	6.6	51.0	12.2	31.2				
Max Q Clear Time (g_c+I1), s	7.2	2.0	12.7	13.2	5.0	26.4	9.3	13.6				
Green Ext Time (p_c), s	0.2	35.7	0.9	2.8	0.1	16.7	0.4	3.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.2								
HCM 6th LOS				C								

# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖↗	↕		↖↗	↕	
Traffic Volume (vph)	63	951	210	81	955	125	157	225	160	235	331	235
Future Volume (vph)	63	951	210	81	955	125	157	225	160	235	331	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3367	3471	1533	3433	3539	1565	3335	3204		3433	3298	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3367	3471	1533	3433	3539	1565	3335	3204		3433	3298	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	65	980	216	84	985	129	162	232	165	242	341	242
RTOR Reduction (vph)	0	0	82	0	0	48	0	117	0	0	117	0
Lane Group Flow (vph)	65	980	134	84	985	81	162	280	0	242	466	0
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			1			2			1			2
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	5%	5%	5%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	5.0	62.5	72.2	5.6	63.1	75.4	9.7	20.6		12.3	23.2	
Effective Green, g (s)	5.0	64.0	72.2	5.6	64.6	75.4	9.7	22.1		12.3	24.7	
Actuated g/C Ratio	0.04	0.53	0.60	0.05	0.54	0.63	0.08	0.18		0.10	0.21	
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	
Lane Grp Cap (vph)	140	1851	922	160	1905	983	269	590		351	678	
v/s Ratio Prot	0.02	c0.28	0.01	c0.02	0.28	0.01	0.05	0.09		c0.07	c0.14	
v/s Ratio Perm			0.08			0.04						
v/c Ratio	0.46	0.53	0.15	0.53	0.52	0.08	0.60	0.48		0.69	0.69	
Uniform Delay, d1	56.2	18.2	10.4	55.9	17.7	8.7	53.3	43.8		52.0	44.1	
Progression Factor	1.26	0.46	0.14	1.12	0.68	2.48	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	1.0	0.0	1.3	0.9	0.0	2.6	0.2		4.5	2.3	
Delay (s)	71.7	9.4	1.5	64.1	12.9	21.7	55.9	44.0		56.5	46.4	
Level of Service	E	A	A	E	B	C	E	D		E	D	
Approach Delay (s)		11.2			17.4			47.4			49.4	
Approach LOS		B			B			D			D	

### Intersection Summary

HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑		↔↔	↑↑	
Traffic Volume (veh/h)	63	951	210	81	955	125	157	225	160	235	331	235
Future Volume (veh/h)	63	951	210	81	955	125	157	225	160	235	331	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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	1870	1870	1870	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	65	980	154	84	985	88	162	232	144	242	341	149
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	2	2	2	5	5	5	2	2	2
Cap, veh/h	125	1948	943	135	1988	1001	228	370	220	319	489	209
Arrive On Green	0.07	1.00	1.00	0.04	0.56	0.55	0.07	0.18	0.17	0.09	0.20	0.19
Sat Flow, veh/h	3401	3497	1539	3456	3554	1563	3374	2079	1236	3456	2410	1032
Grp Volume(v), veh/h	65	980	154	84	985	88	162	192	184	242	250	240
Grp Sat Flow(s),veh/h/ln	1700	1749	1539	1728	1777	1563	1687	1735	1581	1728	1777	1665
Q Serve(g_s), s	2.2	0.0	0.0	2.9	20.3	2.6	5.6	12.3	13.1	8.2	15.6	16.2
Cycle Q Clear(g_c), s	2.2	0.0	0.0	2.9	20.3	2.6	5.6	12.3	13.1	8.2	15.6	16.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.78	1.00		0.62
Lane Grp Cap(c), veh/h	125	1948	943	135	1988	1001	228	309	282	319	361	338
V/C Ratio(X)	0.52	0.50	0.16	0.62	0.50	0.09	0.71	0.62	0.65	0.76	0.69	0.71
Avail Cap(c_a), veh/h	170	1948	943	202	1988	1001	337	434	395	432	489	458
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.0	56.8	16.1	8.3	54.8	45.6	46.4	53.2	44.3	45.0
Incr Delay (d2), s/veh	1.1	0.8	0.3	1.7	0.9	0.2	1.5	0.8	1.0	3.3	1.1	1.6
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	0.9	0.2	0.1	1.3	7.8	0.8	2.4	5.2	5.1	3.6	6.8	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.8	0.3	58.5	17.0	8.5	56.4	46.3	47.4	56.4	45.5	46.6
LnGrp LOS	E	A	A	E	B	A	E	D	D	E	D	D
Approach Vol, veh/h		1199			1157			538			732	
Approach Delay, s/veh		3.7			19.4			49.7			49.5	
Approach LOS		A			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	70.9	12.1	28.4	8.4	71.1	15.1	25.4				
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	7.0	50.5	12.0	31.5	6.0	51.5	15.0	28.5				
Max Q Clear Time (g_c+I1), s	4.9	2.0	7.6	18.2	4.2	22.3	10.2	15.1				
Green Ext Time (p_c), s	0.1	34.4	0.5	4.5	0.1	22.7	0.9	3.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				24.8								
HCM 6th LOS				C								

# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	1013	129	127	691	229	240	261	101	181	232	76
Future Volume (vph)	96	1013	129	127	691	229	240	261	101	181	232	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3127	3223	1423	3072	3167	1402	3155	3116		3072	3039	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3127	3223	1423	3072	3167	1402	3155	3116		3072	3039	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	103	1089	139	137	743	246	258	281	109	195	249	82
RTOR Reduction (vph)	0	0	52	0	0	92	0	38	0	0	29	0
Lane Group Flow (vph)	103	1089	87	137	743	154	258	352	0	195	302	0
Confl. Peds. (#/hr)			2	2			1					1
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	12%	12%	12%	14%	14%	14%	11%	11%	11%	14%	14%	14%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	7.3	61.5	74.7	8.7	62.9	73.8	13.2	19.9		10.9	17.6	
Effective Green, g (s)	7.3	63.0	74.7	8.7	64.4	73.8	13.2	21.4		10.9	19.1	
Actuated g/C Ratio	0.06	0.52	0.62	0.07	0.54	0.61	0.11	0.18		0.09	0.16	
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	
Lane Grp Cap (vph)	190	1692	885	222	1699	862	347	555		279	483	
v/s Ratio Prot	0.03	c0.34	0.01	c0.04	0.23	0.02	c0.08	c0.11		0.06	0.10	
v/s Ratio Perm			0.05			0.09						
v/c Ratio	0.54	0.64	0.10	0.62	0.44	0.18	0.74	0.63		0.70	0.62	
Uniform Delay, d1	54.7	20.4	9.1	54.0	16.8	10.0	51.8	45.7		53.0	47.1	
Progression Factor	1.19	0.48	0.54	1.16	0.82	2.32	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	1.7	0.0	3.3	0.8	0.0	7.4	1.8		6.1	1.8	
Delay (s)	66.4	11.5	4.9	66.2	14.5	23.2	59.1	47.4		59.0	48.9	
Level of Service	E	B	A	E	B	C	E	D		E	D	
Approach Delay (s)		15.1			22.7			52.1			52.7	
Approach LOS		B			C			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.5				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			61.7%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑		↔↔	↑↑	
Traffic Volume (veh/h)	96	1013	129	127	691	229	240	261	101	181	232	76
Future Volume (veh/h)	96	1013	129	127	691	229	240	261	101	181	232	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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	1722	1722	1722	1693	1693	1693	1737	1737	1737	1693	1693	1693
Adj Flow Rate, veh/h	103	1089	123	137	743	171	258	281	87	195	249	60
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, %	12	12	12	14	14	14	11	11	11	14	14	14
Cap, veh/h	151	1814	927	192	1828	903	325	423	128	254	386	91
Arrive On Green	0.09	1.00	1.00	0.02	0.19	0.18	0.10	0.17	0.16	0.08	0.15	0.14
Sat Flow, veh/h	3182	3272	1437	3127	3216	1415	3209	2493	756	3127	2579	610
Grp Volume(v), veh/h	103	1089	123	137	743	171	258	184	184	195	153	156
Grp Sat Flow(s),veh/h/ln	1591	1636	1437	1564	1608	1415	1605	1650	1599	1564	1608	1581
Q Serve(g_s), s	3.8	0.0	0.0	5.2	24.4	10.1	9.4	12.5	13.0	7.3	10.8	11.2
Cycle Q Clear(g_c), s	3.8	0.0	0.0	5.2	24.4	10.1	9.4	12.5	13.0	7.3	10.8	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		0.39
Lane Grp Cap(c), veh/h	151	1814	927	192	1828	903	325	280	271	254	241	237
V/C Ratio(X)	0.68	0.60	0.13	0.71	0.41	0.19	0.79	0.66	0.68	0.77	0.64	0.66
Avail Cap(c_a), veh/h	194	1814	927	242	1828	903	401	436	422	321	389	382
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	0.0	0.0	57.7	30.9	17.9	52.7	46.6	47.1	54.0	48.0	48.4
Incr Delay (d2), s/veh	2.9	1.2	0.2	4.5	0.7	0.5	6.8	1.0	1.1	6.1	1.0	1.2
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	1.5	0.3	0.1	2.2	10.6	3.6	4.0	5.1	5.1	3.0	4.3	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	1.2	0.2	62.3	31.6	18.3	59.5	47.5	48.2	60.1	49.0	49.6
LnGrp LOS	E	A	A	E	C	B	E	D	D	E	D	D
Approach Vol, veh/h		1315			1051			626			504	
Approach Delay, s/veh		5.5			33.5			52.6			53.5	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	70.5	16.2	22.0	9.7	72.2	13.8	24.4				
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	9.3	49.2	15.0	27.5	7.3	51.2	12.3	30.2				
Max Q Clear Time (g_c+I1), s	7.2	2.0	11.4	13.2	5.8	26.4	9.3	15.0				
Green Ext Time (p_c), s	0.2	36.3	0.7	2.8	0.1	17.1	0.4	3.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.2								
HCM 6th LOS				C								



# HCM Signalized Intersection Capacity Analysis

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑		↔↔	↑↑	
Traffic Volume (vph)	66	954	212	81	955	129	153	230	160	232	329	235
Future Volume (vph)	66	954	212	81	955	129	153	230	160	232	329	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3367	3471	1533	3433	3539	1565	3335	3207		3433	3297	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3367	3471	1533	3433	3539	1565	3335	3207		3433	3297	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	68	984	219	84	985	133	158	237	165	239	339	242
RTOR Reduction (vph)	0	0	85	0	0	50	0	116	0	0	120	0
Lane Group Flow (vph)	68	984	134	84	985	83	158	286	0	239	461	0
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			1			2			1			2
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	5%	5%	5%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	5.5	62.9	72.3	5.9	63.3	75.3	9.4	20.2		12.0	22.8	
Effective Green, g (s)	5.5	64.4	72.3	5.9	64.8	75.3	9.4	21.7		12.0	24.3	
Actuated g/C Ratio	0.05	0.54	0.60	0.05	0.54	0.63	0.08	0.18		0.10	0.20	
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	
Lane Grp Cap (vph)	154	1862	923	168	1911	982	261	579		343	667	
v/s Ratio Prot	0.02	c0.28	0.01	c0.02	0.28	0.01	0.05	0.09		c0.07	c0.14	
v/s Ratio Perm			0.08			0.04						
v/c Ratio	0.44	0.53	0.15	0.50	0.52	0.08	0.61	0.49		0.70	0.69	
Uniform Delay, d1	55.8	18.0	10.4	55.6	17.6	8.8	53.5	44.2		52.2	44.4	
Progression Factor	1.22	0.55	0.15	1.18	0.63	1.49	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	1.0	0.0	0.8	0.9	0.0	2.7	0.2		4.9	2.5	
Delay (s)	68.5	10.9	1.6	66.5	12.0	13.1	56.2	44.4		57.2	46.9	
Level of Service	E	B	A	E	B	B	E	D		E	D	
Approach Delay (s)		12.4			15.9			47.8			49.9	
Approach LOS		B			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			26.6			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			65.9%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												



# HCM 6th Signalized Intersection Summary

## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021

































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↘		↖↗	↑↘	
Traffic Volume (veh/h)	66	954	212	81	955	129	153	230	160	232	329	235
Future Volume (veh/h)	66	954	212	81	955	129	153	230	160	232	329	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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	1870	1870	1870	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	68	984	157	84	985	92	158	237	144	239	339	149
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	2	2	2	5	5	5	2	2	2
Cap, veh/h	127	1952	942	135	1990	999	221	376	219	312	491	211
Arrive On Green	0.07	1.00	1.00	0.04	0.56	0.55	0.07	0.18	0.17	0.09	0.20	0.19
Sat Flow, veh/h	3401	3497	1539	3456	3554	1563	3374	2096	1222	3456	2405	1036
Grp Volume(v), veh/h	68	984	157	84	985	92	158	194	187	239	249	239
Grp Sat Flow(s),veh/h/ln	1700	1749	1539	1728	1777	1563	1687	1735	1584	1728	1777	1664
Q Serve(g_s), s	2.3	0.0	0.0	2.9	20.3	2.7	5.5	12.4	13.2	8.1	15.5	16.1
Cycle Q Clear(g_c), s	2.3	0.0	0.0	2.9	20.3	2.7	5.5	12.4	13.2	8.1	15.5	16.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.77	1.00		0.62
Lane Grp Cap(c), veh/h	127	1952	942	135	1990	999	221	311	284	312	362	339
V/C Ratio(X)	0.54	0.50	0.17	0.62	0.50	0.09	0.72	0.63	0.66	0.77	0.69	0.71
Avail Cap(c_a), veh/h	315	1952	942	202	1990	999	309	448	409	403	503	472
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.0	56.8	16.1	8.4	55.0	45.5	46.4	53.3	44.2	44.9
Incr Delay (d2), s/veh	1.1	0.8	0.3	1.7	0.9	0.2	2.0	0.8	1.0	4.5	0.9	1.2
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	1.0	0.2	0.1	1.3	7.8	0.9	2.3	5.3	5.2	3.6	6.7	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.8	0.3	58.5	17.0	8.6	57.0	46.3	47.4	57.9	45.1	46.0
LnGrp LOS	E	A	A	E	B	A	E	D	D	E	D	D
Approach Vol, veh/h		1209			1161			539			727	
Approach Delay, s/veh		3.8			19.3			49.8			49.6	
Approach LOS		A			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	71.0	11.9	28.5	8.5	71.2	14.8	25.5				
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	7.0	50.5	11.0	32.5	11.1	46.4	14.0	29.5				
Max Q Clear Time (g_c+I1), s	4.9	2.0	7.5	18.1	4.3	22.3	10.1	15.2				
Green Ext Time (p_c), s	0.1	34.5	0.4	4.7	0.2	19.4	0.7	3.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				24.7								
HCM 6th LOS				C								

# HCM Signalized Intersection Capacity Analysis































## 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (vph)	105	1009	124	127	662	230	243	259	101	185	237	78
Future Volume (vph)	105	1009	124	127	662	230	243	259	101	185	237	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3127	3223	1423	3072	3167	1402	3155	3115		3072	3039	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3127	3223	1423	3072	3167	1402	3155	3115		3072	3039	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	113	1085	133	137	712	247	261	278	109	199	255	84
RTOR Reduction (vph)	0	0	51	0	0	88	0	38	0	0	29	0
Lane Group Flow (vph)	113	1085	82	137	712	159	261	349	0	199	310	0
Confl. Peds. (#/hr)			2	2			1					1
Confl. Bikes (#/hr)			5			1						
Heavy Vehicles (%)	12%	12%	12%	14%	14%	14%	11%	11%	11%	14%	14%	14%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	7.8	61.3	74.4	8.6	62.1	73.7	13.1	19.5		11.6	18.0	
Effective Green, g (s)	7.8	62.8	74.4	8.6	63.6	73.7	13.1	21.0		11.6	19.5	
Actuated g/C Ratio	0.06	0.52	0.62	0.07	0.53	0.61	0.11	0.18		0.10	0.16	
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	
Lane Grp Cap (vph)	203	1686	882	220	1678	861	344	545		296	493	
v/s Ratio Prot	0.04	c0.34	0.01	c0.04	0.22	0.02	c0.08	c0.11		0.06	0.10	
v/s Ratio Perm			0.05			0.10						
v/c Ratio	0.56	0.64	0.09	0.62	0.42	0.19	0.76	0.64		0.67	0.63	
Uniform Delay, d1	54.4	20.6	9.2	54.1	17.1	10.1	51.9	46.0		52.4	46.9	
Progression Factor	1.19	0.47	0.60	1.14	0.85	2.23	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	1.7	0.0	3.7	0.7	0.0	8.3	1.9		4.7	1.8	
Delay (s)	66.2	11.2	5.5	65.5	15.3	22.5	60.2	47.9		57.0	48.7	
Level of Service	E	B	A	E	B	C	E	D		E	D	
Approach Delay (s)		15.3			23.2			52.9			51.8	
Approach LOS		B			C			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.9				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)				16.0	
Intersection Capacity Utilization			61.8%				ICU Level of Service				B	
Analysis Period (min)			15									
c Critical Lane Group												
































HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (veh/h)	105	1009	124	127	662	230	243	259	101	185	237	78
Future Volume (veh/h)	105	1009	124	127	662	230	243	259	101	185	237	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	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	1722	1722	1722	1693	1693	1693	1737	1737	1737	1693	1693	1693
Adj Flow Rate, veh/h	113	1085	117	137	712	172	261	278	87	199	255	62
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, %	12	12	12	14	14	14	11	11	11	14	14	14
Cap, veh/h	164	1806	925	191	1806	897	328	421	129	263	390	93
Arrive On Green	0.10	1.00	1.00	0.02	0.19	0.18	0.10	0.17	0.16	0.08	0.15	0.14
Sat Flow, veh/h	3182	3272	1437	3127	3216	1415	3209	2486	762	3127	2574	614
Grp Volume(v), veh/h	113	1085	117	137	712	172	261	183	182	199	157	160
Grp Sat Flow(s),veh/h/ln	1591	1636	1437	1564	1608	1415	1605	1650	1598	1564	1608	1580
Q Serve(g_s), s	4.1	0.0	0.0	5.2	23.4	10.1	9.5	12.4	12.9	7.5	11.1	11.5
Cycle Q Clear(g_c), s	4.1	0.0	0.0	5.2	23.4	10.1	9.5	12.4	12.9	7.5	11.1	11.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		0.39
Lane Grp Cap(c), veh/h	164	1806	925	191	1806	897	328	280	271	263	243	239
V/C Ratio(X)	0.69	0.60	0.13	0.72	0.39	0.19	0.80	0.65	0.67	0.76	0.65	0.67
Avail Cap(c_a), veh/h	239	1806	925	235	1806	897	401	410	397	360	383	377
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	0.0	0.0	57.8	30.9	18.0	52.6	46.5	47.1	53.8	47.9	48.3
Incr Delay (d2), s/veh	1.6	1.2	0.2	5.4	0.6	0.5	7.1	1.0	1.1	3.7	1.1	1.2
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	1.6	0.3	0.1	2.2	10.2	3.6	4.1	5.0	5.1	3.0	4.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.5	1.2	0.2	63.1	31.6	18.5	59.7	47.5	48.2	57.4	49.0	49.5
LnGrp LOS	D	A	A	E	C	B	E	D	D	E	D	D
Approach Vol, veh/h		1315			1021			626			516	
Approach Delay, s/veh		5.7			33.6			52.8			52.4	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	70.2	16.3	22.2	10.2	71.4	14.1	24.3				
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	9.0	49.9	15.0	27.1	9.0	49.9	13.8	28.3				
Max Q Clear Time (g_c+I1), s	7.2	2.0	11.5	13.5	6.1	25.4	9.5	14.9				
Green Ext Time (p_c), s	0.2	36.5	0.7	2.8	0.2	16.5	0.6	3.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.3								
HCM 6th LOS				C								

HCM Signalized Intersection Capacity Analysis  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	
Traffic Volume (vph)	67	928	184	81	951	129	153	229	160	258	357	250
Future Volume (vph)	67	928	184	81	951	129	153	229	160	258	357	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95		0.97	0.95	
Frbp, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3367	3471	1533	3433	3539	1565	3335	3207		3433	3299	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3367	3471	1533	3433	3539	1565	3335	3207		3433	3299	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	69	957	190	84	980	133	158	236	165	266	368	258
RTOR Reduction (vph)	0	0	78	0	0	51	0	115	0	0	115	0
Lane Group Flow (vph)	69	957	112	84	980	82	158	286	0	266	511	0
Confl. Peds. (#/hr)	1		2	2		1	1		1	1		1
Confl. Bikes (#/hr)			1			2			1			2
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	5%	5%	5%	2%	2%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6						
Actuated Green, G (s)	5.5	61.2	70.6	5.5	61.2	73.9	9.4	21.6		12.7	24.9	
Effective Green, g (s)	5.5	62.7	70.6	5.5	62.7	73.9	9.4	23.1		12.7	26.4	
Actuated g/C Ratio	0.05	0.52	0.59	0.05	0.52	0.62	0.08	0.19		0.11	0.22	
Clearance Time (s)	4.0	5.5	4.0	4.0	5.5	4.0	4.0	5.5		4.0	5.5	
Vehicle Extension (s)	1.5	4.5	1.5	1.5	4.5	1.5	1.5	2.0		1.5	2.0	
Lane Grp Cap (vph)	154	1813	901	157	1849	963	261	617		363	725	
v/s Ratio Prot	0.02	0.28	0.01	c0.02	c0.28	0.01	0.05	0.09		c0.08	c0.15	
v/s Ratio Perm			0.06			0.04						
v/c Ratio	0.45	0.53	0.12	0.54	0.53	0.09	0.61	0.46		0.73	0.70	
Uniform Delay, d1	55.8	18.9	11.0	56.0	18.9	9.3	53.5	43.0		52.0	43.2	
Progression Factor	1.32	0.56	0.11	1.12	0.66	1.71	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	1.0	0.0	1.6	1.0	0.0	2.7	0.2		6.5	2.6	
Delay (s)	74.4	11.5	1.2	64.6	13.5	16.0	56.2	43.2		58.5	45.7	
Level of Service	E	B	A	E	B	B	E	D		E	D	
Approach Delay (s)		13.5			17.4			46.9			49.5	
Approach LOS		B			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			27.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)			16.0					
Intersection Capacity Utilization			67.1%	ICU Level of Service			C					
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary  
 3: SW 124th Avenue & SW Tualatin Sherwood Road

12/13/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗↘	↑↑	↗	↗↘	↑↑	↗	↗↘	↑↑		↗↘	↑↑	
Traffic Volume (veh/h)	67	928	184	81	951	129	153	229	160	258	357	250
Future Volume (veh/h)	67	928	184	81	951	129	153	229	160	258	357	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.98
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	1870	1870	1870	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	69	957	128	84	980	92	158	236	144	266	368	165
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	2	2	2	5	5	5	2	2	2
Cap, veh/h	127	1908	922	135	1944	990	221	387	226	336	517	228
Arrive On Green	0.07	1.00	1.00	0.04	0.55	0.53	0.07	0.18	0.17	0.10	0.22	0.20
Sat Flow, veh/h	3401	3497	1539	3456	3554	1563	3374	2093	1225	3456	2386	1052
Grp Volume(v), veh/h	69	957	128	84	980	92	158	194	186	266	272	261
Grp Sat Flow(s),veh/h/ln	1700	1749	1539	1728	1777	1563	1687	1735	1583	1728	1777	1661
Q Serve(g_s), s	2.3	0.0	0.0	2.9	20.7	2.8	5.5	12.3	13.1	9.0	17.0	17.5
Cycle Q Clear(g_c), s	2.3	0.0	0.0	2.9	20.7	2.8	5.5	12.3	13.1	9.0	17.0	17.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.77	1.00		0.63
Lane Grp Cap(c), veh/h	127	1908	922	135	1944	990	221	320	292	336	385	360
V/C Ratio(X)	0.54	0.50	0.14	0.62	0.50	0.09	0.72	0.61	0.64	0.79	0.71	0.72
Avail Cap(c_a), veh/h	315	1908	922	202	1944	990	309	448	409	403	503	471
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	0.0	56.8	17.0	8.6	55.0	44.9	45.8	53.0	43.5	44.1
Incr Delay (d2), s/veh	1.2	0.8	0.3	1.7	0.9	0.2	2.0	0.7	0.9	7.0	1.7	2.3
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	1.0	0.2	0.1	1.3	8.1	0.9	2.3	5.2	5.1	4.2	7.4	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	0.8	0.3	58.5	17.9	8.8	57.0	45.6	46.6	60.0	45.2	46.4
LnGrp LOS	E	A	A	E	B	A	E	D	D	E	D	D
Approach Vol, veh/h		1154			1156			538			799	
Approach Delay, s/veh		4.0			20.2			49.3			50.5	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	69.5	11.9	30.0	8.5	69.7	15.7	26.2				
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	7.0	50.5	11.0	32.5	11.1	46.4	14.0	29.5				
Max Q Clear Time (g_c+I1), s	4.9	2.0	7.5	19.5	4.3	22.7	11.0	15.1				
Green Ext Time (p_c), s	0.1	33.3	0.4	4.9	0.2	19.0	0.7	3.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				26.0								
HCM 6th LOS				C								

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	78	199	430	462	241	140	132	294	299	133	173	208
Average Queue (ft)	24	48	189	210	45	44	66	144	146	50	64	108
95th Queue (ft)	60	123	355	393	155	100	116	245	249	96	149	180
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			4	2				0				
Queuing Penalty (veh)			3	3				0				

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	TR
Maximum Queue (ft)	196	214	161	174	204	228
Average Queue (ft)	93	110	69	78	87	109
95th Queue (ft)	159	191	134	146	165	187
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			2	4	4	
Queuing Penalty (veh)			2	5	7	

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	66	134	321	339	147	67	92	332	341	53	124	158
Average Queue (ft)	16	38	141	164	32	18	41	170	167	24	48	74
95th Queue (ft)	45	95	276	301	100	47	77	293	301	53	102	132
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			2	1				0	0			
Queuing Penalty (veh)			1	1				0	0			

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	TR
Maximum Queue (ft)	178	230	137	163	236	260
Average Queue (ft)	90	104	69	84	104	143
95th Queue (ft)	157	186	119	140	190	236
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			1	1	6	
Queuing Penalty (veh)			1	2	13	

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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	255	401	393	298	130	158	294	311	141	206	239
Average Queue (ft)	40	57	192	207	39	46	70	145	161	59	86	130
95th Queue (ft)	83	153	353	367	146	102	124	248	269	116	177	207
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			4	1								
Queuing Penalty (veh)			4	1								

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	TR
Maximum Queue (ft)	269	260	154	181	238	265
Average Queue (ft)	112	114	68	87	85	105
95th Queue (ft)	206	209	133	155	173	192
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			2	5	3	
Queuing Penalty (veh)			3	5	6	



Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	76	141	368	374	95	65	83	316	310	68	141	179
Average Queue (ft)	21	38	160	179	37	20	35	177	171	26	45	80
95th Queue (ft)	56	93	301	325	78	49	68	289	287	54	104	145
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			2	0								
Queuing Penalty (veh)			1	1								

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	TR
Maximum Queue (ft)	234	282	158	214	253	322
Average Queue (ft)	94	111	86	103	124	171
95th Queue (ft)	177	210	142	165	216	270
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)	0		2	5	9	
Queuing Penalty (veh)	0		3	8	23	

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	80	209	416	444	229	130	137	319	334	116	228	272
Average Queue (ft)	21	48	196	210	35	37	63	150	163	45	109	153
95th Queue (ft)	55	123	341	362	123	91	117	260	280	91	208	235
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			4	1				0	0			
Queuing Penalty (veh)			3	2				0	0			

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	TR
Maximum Queue (ft)	150	192	162	175	176	195
Average Queue (ft)	75	102	75	91	83	103
95th Queue (ft)	135	175	140	156	160	176
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			2	5	3	
Queuing Penalty (veh)			2	6	6	

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	80	97	333	394	161	78	87	331	314	74	126	153
Average Queue (ft)	19	40	142	166	38	22	39	192	187	29	46	80
95th Queue (ft)	52	78	272	310	105	55	75	319	305	63	105	138
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			1	1				0				
Queuing Penalty (veh)			1	1				0				

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	TR
Maximum Queue (ft)	180	234	167	177	212	282
Average Queue (ft)	85	107	84	98	115	158
95th Queue (ft)	152	194	145	151	184	241
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			1	4	8	
Queuing Penalty (veh)			2	7	18	

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	96	228	434	438	170	112	160	347	351	138	201	238
Average Queue (ft)	35	58	204	215	34	42	65	165	176	56	97	142
95th Queue (ft)	77	145	349	375	106	92	121	289	297	108	188	220
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			4	1				0	0			
Queuing Penalty (veh)			4	1				0	0			

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	TR
Maximum Queue (ft)	204	225	153	163	170	210
Average Queue (ft)	100	112	71	89	77	102
95th Queue (ft)	176	203	134	144	143	179
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			1	3	3	
Queuing Penalty (veh)			1	4	6	

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	79	144	380	392	99	79	103	292	275	77	121	159
Average Queue (ft)	18	40	160	185	39	24	43	169	169	26	44	83
95th Queue (ft)	51	77	301	325	78	63	84	266	262	60	94	144
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			2	0								
Queuing Penalty (veh)			1	1								

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	TR
Maximum Queue (ft)	206	239	173	183	216	294
Average Queue (ft)	89	109	84	94	120	166
95th Queue (ft)	166	203	150	156	193	261
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			3	5	8	
Queuing Penalty (veh)			4	9	20	

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	115	246	375	392	94	128	158	347	338	153	212	256
Average Queue (ft)	43	62	198	221	28	44	69	155	165	62	98	146
95th Queue (ft)	95	147	328	353	69	101	120	272	277	120	202	229
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)		0	3	1				0				
Queuing Penalty (veh)		0	4	1				0				

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	TR
Maximum Queue (ft)	244	226	170	182	194	241
Average Queue (ft)	110	113	73	88	90	113
95th Queue (ft)	200	194	144	150	165	193
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			2	5	4	
Queuing Penalty (veh)			2	5	7	

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

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)	69	132	358	366	176	75	101	311	320	63	128	149
Average Queue (ft)	19	41	159	181	40	23	41	184	178	29	45	79
95th Queue (ft)	52	93	300	329	113	58	80	290	289	58	95	134
Link Distance (ft)			784	784				1237	1237			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250			350	385	385			385	465	465
Storage Blk Time (%)			2	0								
Queuing Penalty (veh)			1	0								

Intersection: 3: SW 124th Avenue & SW Tualatin Sherwood Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	TR	L	L	T	TR
Maximum Queue (ft)	188	228	175	240	312	331
Average Queue (ft)	86	112	94	109	129	167
95th Queue (ft)	158	196	150	179	225	269
Link Distance (ft)	662	662			705	705
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			120	120		
Storage Blk Time (%)			3	6	9	
Queuing Penalty (veh)			5	10	24	