Traffic Impact Analysis

MARYSVILLE INDUSTRIAL

Prepared for:
PacTrust

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Introduction

The purpose of this transportation impact analysis (TIA) is to identify potential transportation-related impacts to the surrounding street network associated with the development of the proposed Industrial project in Marysville, WA.

Project Description

The proposed project would develop approximately 745,250 square feet of Industrial Park. The development includes areas north and south of 156th Street NE. The site vicinity is shown in Figure 1. Access to the development is proposed driveways along 47th Avenue NE and 156th Street NE. Figure 2 illustrates the preliminary site plan. It is anticipated that the development would be constructed and occupied by 2025.

Study Scope

The scope of this analysis is based on anticipated impacts to City of Arlington and WSDOT facilities as well as the 25-trip threshold in the City of Marysville. Given the interim and future buildout conditions of the network, additional intersections were added under future 2025 and 2031 conditions that don't exist under existing conditions. Based on anticipated travel patterns for project-generated vehicle traffic, the following intersections were selected for study during the designated years:

Study Intersection		Evaluation Years
• 1	I-5 SB/172nd St NE	Existing, 2025, 2031
• 2	I-5 NB/172nd St NE	Existing, 2025, 2031
• 3	Smokey Point Blvd/172nd St NE	Existing, 2025, 2031
• 4	43rd Ave NE/172nd St NE	Existing, 2025, 2031
• 5	51st Ave NE/172nd St NE	Existing, 2025, 2031
• 6	59th Ave NE/172nd St NE	Existing, 2025, 2031
• 7	67th Ave NE/172nd St NE	Existing, 2025, 2031
• 8	SR 9/172nd St NE	Existing, 2025, 2031
• 9	Smokey Point Blvd/156th St NE	Existing, 2025, 2031
• 10	51st Ave NE/152nd St NE	Existing, 2025, 2031
• 11	67th Ave NE/152nd St NE	Existing, 2025, 2031
• 12	51st Ave NE/136th St NE	Existing, 2025, 2031
• 13	51st Ave NE/132nd St NE	Existing, 2025, 2031
• 14	40th Ave NE/172nd St NE	Existing, 2025, 2031
• 15	152nd St NE/156th St NE	2031
• 16	51st Ave NE/122nd Pl NE	Existing, 2025, 2031

The scope of the analysis included a review of the weekday PM peak hour conditions. The analysis includes a review of existing conditions in the vicinity of the project site, including the street network, non-motorized facilities, transit service, existing and future (2025 and 2031) without-project peak hour traffic volumes, traffic operations, and traffic safety. Future (2025 and 2031) with-project conditions are evaluated by adding site-generated traffic to future (2025 and 2031) without-project volumes and were then compared to future (2025 and 2031) without-project conditions to identify the relative impacts the proposed project has on the surrounding transportation system.

Site Vicinity & Study Intersections

Marysville Light Industrial

FIGURE
1

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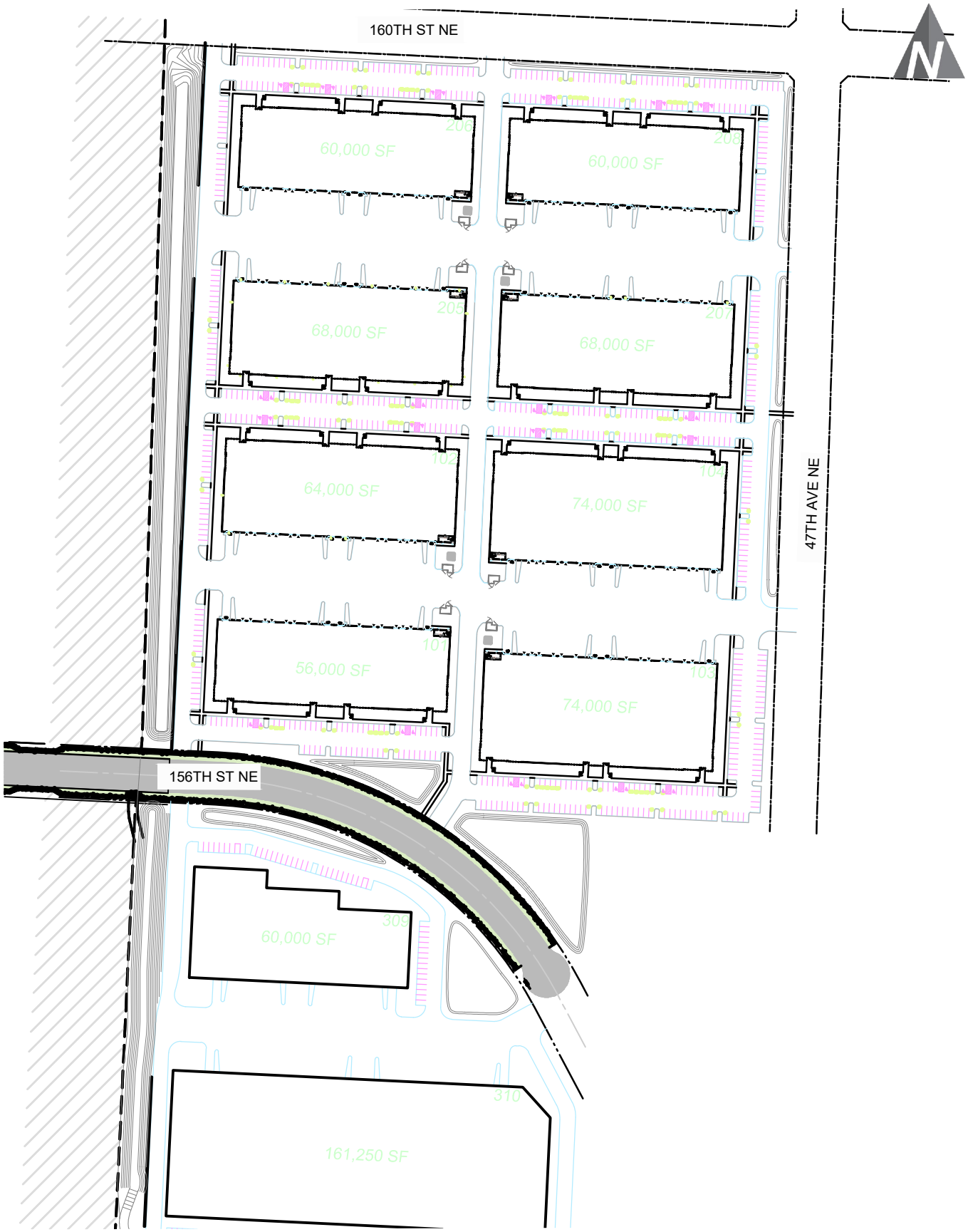

Preliminary Site Plan

Marysville Light Industrial

FIGURE
2

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Existing & Future Without-Project Conditions

This section describes existing and future (2025 and 2031) without-project conditions within the study area. Study area characteristics are provided for the existing street network, non-motorized facilities, transit service, existing and future without-project peak hour traffic volumes, traffic operations, and traffic safety.

Street System

The following describes the existing street network within the vicinity of the proposed project and any anticipated changes resulting from planned improvements.

Existing Inventory

Characteristics of the existing street system in the project vicinity are described in Table 1.

Table 1. Study Area Existing Roadway Network Summary

Roadway	Roadway Classification	Posted Speed Limit	Number of Travel Lanes	Parking?	Sidewalks?	Bicycle Facilities?
Interstate 5 (I-5)	Interstate	60 to 70 mph[1]	6	No	No	No
172nd Street NE (SR 531)	Other Principal Arterial/ Minor Arterial[2]	35 mph	2 to 5	No	Intermittent	Intermittent
156th Street NE	Minor Arterial	25 mph[5]	2 to 5	No	Yes	No
152nd Street NE	Major Collector	35 mph	2	No	Intermittent	No
Smokey Point Boulevard	Arterial	35 mph	5	No	Yes	No
40th Avenue NE	Local	No Limit Posted	3	No	Yes	No
43rd Avenue NE	Local	35 mph	2 to 3	No	Intermittent	No
51st Avenue NE	Arterial	35 mph	2 to 3	No	Intermittent	No
59th Avenue NE	Minor Arterial	No Limit Posted	2 to 3	No	Intermittent[3]	No
67th Avenue NE	Minor Arterial	35 mph	2 to 3	No	Intermittent	No
122nd Place NE	Local	25 mph	2	No	No[4]	No[4]
SR 9	Other Freeway Expressway	35 mph	2	No	No[4]	No[4]

Note: mph = miles per hour
1. 60 mph south of SR 531 and 70 mph north of SR 531.
2. Other principal arterial between I-5 SB Ramps and Smokey Point Boulevard. Minor arterial between Smokey Point Boulevard and SR 9.
3. The Airport Trail is located west of 59th Avenue NE.
4. Paved shoulders are available.
5. Currently posted speed limit is 25 mph, the speed limit may be adjusted in the future following planned improvements.

As shown in Table 1, availability of sidewalks in the area are intermittent. The Airport Trail and Centennial Trail are also located in the area, providing recreational and commute possibilities. The Airport Trail is approximately a 6-mile walking trail located in the City of Arlington primarily around the Municipal Airport. The Centennial Trail is a 30-mile paved multiuse trail that starts in Snohomish County and ends in Skagit County running through the Cities of Marysville and Arlington. The improvements described below as well as frontage improvements as part of planned developments in the area include construction non-motorized facilities.

Planned Improvements

Based on a review of the Washington Department of Transportation (WSDOT) 2022-2025 Statewide Transportation Program (STIP), *City of Arlington Comprehensive Plan's Six Year Transportation Improvement Plan,* and the *City of Marysville 2022-2027 Transportation Improvement Plan* there are a number of improvements in the area that would impact both capacity at study intersections and travel patterns in the area. The following summarizes the short (2025) and long-term (2031) projects planned in the area.

2025 Planned Improvements

The following improvements were assumed to be complete by the 2025 opening year:

- **172nd Street NE (SR 531) Widening:** Widening of 172nd Street NE (SR 531) from 43rd Avenue NE to 67th Avenue NE to a four-lane facility with two travel lanes in each direction. The improvement project would include provision of roundabouts at the 43rd Avenue NE, 51st Avenue NE, 59th Avenue NE, and 67th Avenue NE intersections with 172nd Street NE (SR 531).
- **40th Avenue NE/172nd Street NE (SR 531) intersection signalization:** Provision of a traffic signal at the intersection including left-turn lanes in all directions and a northbound right-turn lane.
- **156th Street NE Widening:** Widen 156th Street NE from 3 lanes to 5 lanes from Smokey Point Boulevard to west of the Hayho Creek.
- **169th Street NE Extension:** Extension of 169th Street NE from Smokey Point Boulevard to 51st Avenue NE is anticipated to happen over 3 phases. The roadway would include a three-lane cross section with one travel lane in each direction and a center two-way left-turn lane.
- **67th Avenue NE/152nd Street NE All-Way Stop:** Conversion of the side-street stop-controlled intersection to an all-way stop control. Project was completed by Snohomish County in 2022.

2031 Planned Improvements

The following improvements were assumed to be complete by the 2031 horizon year:

- **152nd Street NE Widening:** Widen 152nd Street NE between 51st Avenue NE and the Marysville City limits to three lanes including sidewalk and bike lanes. Widening would provide for one travel lane in each direction and a central two-way left-turn lane.
- **51st Avenue NE/152nd Street NE Signalization:** Construct a traffic signal at the intersection with additional intersection improvements. Intersection improvements would include construction of left-turn and right-turn lanes on all approaches. The resulting intersection would have a four-lane northbound/southbound cross section and a six-lane eastbound/westbound cross section.
- **156th Street NE Extension:** Extension of 156th Street NE as a five-lane section from approximately 47th Avenue NE to 152nd Street NE.
- **168th Street Extension:** Complete the three-lane segment between 47th Avenue NE and 59th Avenue NE.
- **47th Avenue Construction:** Construction of a three-lane facility with one travel lane in each direction and a center two-way left-turn lane between 168th Street NE and 156th Street NE.
- **59th Avenue NE Widening:** Widen 59th Avenue NE between 172nd Street NE (SR 531) and 152nd Street NE to a three-lane segment.
- **160th Street NE Construction:** Construction of a new three-lane roadway (160th Street NE) between Smokey Point Boulevard and 59th Avenue NE.
- **New I-5 Interchange:** Construction of a new single point urban interchange (SPUI) at 156th Street NE and I-5. The construction of the new interchange is anticipated to result in traffic shifts away from the 172nd Street NE (SR 531) corridor.
- **51st Avenue NE/132nd Street NE Widening:** Widening of the intersection to include a southbound left-turn lane.

Transit Service

Transit service in the study area is provided by Community Transit and is primarily provided along 172nd Street NE (SR 531), Smokey Point Boulevard, and 152nd Street NE. The nearest bus stop is located on 152nd Street NE at 47th Avenue NE and is served by route 202. Route 202 provides service between the Smokey Point Transit Center in Arlington and the Lynwood Transit Center. Service is provided 7 days a week with AM and PM peak hour headways of approximately 15 minutes.

No planned transit improvements were identified. However, it is anticipated that transit service in the area may be adjusted to account for future growth.

Traffic Volumes

The following summarizes the traffic volumes for existing and future without-project conditions.

Existing Traffic Volumes

Existing traffic counts were obtained from previous projects completed in the area and were collected between 2016 and 2021. Traffic volumes data collected prior to 2021 were grown at an average annual growth rate of 3 percent to establish existing 2022 conditions. The annual average growth rate of 3 percent is consistent with the City of Marysville Covid-19 Traffic Count Policy and previous work completed in the area. Detailed traffic counts are provided in Appendix A.

Future Without-Project Traffic Volumes

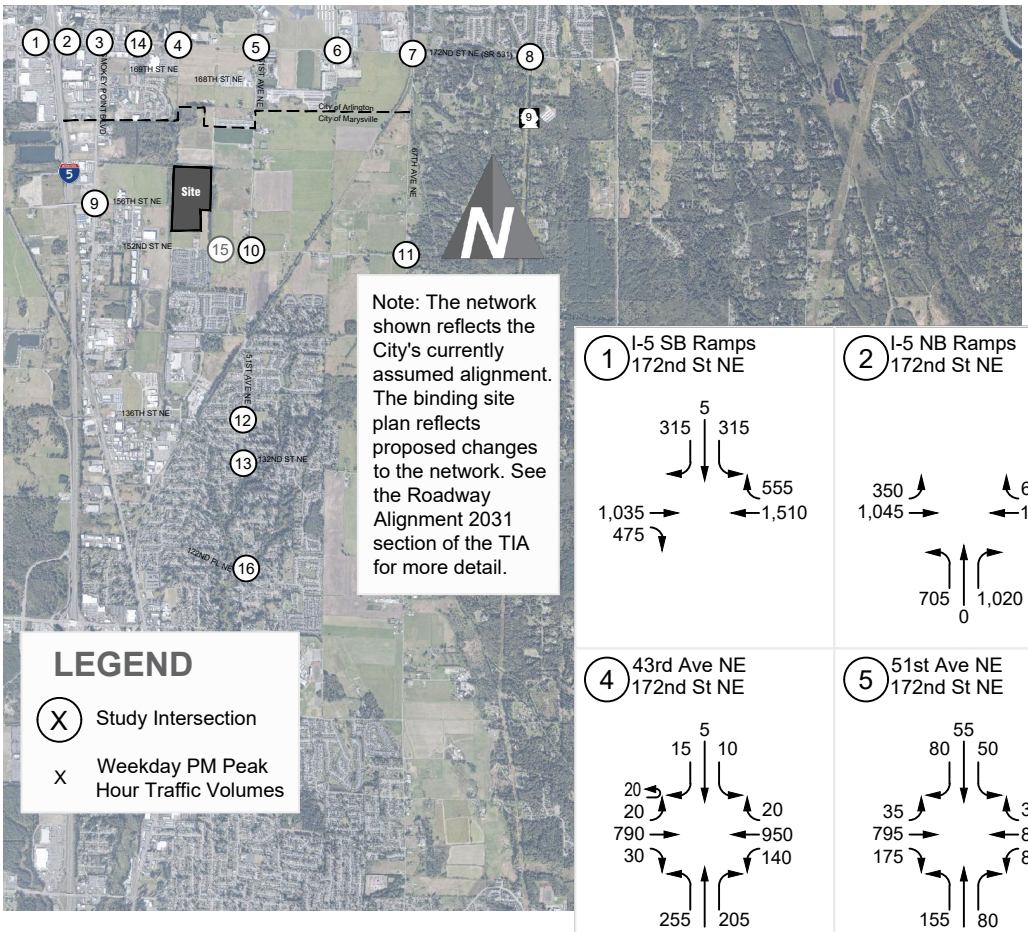
The following sections describe the methodologies to develop the forecast 2025 and 2031 traffic volumes which represent the year of opening and the horizon year, respectively.

Consistent with City requirements, future 2025 and 2031 without-project traffic volumes were forecasted by applying an annual growth rate to existing traffic volumes and adding traffic from “pipeline” development projects that would also contribute traffic to the study intersections. Two pipeline projects were identified in the vicinity of the project site. The two pipeline projects identified are Project Roxy and a portion of the Cascade Commerce Center.

Project Roxy would develop an approximately 2.82 million square foot fulfillment center warehouse located between 172nd Street NE (SR 531) and 169th Street NE, and 43rd Avenue NE and 51st Avenue NE in the City of Arlington. Project Roxy is anticipated to be constructed and occupied by the end of 2022.

The Cascade Commerce Center (CCC) would develop approximately 4.15 million square feet of a mix of industrial uses anticipated to include a combination of industrial park, high-cube warehouse, and high-cube fulfillment center. The CCC is located in both the City of Arlington and the City of Marysville approximately south of 172nd Street NE (SR 531) and between 51st Avenue NE/59th Avenue NE and the railroad track to the east. The CCC is anticipated to be completed across 9 buildings which would be built and occupied separately. The full site is anticipated to be constructed by 2030; however, full buildout of the project has not been approved. Based on coordination with City staff only 250,000 square feet of warehouse have been approved. As such, a 250,000 square foot warehouse was assumed under future 2025 and 2031 without-project conditions.

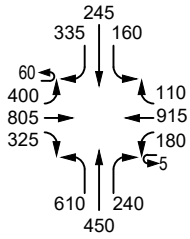
In addition to the pipeline projects an annual growth rate of 2 percent per year was applied to the existing PM peak hour traffic volumes at each study intersection based on the City of Marysville requirements. Forecast future 2025 and 2031 without-project traffic volumes for the future horizon year are shown in Figure 4 and Figure 5.



1 I-5 SB Ramps 172nd St NE

2 I-5 NB Ramps 172nd St NE

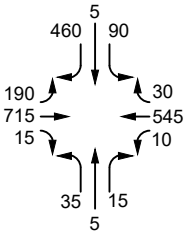
3 Smokey Point Blvd 172nd St NE



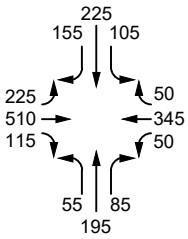
4 43rd Ave NE 172nd St NE

5 51st Ave NE 172nd St NE

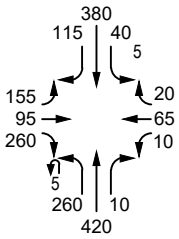
6 59th Ave NE 172nd St NE



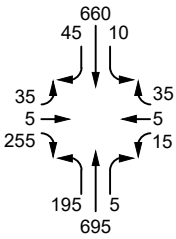
7 67th Ave NE 172nd St NE



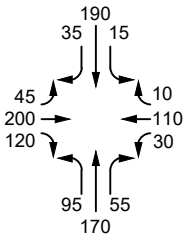
8 SR 9 172nd St NE



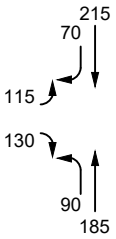
9 Smokey Point Blvd 156th St NE



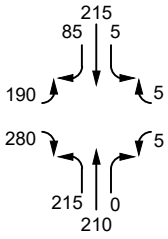
10 51st Ave NE 152nd St NE



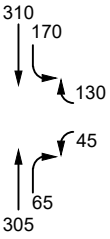
11 67th Ave NE 152nd St NE



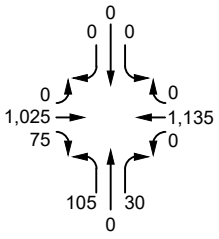
12 51st Ave NE 136th St NE



13 51st Ave NE 132nd St NE



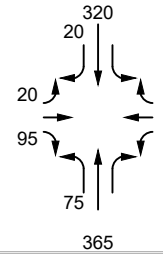
14 40th Ave NE 172nd St NE



15 152nd St NE 156th St NE

FUTURE (2031) ONLY

16 51st Ave NE 122nd Pl NE



Existing (2022) Weekday PM Peak Hour Traffic Volumes

Marysville Light Industrial

FIGURE 3

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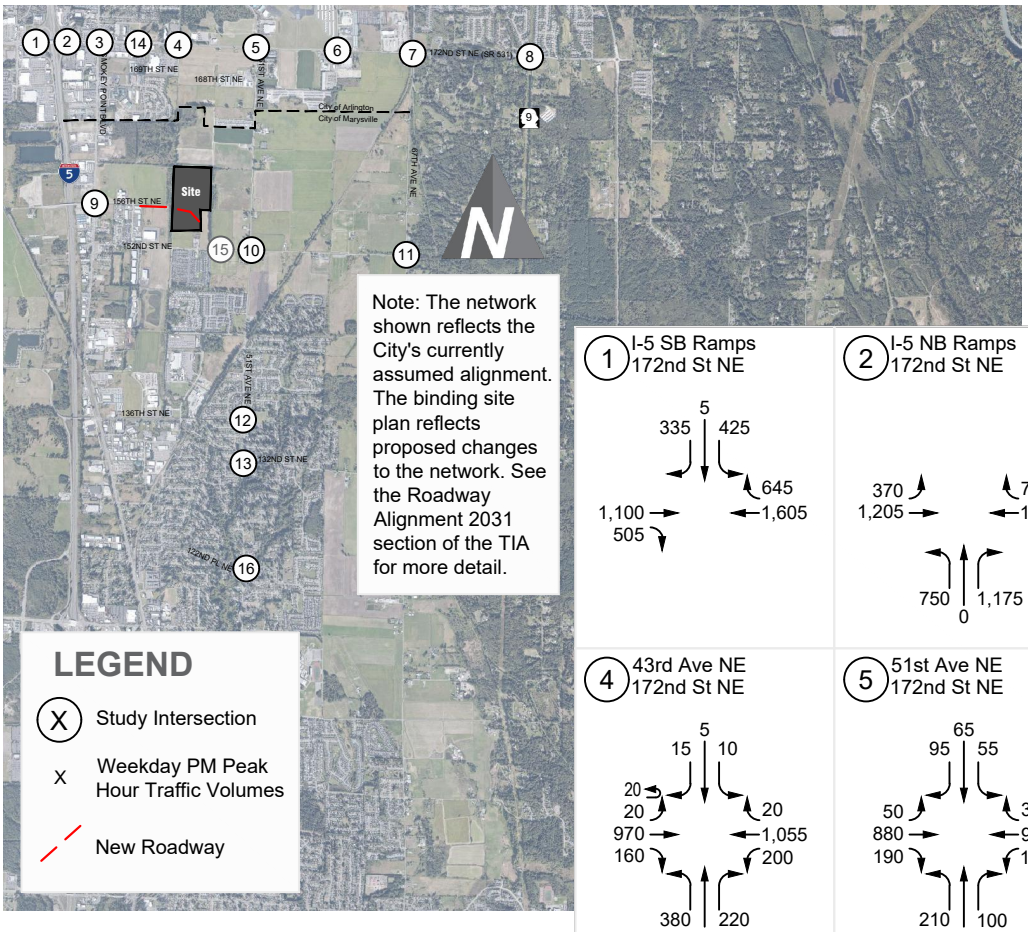

1 I-5 SB Ramps / 172nd St NE

5
335 425
645
1,100 1,605
505

2 I-5 NB Ramps / 172nd St NE

370 735
1,205 1,685
750 1,175
0

3 Smokey Point Blvd / 172nd St NE

260
355 205
65
425 140
1,040 1,085
345 215
5
650 295
480

4 43rd Ave NE / 172nd St NE

5
15 10
20
20 20
970 1,055
160 200
380 220
10

5 51st Ave NE / 172nd St NE

65
95 55
50 30
880 980
190 120
210 100
65

6 59th Ave NE / 172nd St NE

5
490 95
205 30
810 655
15 10
35 15
5

7 67th Ave NE / 172nd St NE

240
185 110
250 55
570 405
135 55
75 90
205

8 SR 9 / 172nd St NE

405
140 40
5
180 20
100 70
290 10
5
295 10
445

9 Smokey Point Blvd / 156th St NE

725
50 10
35 35
5 5
270 15
205 5
780

10 51st Ave NE / 152nd St NE

250
40 20
50 10
210 115
125 30
100 60
225

11 67th Ave NE / 152nd St NE

240
75
120
140
95
215

12 51st Ave NE / 136th St NE

275
90 5
200 5
295 5
230 0
270

13 51st Ave NE / 132nd St NE

370 180
140
50
70
370

14 40th Ave NE / 172nd St NE

10
10 15
10 20
1,350 1,365
80 0
110 30
10

15 152nd St NE / 156th St NE

FUTURE (2031) ONLY

16 51st Ave NE / 122nd Pl NE

385
20
20
100
80
435

Future (2025) Without-Project Weekday PM Peak Hour Traffic Volumes

FIGURE 4

Marysville Light Industrial

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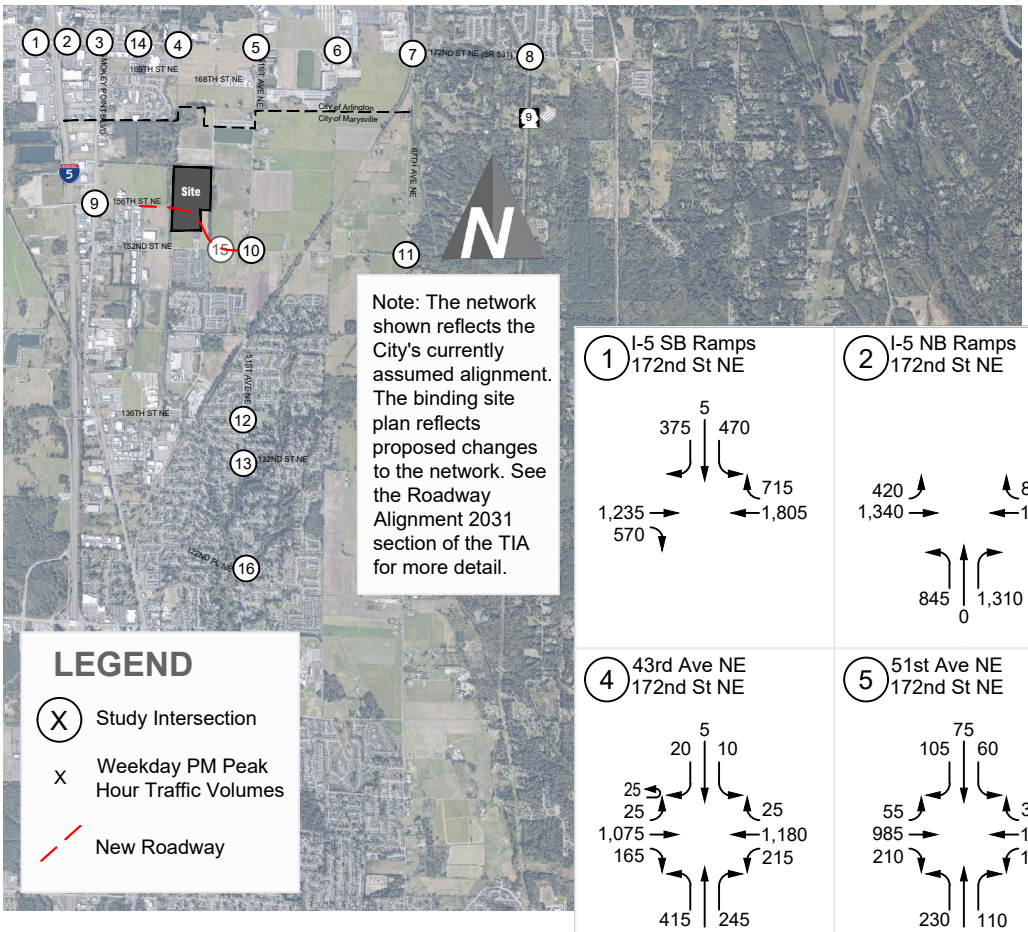

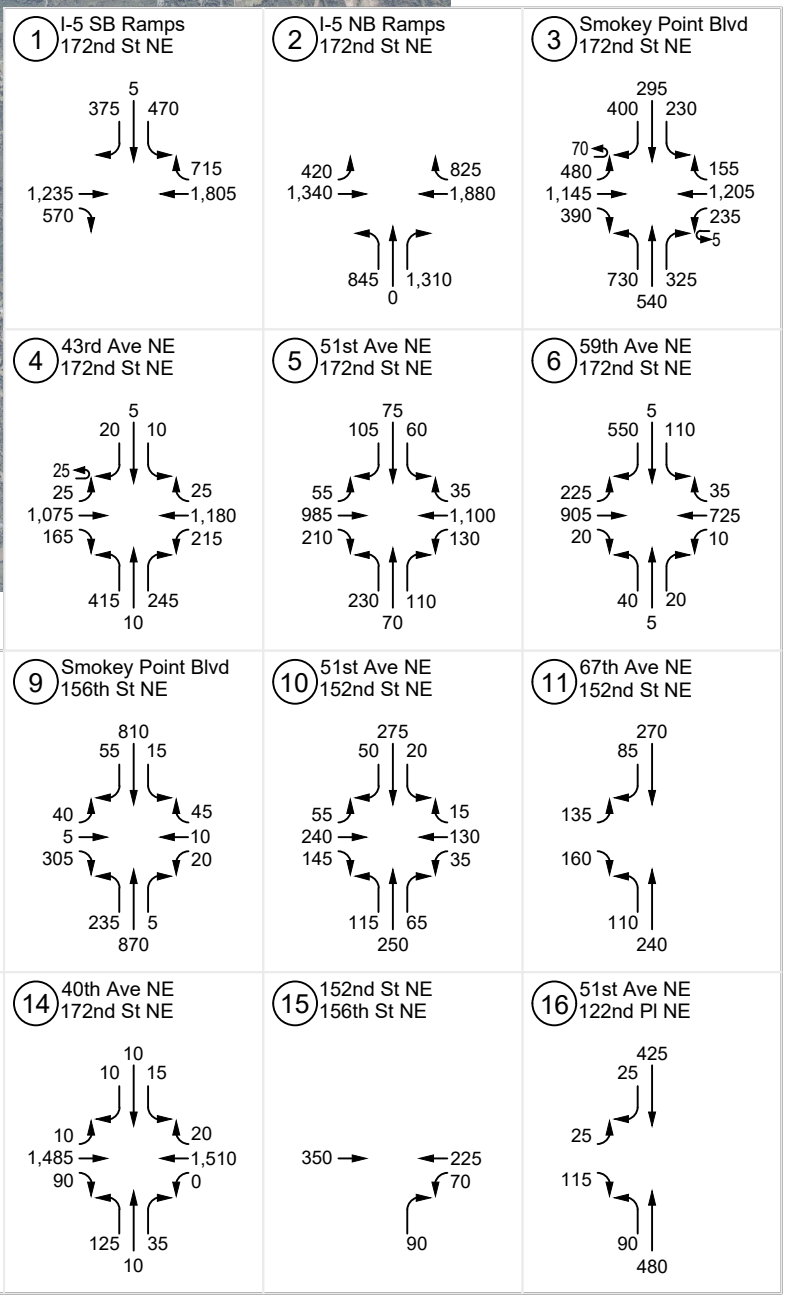

Future (2031) Without-Project Weekday PM Peak Hour Traffic Volumes

FIGURE 5

Marysville Light Industrial

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Traffic Operations

The following sections summarize traffic operations for existing and future conditions within the study area.

The operational characteristics of an intersection are determined by calculating the intersection level of service (LOS). At signalized, all-way stop, and roundabout intersections, LOS is measured in average control delay per vehicle and is typically reported using the intersection delay. At unsignalized side-street, stop-controlled intersections, LOS is measured by the average delay on the worst-movement of the intersection. Traffic operations and average vehicle delay for an intersection can be described qualitatively with a range of levels of service (LOS A through LOS F), with LOS A indicating free-flowing traffic and LOS F indicating extreme congestion and long vehicle delays. Appendix B contains a detailed explanation of LOS criteria and definitions.

For the operations analysis of existing conditions at the signalized study intersections, signal timing and phasing information was obtained from the WSDOT, City of Arlington, or City of Marysville. As described previously, there are a number of improvements planned by 2025 and 2031 that would impact intersection capacity and travel patterns. Those improvements were accounted for in the future 2025 and 2031 without-project analysis.

Weekday PM peak hour traffic operations for existing and future without-project conditions were evaluated at the study intersections based on the procedures identified in the *Highway Capacity Manual* 6th Edition, unless otherwise noted for signal timing constraints, and were evaluated using *Synchro 11*. *Synchro 11* is a software program that uses *HCM* methodology to evaluate intersection LOS and average vehicle delays. Roundabout controlled intersections were evaluated utilizing *Sidra 9* and the WSDOT methodology for analyzing roundabouts. Results for the existing and future without-project operations analyses are summarized in Table 2. Detailed LOS worksheets for each intersection analysis are included in Appendix C.

The City of Marysville has an LOS E mitigated standard for arterial-arterial or arterial-collector intersections along the Smokey Point Boulevard corridor between the north and south City limits. The remaining intersections carry an LOS D standard. The City of Arlington and the WSDOT intersections have an LOS Standard of LOS D for the study area.

For the roundabouts along 172nd street NE (SR 531), WSDOT does not apply LOS standards, instead utilizes a number of measures of effectiveness (MOEs) to assess the operations. WSDOT uses a combination of v/c ratios, delay, stop rate, queueing, and then LOS. Generally, WSDOT is targeting a v/c ratio ≥ 0.90 and LOS D.

Table 2. Existing Weekday PM Peak Hour Intersection LOS Summary

Intersection	Traffic Control	Existing			Future 2025 Without-Project			Future 2031 Without-Project		
		LOS[1]	Delay[2]	WM[3] or v/c[4]	LOS	Delay	WM or v/c	LOS	Delay	WM or v/c
City of Arlington/WSDOT Jurisdiction										
1. I-5 SB Ramps/172nd St NE (SR 531)	Signal	A	9	-	B	10	-	B	11	-
2. I-5 NB Ramps/172nd St NE (SR 531)	Signal	D	47	-	E	78	-	F	94	-
3. Smokey Point Blvd/172nd St NE (SR 531)[7]	Signal	E	71	-	F	89	-	F	114	-
4. 43rd Ave NE/172nd St NE (SR 531)	Signal/ Roundabout[5]	E	76	-	B	12	0.86	B	14	0.91
5. 51st Ave NE/172nd St NE (SR 531)	Signal/ Roundabout[5]	E	64	-	A	9	0.63	A	10	0.67
6. 59th Ave NE/172nd St NE (SR 531)	Signal/ Roundabout[5]	F	119	-	A	8	0.76	A	8	0.76
7. 67th Ave NE/172nd St NE (SR 531)	Signal/ Roundabout[5]	E	58	-	B	13	0.85	B	14	0.86
8. SR 9/172nd St NE (SR 531)	Roundabout	A	8	0.44	A	8	0.49	A	9	0.57
14. 40th Ave NE/172nd St NE (SR 531)	TWSC/Signal[6]	F	81	NBL	B	18	-	C	23	-
City of Marysville Jurisdiction										
9. Smokey Point Blvd/156th St NE	Signal	B	17	-	B	17	-	B	20	-
10. 51st Ave NE/152nd St NE	AWSC/Signal[6]	C	16	-	C	24	-	B	14	-
11. 67th Ave NE/152nd St NE	TWSC/AWSC[8]	C	19	EB	B	13	-	C	15	-
12. 51st Ave NE/136th St NE[7]	Signal	E	56	-	B	12	-	B	14	-
13. 51st Ave NE/132nd St NE	AWSC	D	28	-	D	34	-	D	28	-
15. 152nd St NE/156th St NE[7]	Signal	*2031 Only*			*2031 Only*			B	20	-
16. 51st Ave NE/122nd Pl NE	Signal	A	7	-	A	8	-	A	8	-

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (HCM) 6th Edition (TRB)
2. Average delay per vehicle in seconds.
3. Worst movement reported for two-way stop-controlled intersections.
4. Volume to capacity ratio reported for roundabouts.
5. Roundabout with future SR 531 improvements.
6. Signalized under future conditions.
7. Intersections run utilizing HCM 2000 methodology due to signal timing constraints not allowed under HCM 6th Edition.
8. All-way stop-controlled under future conditions.

As shown in Table 2, under existing conditions, seven intersections operate at LOS E or below and do not meet LOS standards. Under future (2025) without-project conditions, with inclusion of area planned improvements the number of intersections forecast to not meet the applicable LOS standard is reduced to two intersections. Of the two intersections, one previously met the LOS standards in the existing conditions. The intersections forecast to not meet the LOS standard in 2025 include:

- I-5 NB Ramps/172nd Street NE (SR 531)
- Smokey Point Boulevard/172nd Street NE (SR 531)

Under future (2031) without-project conditions, two intersections are forecast not to meet the LOS standards. The I-5 NB Ramps and Smokey Point Boulevard intersections with 172nd Street NE (SR 531), consistent with 2025 without-project conditions.

Traffic Safety

Recent collision records were reviewed within the study area to identify existing traffic safety issues at the study intersections. The most recent complete five-year summary of accident data from the WSDOT is for the period between January 1, 2016 and December 31, 2020. This information is summarized in Table 3.

Table 3. Five-Year Collision Summary – 2016 to 2020

Location	Number of Collisions					Total	Annual Average
	2016	2017	2018	2019	2020		
1. I-5 SB Ramps/172nd St NE (SR 531)	17	12	16	14	9	68	13.6
2. I-5 NB Ramps/172nd St NE (SR 531)	27	11	12	12	8	70	14
3. Smokey Point Blvd/172nd St NE	53	23	25	23	20	144	28.8
4. 43rd Ave NE/172nd St NE (SR 531)	11	9	8	4	5	37	7.4
5. 51st Ave NE/172nd St NE (SR 531)	7	18	10	9	3	47	9.4
6. 59th Ave NE/172nd St NE (SR 531)	5	3	3	6	2	19	3.8
7. 67th Ave NE/172nd St NE (SR 531)	10	5	7	8	6	36	7.2
8. SR 9/172nd St NE (SR 531)	9	6	6	1	2	24	4.8
9. Smokey Point Blvd/156th St NE	2	2	5	1	3	13	2.6
11. 51st Ave NE/152nd St NE	3	3	2	4	3	15	3
12. 67th Ave NE/152nd St NE	0	0	0	0	0	0	0
13. 51st Ave NE/136th St NE	3	0	0	0	3	6	1.2
14. 51st Ave NE/132nd St NE	3	1	1	1	0	6	1.2
17. 51st Ave NE/122nd Pl NE	3	0	0	1	0	4	0.8

Source: WSDOT, 2022

Under 23 U.S. Code § 409 and 23 U.S. Code § 148, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

As shown in Table 3, the total number of collisions at the study area intersections ranged between 0 and 144 over the five years resulting in an annual average between 0 and 28.8 collisions per year. In the study area there were 3 reported bicycle collisions and 7 pedestrian involved collisions. There were no reported fatalities in the study area over the five-year period.

The highest number of reported collisions occurred at the Smokey Point Boulevard/172nd Street NE (SR 531) intersection which also carries a some of the highest traffic volumes in the study area. At the Smokey Point Boulevard/172nd Street (SR 531) the most frequent number of collisions report were rear-end followed by angle collisions. The majority (approximately 78 percent) resulted in property damage only. The number of collisions per million entering vehicles (MEV) was also reviewed for the Smokey Point Boulevard/172nd Street NE (SR 531) intersection. The collision rate is representative of the number of collisions per one million entering vehicles (MEV) at each intersection. Intersections with a rate greater than 1.0 collision per MEV are typically noted for further investigation to determine whether an adverse condition exists. The collisions per MEV for the Smokey Point Boulevard/172nd Street NE (SR 531) intersection is 1.63.

Transpo, as a requirement of Project Roxy identified additional improvements along the 172nd Street NE (SR 531) corridor that will be considered as part of the City of Arlington's anticipated transportation element of the City's updated comprehensive plan. This study identified additional capacity improvements at this intersection. These improvements would reduce congestion and help mitigate for congestion related incidents. These improvements have been adopted formally by the City but are expected to be as part of the comprehensive plan update.

Project Impacts

This section of the report documents the proposed project's impacts on the surrounding street network and study intersections. First, estimated traffic volumes generated by the proposed project are distributed and assigned to adjacent streets and intersections within the study area for the weekday PM peak hour study period. Next, project trips are added to future without-project traffic volumes and any potential impact to traffic operations. Site specific items are also discussed such as the operation of the site's access driveway.

Trip Generation

The proposed project is constructing approximately 745,250 square feet of Industrial Park. Trip generation estimates have been prepared for the development based on trip rates identified using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021) based on the Industrial Park (LU #130). The site is currently undeveloped.

Table 4 provides a summary of the trip generation for the proposed land uses. A detailed summary of the trip generation calculations for these uses has been provided in Appendix D.

Table 4. Estimated Weekday Vehicle Trip Generation

Land Use	Size	Daily Trips[1]	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Proposed								
Industrial Park (LU #130)	745,250 sf	2,511	205	48	253	56	197	253

Notes: sf = square-feet
1. Vehicle trips were estimated based on vehicle trip calculations and localized mode split information.

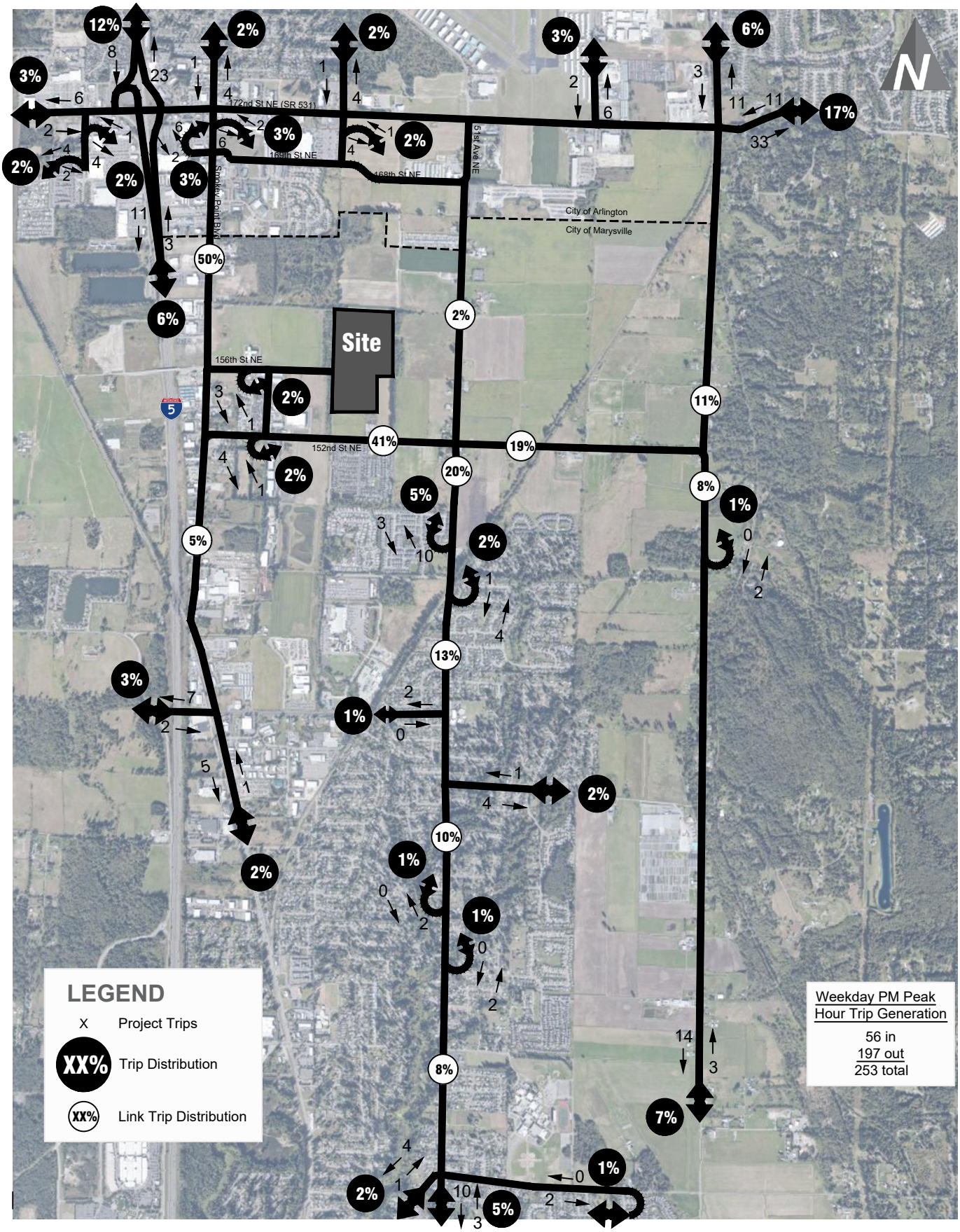
As shown in Table 4, the proposed project is anticipated to generate approximately 2,511 weekday daily vehicle trips with approximately 253 trips during the weekday AM peak hour and 253 trips during the weekday PM peak hour.

Trip Distribution & Assignment

Trip distribution patterns developed for the project were based on information provided by the City of Marysville which are reflective of the anticipated travel patterns for the industrial center. The 2025 year of opening trip distribution utilized the existing network, and the 2031 horizon year utilized the anticipated build out network with the exception of the 152nd Street NE extension to SR 9. The project is a long-range improvement and is currently unfunded.

Figure 6 illustrates the year of opening (2025) vehicle trip distribution and assignment for the proposed project. Figure 7 illustrates the horizon year (2031) vehicle trip distribution and assignment for the proposed project. The resulting 2025 weekday PM peak hour traffic volumes are shown on Figure 8 and the 2031 PM peak hour traffic volumes are shown on Figure 9.

Additionally, consistent with Snohomish County requirements, project trips have been shown at key intersections impacted by three or more directional trips on an approach or departure. The project trips are shown graphically and in tabular form in Appendix E.

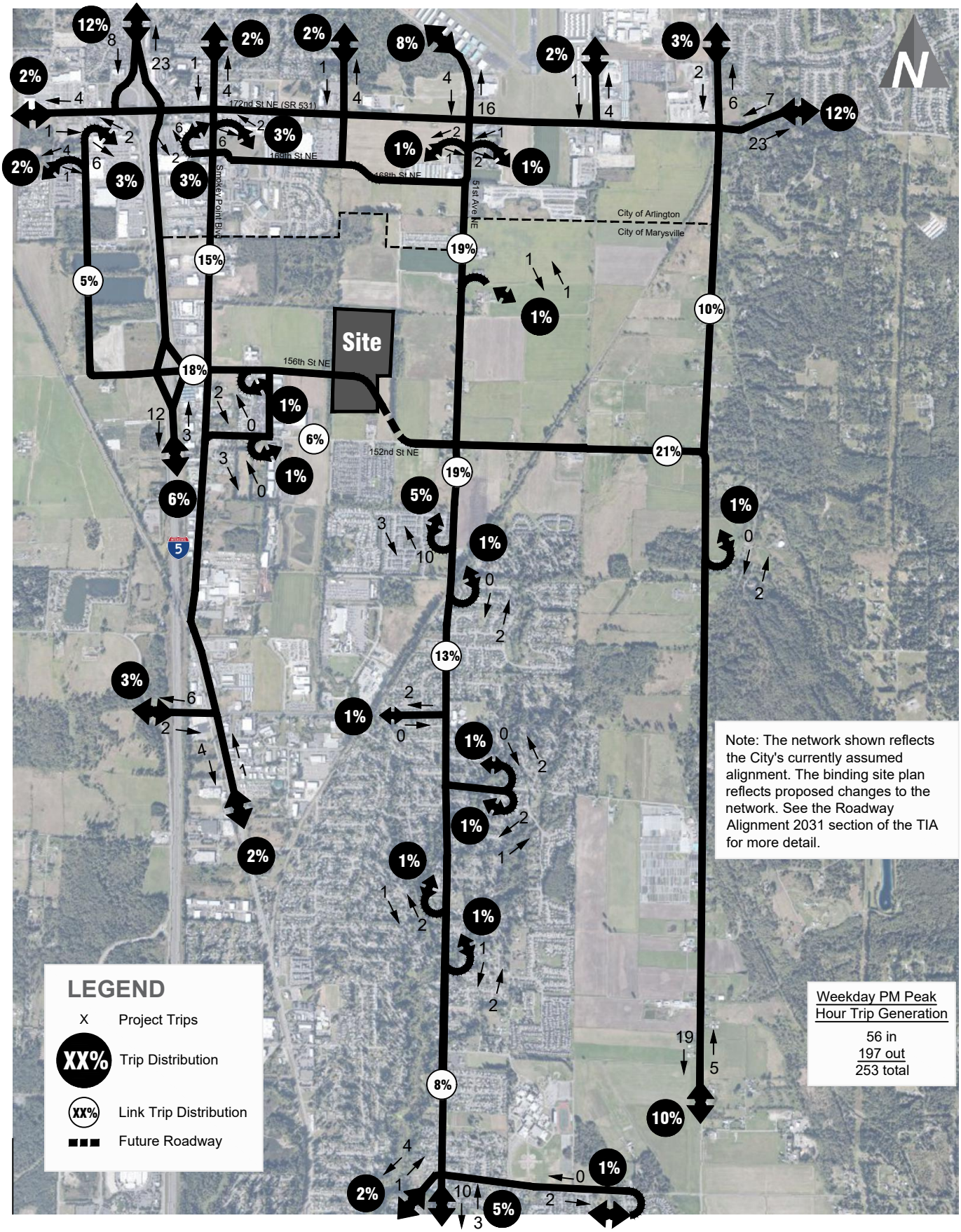


Year of Opening (2025) Weekday PM Peak Hour Project Trip Distribution & Assignment

FIGURE 6

Marysville Light Industrial

transpogroup

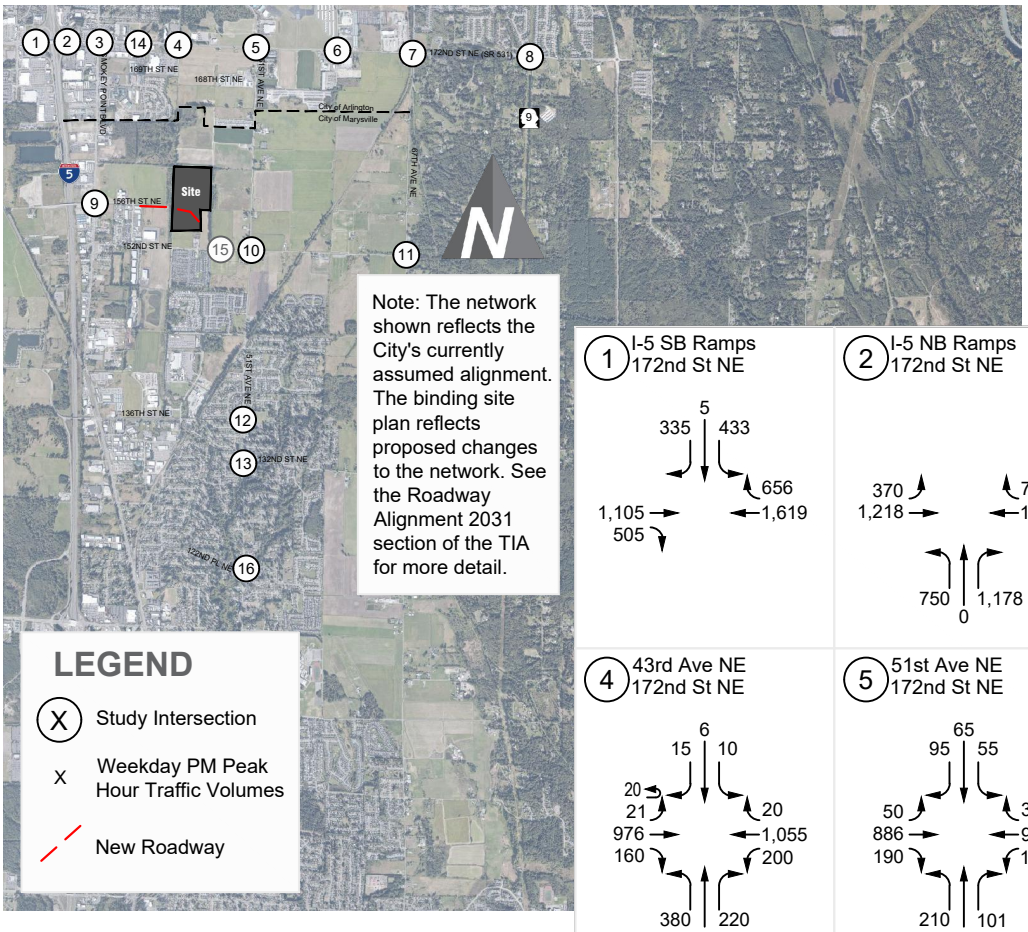


Horizon Year (2031) Weekday PM Peak Hour Project Trip Distribution & Assignment

FIGURE 7

Marysville Light Industrial

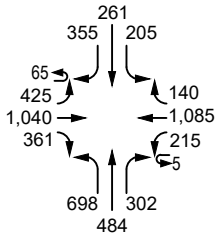
transpogroup



1 I-5 SB Ramps 172nd St NE

2 I-5 NB Ramps 172nd St NE

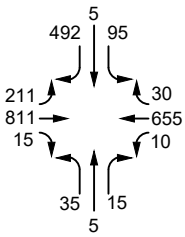
3 Smokey Point Blvd 172nd St NE



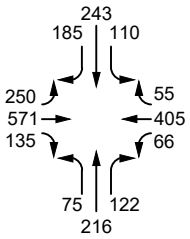
4 43rd Ave NE 172nd St NE

5 51st Ave NE 172nd St NE

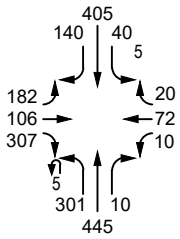
6 59th Ave NE 172nd St NE



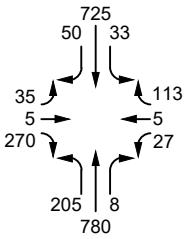
7 67th Ave NE 172nd St NE



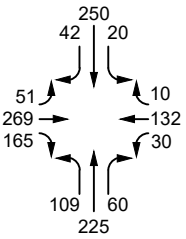
8 SR 9 172nd St NE



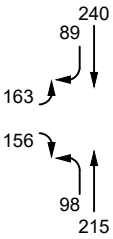
9 Smokey Point Blvd 156th St NE



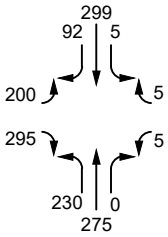
10 51st Ave NE 152nd St NE



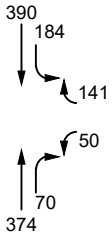
11 67th Ave NE 152nd St NE



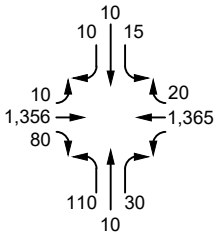
12 51st Ave NE 136th St NE



13 51st Ave NE 132nd St NE



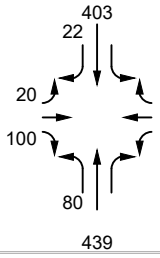
14 40th Ave NE 172nd St NE



15 152nd St NE 156th St NE

FUTURE (2031) ONLY

16 51st Ave NE 122nd Pl NE

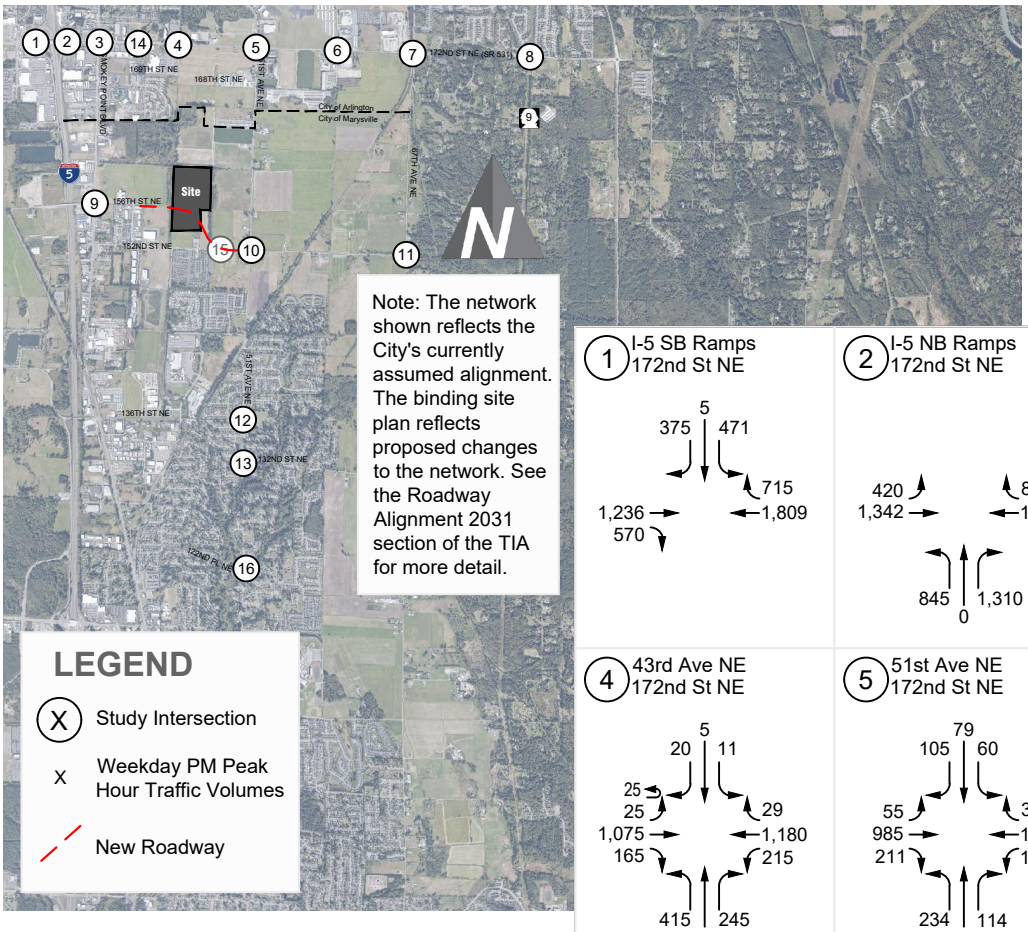


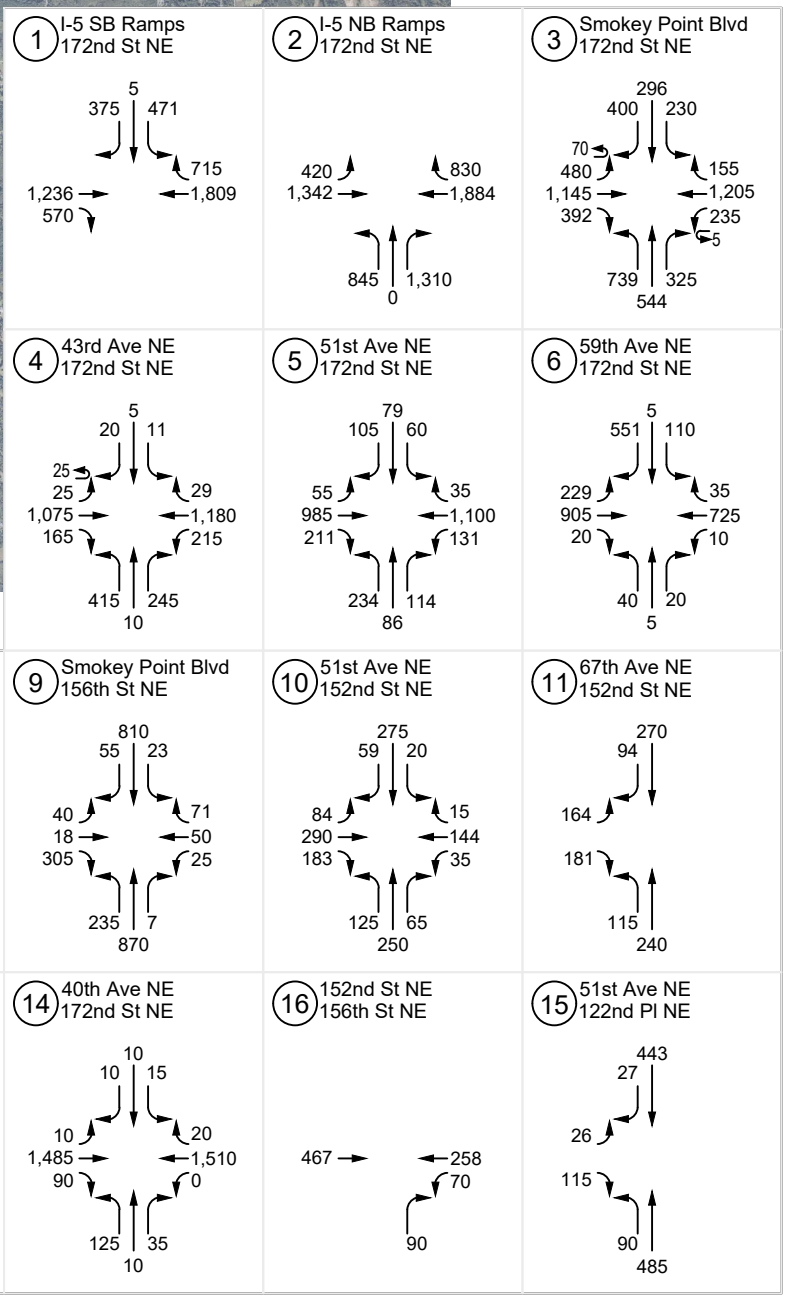
Future (2025) With-Project Weekday PM Peak Hour Traffic Volumes

FIGURE 8

Marysville Light Industrial

transpogroup





Future (2031) With-Project Weekday PM Peak Hour Traffic Volumes

FIGURE 9

Marysville Light Industrial

transpogroup

Volume Impact Summary

The assigned project generated traffic was added to the future without-project weekday PM peak hour traffic volumes at the study intersections under forecast 2025 and 2031 conditions. Table 5 summarizes the project share of traffic volumes at the study intersections during the weekday PM peak hour under forecast 2025 year of opening conditions. Table 6 summarizes the forecast 2031 horizon year weekday PM peak hour project share.

Table 5. Future (2025) Weekday PM Peak Hour Traffic Volume Impacts at Study Intersections

	PM Peak Hour Total Entering Vehicles			
Intersection	**2025 Without-Project**	**Project Trips**	**2025 With-Project**	**Project Share**
1. I-5 SB Ramps/172nd St NE (SR 531)	4,620	38	4,658	0.8%
2. I-5 NB Ramps/172nd St NE (SR 531)	5,920	64	5,984	1.1%
3. Smokey Point Blvd/172nd St NE (SR 531)	5,565	76	5,641	1.3%
4. 43rd Ave NE/172nd St NE (SR 531)	3,085	11	3,096	0.4%
5. 51st Ave NE/172nd St NE (SR 531)	2,840	9	2,849	0.3%
6. 59th Ave NE/172nd St NE (SR 531)	2,370	9	2,379	0.4%
7. 67th Ave NE/172nd St NE (SR 531)	2,375	58	2,433	2.4%
8. SR 9/172nd St NE (SR 531)	2,015	33	2,048	1.6%
9. Smokey Point Blvd/156th St NE	2,140	116	2,256	5.1%
10. 51st Ave NE/152nd St NE	1,235	128	1,363	9.4%
11. 67th Ave NE/152nd St NE	885	76	961	7.9%
12. 51st Ave NE/136th St NE	1,375	31	1,406	2.2%
13. 51st Ave NE/132nd St NE	1,180	29	1,209	2.4%
14. 40th Ave NE/172nd St NE	3,010	6	3,016	0.2%
16. 51st Ave NE/122nd Pl NE	1,040	24	1,064	2.3%

As shown in Table 5, the proposed project is estimated to account for less than 5 percent of the total weekday PM peak hour traffic at the majority of study intersections. Traffic volumes fluctuate day-to-day and the anticipated traffic increase at study intersections are within the range of typical daily traffic fluctuations which can be up to 5 percent. There are three intersections where the project is forecast to represent more than 5 percent of the total volumes, which are intersections closer to the site, and include:

- Smokey Point Boulevard/156th Street NE
- 51st Avenue NE/152nd Street NE
- 67th Avenue NE/152nd Street NE

Table 6. Future 2031 Weekday PM Peak Hour Traffic Volume Impacts at Study Intersections

Intersection	PM Peak Hour Total Entering Vehicles			
	2031 Without-Project	Project Trips	2031 With-Project	Project Share
1. I-5 SB Ramps/172nd St NE (SR 531)	5,175	6	5,181	0.1%
2. I-5 NB Ramps/172nd St NE (SR 531)	6,620	11	6,631	0.2%
3. Smokey Point Blvd/172nd St NE (SR 531)	6,205	16	6,221	0.3%
4. 43rd Ave NE/172nd St NE (SR 531)	3,415	5	3,420	0.1%
5. 51st Ave NE/172nd St NE (SR 531)	3,165	30	3,195	0.9%
6. 59th Ave NE/172nd St NE (SR 531)	2,650	5	2,655	0.2%
7. 67th Ave NE/172nd St NE (SR 531)	2,655	38	2,693	1.4%
8. SR 9/172nd St NE (SR 531)	2,265	30	2,295	1.3%
9. Smokey Point Blvd/156th St NE	2,415	94	2,509	3.7%
10. 51st Ave NE/152nd St NE	1,395	150	1,545	9.7%
11. 67th Ave NE/152nd St NE	1,000	64	1,064	6.0%
12. 51st Ave NE/136th St NE	1,530	33	1,563	2.1%
13. 51st Ave NE/132nd St NE	1,320	31	1,351	2.3%
14. 40th Ave NE/172nd St NE	3,320	0	3,320	0.0%
15. 152nd St NE/156th St NE	735	150	885	16.9%
16. 51st Ave NE/122nd Pl NE	1,160	26	1,186	2.2%

Under the horizon year conditions, with buildout of the network, the project is anticipated to represent less than 6 percent of the traffic volumes at a majority of the study intersections with the exception of two intersections closer to the project site. One intersection is anticipated to represent approximately 9.7 percent of the total traffic volumes at 51st Avenue NE/152nd Street NE. The other is anticipated to represent approximately 16.9 percent of the total traffic volumes at 152nd Street NE/156th Street NE.

Traffic Operations

The following section summarizes the future with-project LOS at the study intersections relative to the without-project conditions to identify project-related impacts.

Intersection parameters such as channelization and intersection control applied to the future with-project analyses were consistent with those used in the evaluation of future without-project conditions. A comparison of the future 2025 year of opening without-project and with-project weekday PM peak hour traffic operations are summarized in Table 7. A comparison of the future 2031 horizon year without-project and with-project weekday PM peak hour traffic operations are summarized in Table 8. Detailed LOS worksheets are provided in Appendix C.

Table 7. Year of Opening (2025) Weekday PM Peak Hour Intersection LOS Summary

Intersection	Traffic Control	Future 2025 Without-Project			Future 2025 With-Project		
		LOS[1]	Delay[2]	WM[3] or v/c[4]	LOS	Delay	WM or v/c
City of Arlington/WSDOT Jurisdiction							
1. I-5 SB Ramps/172nd St NE (SR 531)	Signal	B	10	-	B	11	-
2. I-5 NB Ramps/172nd St NE (SR 531)	Signal	E	78	-	F	81	-
3. Smokey Point Blvd/172nd St NE (SR 531)[6]	Signal	F	89	-	F	93	-
4. 43rd Ave NE/172nd St NE (SR 531)	Roundabout[5]	B	12	0.86	B	13	0.87
5. 51st Ave NE/172nd St NE (SR 531)	Roundabout[5]	A	9	0.63	A	10	0.63
6. 59th Ave NE/172nd St NE (SR 531)	Roundabout[5]	A	8	0.76	A	8	0.76
7. 67th Ave NE/172nd St NE (SR 531)	Roundabout[5]	B	13	0.85	B	14	0.89
8. SR 9/172nd St NE (SR 531)	Roundabout	A	8	0.49	A	8	0.49
14. 40th Ave NE/172nd St NE (SR 531)	Signal	B	18	-	B	18	-
City of Marysville Jurisdiction							
9. Smokey Point Blvd/156th St NE	Signal	B	17	-	B	17	-
10. 51st Ave NE/152nd St NE	AWSC	C	24	-	E	49	-
11. 67th Ave NE/152nd St NE	Signal	B	13	-	B	15	-
12. 51st Ave NE/136th St NE[6]	AWSC	B	12	-	B	13	-
13. 51st Ave NE/132nd St NE	AWSC	D	34	-	E	40	-
15. 51st Ave NE/122nd Pl NE	Signal	A	8	-	A	8	-

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (HCM) 6th Edition (TRB)
2. Average delay per vehicle in seconds.
3. Worst movement reported for two-way stop-controlled intersections.
4. Volume to capacity ratio reported for roundabouts.
5. Roundabout with future SR 531 improvements.
6. Intersections run utilizing HCM 2000 methodology due to signal timing constraints not allowed under HCM 6th Edition.

As shown in Table 7, all study intersections remain at the same LOS under with-project conditions with increases in delay generally less than 4 seconds with the exception of four intersections.

The I-5 NB Ramp/172nd Street NE (SR 531) intersection is forecast to degrade to LOS F with approximately a 3 second increase in delay. The Smokey Point Boulevard/172nd Street NE (SR 531) intersection is forecast to continue operating at LOS F with an increase of approximately 4 seconds of delay. The 51st Avenue NE/152nd Street NE intersection is forecast to operate at LOS E with approximately a 25 second increase in delay. The 67th Avenue NE/152nd Street NE intersection is forecast to degrade from LOS C to LOS E. The intersection of 51st Avenue NE/132nd Street NE is forecast to continue to operate at LOS F with approximately an 8 second increase in delay.

As described above, this is an interim condition and as described in the following section, longer term improvements are planned at the intersections that would include widening and signalization or construction of roundabouts. Additionally, the County has identified a project at the 67th Avenue NE/152nd Street NE intersection that would include implementation of a signal or roundabout and widening at the intersection. The timing of this project hasn't been identified and therefore was not assumed in the horizon year described below.

Table 8. Horizon Year (2031) Weekday PM Peak Hour Intersection LOS Summary

Intersection	Traffic Control	Future 2031 Without-Project			Future 2031 With-Project		
		LOS[1]	Delay[2]	v/c[3]	LOS	Delay	v/c
City of Arlington/WSDOT Jurisdiction							
1. I-5 SB Ramps/172nd St NE (SR 531)	Signal	B	11	-	B	11	-
2. I-5 NB Ramps/172nd St NE (SR 531)	Signal	F	94	-	F	94	-
3. Smokey Point Blvd/172nd St NE (SR 531)[6]	Signal	F	114	-	F	115	-
4. 43rd Ave NE/172nd St NE (SR 531)	Roundabout[4]	B	14	0.91	B	14	0.91
5. 51st Ave NE/172nd St NE (SR 531)	Roundabout[4]	A	10	0.67	A	10	0.68
6. 59th Ave NE/172nd St NE (SR 531)	Roundabout[4]	A	8	0.76	A	8	0.76
7. 67th Ave NE/172nd St NE (SR 531)	Roundabout[4]	B	14	0.86	B	14	0.87
8. SR 9/172nd St NE (SR 531)	Roundabout	A	9	0.57	A	9	0.57
14. 40th Ave NE/172nd St NE	Signal[5]	C	23	-	C	23	-
City of Marysville Jurisdiction							
9. Smokey Point Blvd/156th St NE	Signal	B	20	-	C	21	-
10. 51st Ave NE/152nd St NE	Signal[5]	B	14	-	B	16	-
11. 67th Ave NE/152nd St NE	AWSC	C	15	-	C	17	-
12. 51st Ave NE/136th St NE[6]	Signal	B	14	-	B	14	-
13. 51st Ave NE/132nd St NE	AWSC	D	28	-	D	30	-
15. 152nd St NE/156th St NE[6]	Signal	B	20	-	C	21	-
16. 51st Ave NE/122nd Pl NE	Signal	A	8	-	A	8	-

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (HCM) 6th Edition (TRB).
2. Average delay per vehicle in seconds.
3. Volume to capacity ratio reported for roundabouts.
4. Roundabout with future SR 531 improvements.
5. Signal with future improvements.
6. Intersections run utilizing HCM 2000 methodology due to signal timing constraints not allowed under HCM 6th Edition.

As shown in Table 8, with completion of the roadway network and construction of the new interchange at 156th Street NE, three of the study intersections are not forecast to meet the LOS or v/c standards. Under forecast 2031 conditions the I-5 NB Ramp and Smokey Point Boulevard intersections with 172nd Street NE (SR 531) are forecast to operate at LOS F with minimal increase in delay between without and with-project conditions.

Additionally, the 43rd Avenue NE and 172nd Street NE intersection is forecast to operate with acceptable delays but with a v/c ratio over 0.90. The v/c ratio increase between without- and with-project conditions is less than 0.01 at the intersection with an increase in delay of less than 1 second. The longest (westbound) 95th percentile queueing at the intersection is anticipated to increase from approximately 440 feet to 445 feet between without- and with-project conditions. The increase in delay, queue, and/or v/c ratio would likely go unnoticed by daily drivers.

The longest (westbound) 95th percentile queueing at the 51st Avenue NE/172nd Street NE (SR 531) intersection is anticipated to be approximately 190 feet or 8 vehicles under without-project conditions and 200 feet or approximately 8 vehicles under with-project conditions, an increase of approximately 10 feet. At the 59th Avenue NE/172nd Street NE (SR 531) intersection, with the inclusion of the additional northbound right-turn lane, the longest 95th percentile queue is in the southbound direction and is anticipated to be approximately 165 feet under without- and with-project conditions. At the 67th Avenue NE/172nd Street NE (SR 531) intersection eastbound queues are anticipated to be approximately 375 feet under without-project conditions and 385 feet under with-project conditions or an increase of approximately 10 feet.

The project represents approximately 1.5 percent or less of the forecast PM peak hour traffic volumes at the 51st Avenue NE, 59th Avenue NE, and 67th Avenue NE intersections with 172nd Street NE (SR 531) under with-project (2031) conditions. In the event additional

improvements are identified at these intersections, the project could contribute a pro-rata share to help fund the improvements.

2031 Roadway Alignment

The future horizon year roadway network, alignment, channelization, and traffic control utilized in the traffic analysis is consistent with current plans developed by the City of Marysville. The connection of 156th Street NE and 152nd Street NE as identified by the City would bisect the southern portion of the site. Future development may include a connection to 47th Avenue NE, however, this is not included in the study at this time. The potential connection with 47th Avenue NE is shown in Appendix G.

Site Access

Under the opening year conditions, site access would be provided via three driveways along 156th Street NE and would have limited conflicting traffic as 156th Street NE would terminate at the east end of the site. Therefore, operations of the site access locations were only evaluated under future 2031 buildout of the network which includes the connection between 156th Street NE and 152nd Street NE, assuming the same three access points. The weekday PM peak hour traffic volumes at the site access locations are summarized on Figure 10 and the LOS operations are summarized are in Table 9.

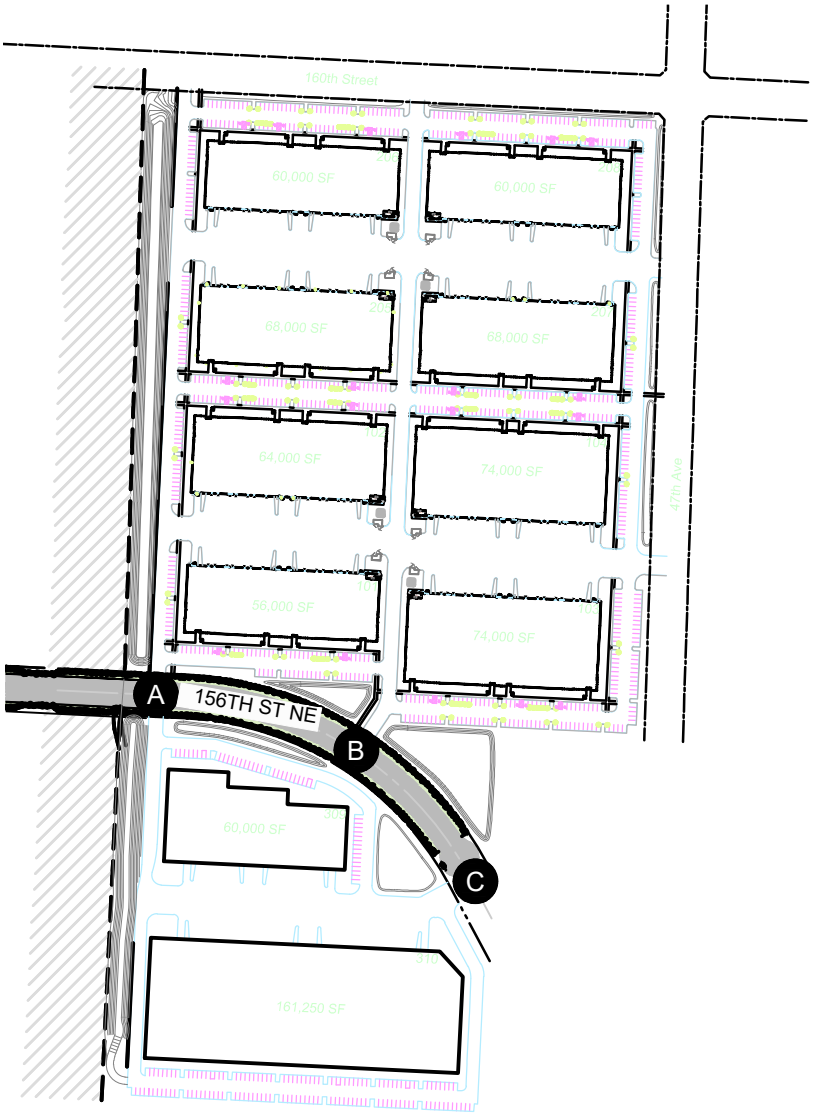
Table 9. Future 2031 Weekday PM Peak Hour Site Access LOS Summary

Intersection	LOS[1]	Delay[2]	WM[3]
A. Site Access West/156th Street NE	B	12	NB
B. Site Access Central/156th Street NE	B	11	SB
C. Site Access East/156th Street NE	B	11	NB

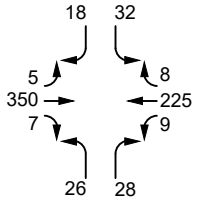
1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (HCM) 6th Edition (TRB)
2. Average delay per vehicle in seconds.
3. Worst movement reported for unsignalized intersections.

As shown in Table 9, the site access locations are forecast to operate at LOS B or better under future (2031) with-project conditions. Future (2031) with-project traffic volumes at the site access locations are shown on Figure 10.

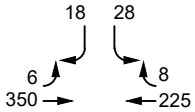
In addition to operations sight distance was reviewed for the eastern most driveway along 156th Street NE. Sight distance requirements for the driveway were taken from the City of Marysville Engineering Design and Development Standards (2017) and show that for a design speed of 40 miles per hour and entering sight distance of 575 ft is required. As shown in Appendix F it is anticipated that entering sight distance requirements will be met for the driveway.



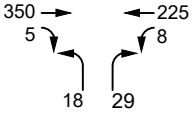
A Site Access West
156th St NE



B Site Access Central
156th St NE



C Site Access East
156th St NE



LEGEND

X Site Access

X Weekday PM Peak Hour Traffic Volumes

Future (2031) Weekday PM Peak Hour Site Access Volumes

FIGURE **10**

Marysville Light Industrial

transpogroup

Mitigation and Recommendations

The proposed project would construct the section of 156th Street NE from the Hayho Creek to the eastern side of the site. The project impacts to the surrounding transportation system would be mitigated through The City of Arlington, Snohomish County and WSDOT.

Transportation Mitigation Fees

To mitigate impacts of the proposal on the surrounding transportation system, the developer would be required to pay impact fees to three jurisdictions: the City of Marysville, Snohomish County, and WSDOT based on current interlocal agreements that have been established between these entities. The following provides an estimate only, the final fees will be calculated at time of permit issuance.

City of Marysville

The City of Marysville traffic mitigation fees are currently $2,220 per PM peak hour trip. Based on the anticipated trip generation of 253 trips the resulting City of Marysville impact fee would be **$561,660** ($2,220/trip x 253 trips). These fees will be reduced for TIF eligible improvements constructed by the applicant. The final fees will be determined by the City at time of building permit issuance.

Snohomish County

Snohomish County has an interlocal agreement with the City of Marysville. Per the Snohomish County Traffic Mitigation Worksheet for City Developments Impacting County Streets, the percent of trips impacting County Streets was determined to be 20 percent. Per SCC 30.66B.330 the fee for commercial uses within the urban growth area of TSA is $157 per average daily trip (ADT). The resulting fee was estimated to be approximately **$78,845** (20% x 2,511 ADT x $157 per ADT).

WSDOT

Per the interlocal agreement with WSDOT, project-related impacts can be mitigated through the payment of a flat fee of $36 per ADT or a proportional share based on the WSDOT projects currently planned. Based on the project distribution, the project would impact the WSDOT projects on 172nd Street NE (SR 531) and the I-5 Interchange at 156th Street NE; however, those projects have been identified as funded. As such no impact fees would be paid to WSDOT.

Findings and Conclusions

This transportation impact analysis summarizes the transportation impacts associated with the proposed industrial project in Marysville, WA.

- The proposed project would construct approximately 745,250 square feet of industrial park.
- The development is anticipated to generate 2,511 weekday daily trips, with 253 trips occurring during the weekday AM peak hour and 253 net new trips during the PM peak hour.
- The proposed project is estimated to account for less than 5 percent of the total 2025 weekday PM peak hour traffic at the majority of study intersections. There are three intersections where the project is forecast to represent more than 5 percent of the total volumes, which are intersections closer to the site, including Smokey Point Boulevard/156th Street NE, 51st Avenue NE/152nd Street NE, and 67th Avenue NE/152nd Street NE.
- Under the 2031 horizon year conditions, with buildout of the network, the project is anticipated to represent less than 6 percent of the traffic volumes at a majority of the study intersections. At intersections closer to the site, the project share of traffic volumes is anticipated to be 9.7 percent at the 51st Avenue NE/152nd Street NE intersection and 16.9 percent at the 152nd Street NE/156th Street NE intersection.
- Under 2025 year of opening conditions all study intersections remain at the same LOS under with-project conditions with increases in delay generally less than 4 seconds with the exception of four intersections. The I-5 NB Ramp/172nd Street NE (SR 531) intersection is forecast to continue to operate at LOS F. Similarly, the Smokey Point Boulevard/172nd Street NE (SR 531) intersection is forecast to continue operating at LOS F. The 51st Avenue NE/152nd Street NE intersection is forecast to degrade from LOS C to LOS E with approximately a 25 second increase in delay and the 51st Avenue NE/132nd Street NE intersection is forecast to degrade from LOS D to LOS E with an increase in delay of six seconds.
- Under 2031 horizon year conditions three study intersections are anticipated to be below the LOS standard of LOS D or have v/c ratios over 0.90 with or without the proposed project. The intersections that don't meet LOS or v/c standards are along the 172nd Street NE (SR 531) corridor and experience minor increases in delay and v/c ratio from without- to with-project conditions.
- Access to the proposed development (2031) would be provided via three driveways along 156th Street NE. All site accesses are forecast to operate at LOS B or better under future 2031 conditions.
- The developer would be required to pay transportation mitigation fees. The mitigation fee is estimated to be a total of $640,505 based on the project's calculated pro-rata share.

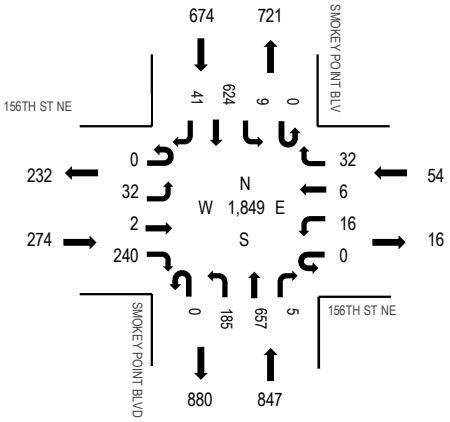
Appendix A: Traffic Counts

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 2 SMOKEY POINT BLVD & 156TH ST NE PM
Date: Tuesday, January 7, 2020
Peak Hour: 04:00 PM - 05:00 PM

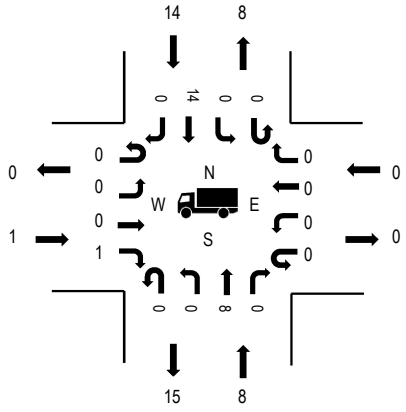
Peak Hour

Motorized Vehicles

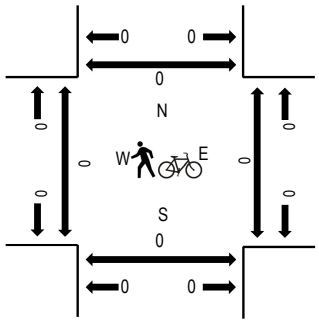


	HV%	PHF
EB	0.4%	0.87
WB	0.0%	0.84
NB	0.9%	0.90
SB	2.1%	0.90
All	1.2%	0.96

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	156TH ST NE Eastbound				156TH ST NE Westbound				SMOKEY POINT BLVD Northbound				SMOKEY POINT BLVD 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	7	0	62	0	8	1	7	0	38	168	1	0	1	177	10	480	1,849
4:15 PM	0	15	2	62	0	3	2	9	0	60	148	2	0	3	141	15	462	1,833
4:30 PM	0	8	0	60	0	1	2	7	0	50	183	1	0	2	151	10	475	1,771
4:45 PM	0	2	0	56	0	4	1	9	0	37	158	1	0	3	155	6	432	1,660
5:00 PM	0	3	1	46	0	3	0	8	0	43	148	0	0	6	189	17	464	1,551
5:15 PM	0	4	0	61	0	10	5	5	0	54	104	0	0	6	143	8	400	
5:30 PM	0	5	2	54	0	3	1	3	0	37	113	1	0	2	129	14	364	
5:45 PM	0	5	0	49	0	8	0	6	0	28	108	2	0	2	106	9	323	
Count Total	0	49	5	450	0	40	12	54	0	347	1,130	8	0	25	1,191	89	3,400	
Peak Hour	0	32	2	240	0	16	6	32	0	185	657	5	0	9	624	41	1,849	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	2	0	3	5	4:00 PM	0	0	0	0	0
4:15 PM	1	2	0	4	7	4:15 PM	0	0	0	0	0
4:30 PM	0	1	0	3	4	4:30 PM	0	0	0	0	0
4:45 PM	0	3	0	4	7	4:45 PM	0	0	0	0	0
5:00 PM	0	3	0	5	8	5:00 PM	0	0	0	0	0
5:15 PM	0	3	0	4	7	5:15 PM	0	0	0	0	0
5:30 PM	0	1	0	5	6	5:30 PM	0	0	0	0	0
5:45 PM	0	4	0	1	5	5:45 PM	0	0	0	0	0
Count Total	1	19	0	29	49	Count Total	0	0	0	0	0
Peak Hour	1	8	0	14	23	Peak Hour	0	0	0	0	0

I-5mp206.08_SR531_SB_Ramps_2019-0409 - TMC
Tue Apr 9, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 643268, Location: 48.152284, -122.191081, Site Code: 00520608SB_0419

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

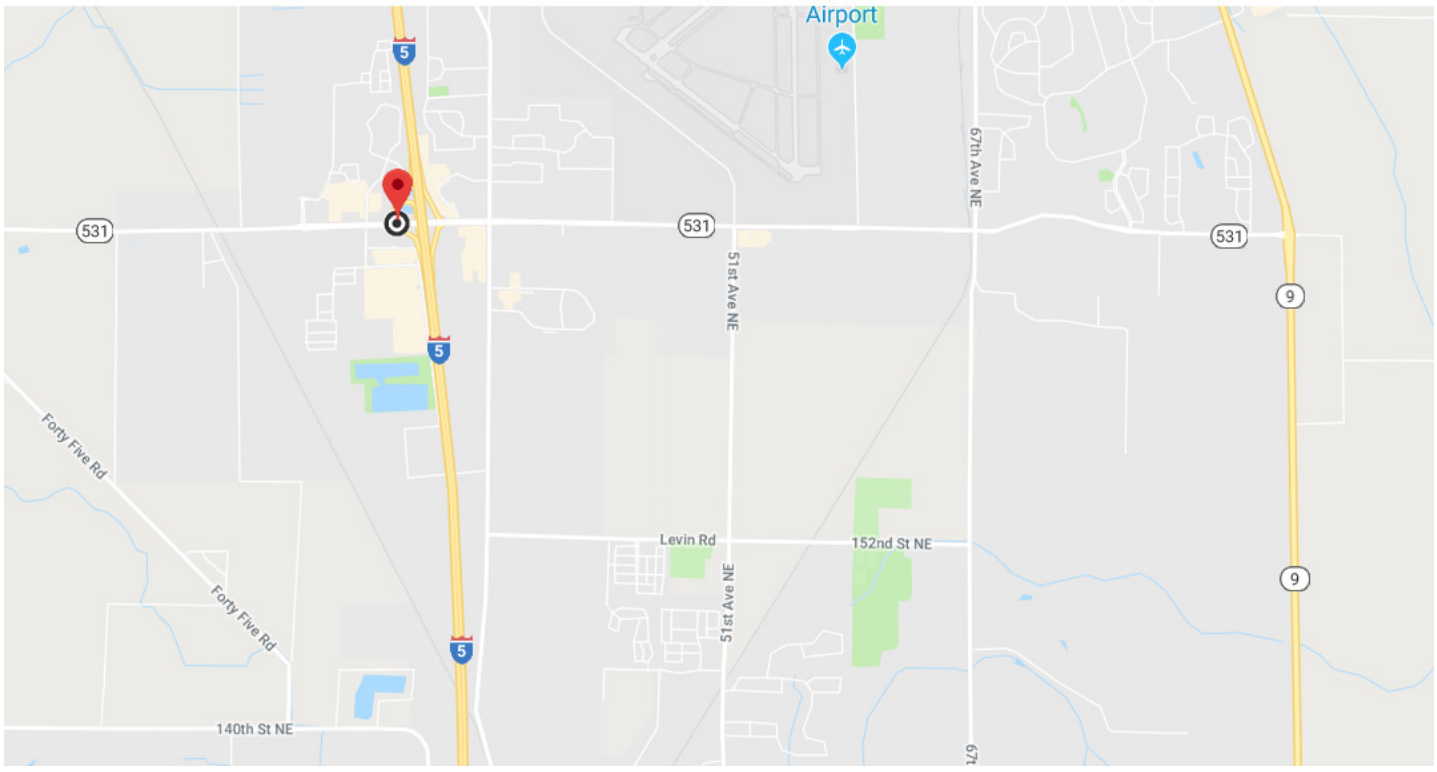
Tue Apr 9, 2019
24 h TMC

48°F Drizzle

Lat: 48.152284 N
Long: 122.191081 W

Peak Hour Factor

Scope	Time	Count	PHF
▶ AM	Tue Apr 9, 2019 10:00 AM	2,831	0.903
▶ Midday	Tue Apr 9, 2019 12:00 PM	3,457	0.975
▶ PM	Tue Apr 9, 2019 4:30 PM	3,849	0.956



I-5mp206.08_SR531_SB_Ramps_2019-0409 - TMC
Tue Apr 9, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 643268, Location: 48.152284, -122.191081, Site Code: 00520608SB_0419

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

Leg	I-5 SB Ramps						SR 531 (172nd St NE)							I-5 SB ON Ramp		SR 531 (172nd St NE)						
Direction	Southbound						Westbound							Northbound		Eastbound						
Time	R	T	L	U	App	Ped*	HR	R	T	L	U	App	Ped*	App	Ped*	R	T	L	U	App	Ped*	Int
2019-04-09 12:00AM	5	0	2	0	**7**	0	9	0	24	0	0	**33**	0	**0**	0	3	16	0	0	**19**	0	**59**
12:15AM	4	0	6	0	**10**	0	5	0	33	0	0	**38**	0	**0**	1	6	4	0	0	**10**	0	**58**
12:30AM	5	0	5	0	**10**	0	10	0	17	0	0	**27**	0	**0**	1	4	5	0	0	**9**	0	**46**
12:45AM	2	0	2	0	**4**	0	7	0	14	0	0	**21**	0	**0**	0	10	8	0	0	**18**	0	**43**
Hourly Total	16	0	15	0	**31**	0	31	0	88	0	0	**119**	0	**0**	2	23	33	0	0	**56**	0	**206**
1:00AM	5	0	2	0	**7**	0	9	0	8	0	0	**17**	0	**0**	1	4	5	0	0	**9**	0	**33**
1:15AM	3	0	3	0	**6**	0	9	0	15	0	0	**24**	0	**0**	0	3	5	0	0	**8**	0	**38**
1:30AM	2	0	3	0	**5**	0	3	1	14	0	0	**18**	0	**0**	0	5	4	0	0	**9**	0	**32**
1:45AM	2	0	5	0	**7**	0	7	0	20	0	0	**27**	0	**0**	0	4	6	0	0	**10**	0	**44**
Hourly Total	12	0	13	0	**25**	0	28	1	57	0	0	**86**	0	**0**	1	16	20	0	0	**36**	0	**147**
2:00AM	3	0	6	0	**9**	0	5	0	9	0	0	**14**	0	**0**	0	5	5	0	0	**10**	0	**33**
2:15AM	2	0	7	0	**9**	0	18	0	5	0	0	**23**	0	**0**	1	9	4	0	0	**13**	0	**45**
2:30AM	3	1	4	0	**8**	0	25	0	4	0	0	**29**	0	**0**	0	7	5	0	0	**12**	0	**49**
2:45AM	1	0	5	0	**6**	0	17	0	6	0	0	**23**	0	**0**	0	7	2	0	0	**9**	0	**38**
Hourly Total	9	1	22	0	**32**	0	65	0	24	0	0	**89**	0	**0**	1	28	16	0	0	**44**	0	**165**
3:00AM	1	0	5	0	**6**	0	19	0	9	0	0	**28**	0	**0**	0	8	1	0	0	**9**	0	**43**
3:15AM	1	0	11	0	**12**	0	27	0	3	0	0	**30**	0	**0**	0	12	5	0	0	**17**	0	**59**
3:30AM	8	0	13	0	**21**	0	42	0	9	0	0	**51**	0	**0**	0	18	7	0	0	**25**	0	**97**
3:45AM	1	0	23	0	**24**	0	49	0	10	0	0	**59**	0	**0**	0	37	14	0	0	**51**	0	**134**
Hourly Total	11	0	52	0	**63**	0	137	0	31	0	0	**168**	0	**0**	0	75	27	0	0	**102**	0	**333**
4:00AM	3	0	12	0	**15**	0	79	0	9	0	0	**88**	0	**0**	0	54	13	0	0	**67**	0	**170**
4:15AM	6	0	19	0	**25**	0	125	0	8	0	0	**133**	0	**0**	0	71	15	0	0	**86**	2	**244**
4:30AM	10	0	35	0	**45**	0	128	2	20	0	0	**150**	0	**0**	0	66	21	0	0	**87**	0	**282**
4:45AM	11	0	63	0	**74**	1	129	1	25	0	0	**155**	0	**0**	2	68	25	0	0	**93**	1	**322**
Hourly Total	30	0	129	0	**159**	1	461	3	62	0	0	**526**	0	**0**	2	259	74	0	0	**333**	3	**1018**
5:00AM	13	0	29	0	**42**	0	124	0	17	0	0	**141**	0	**0**	0	114	24	0	0	**138**	0	**321**
5:15AM	15	0	54	0	**69**	0	141	4	19	0	0	**164**	0	**0**	2	96	33	0	0	**129**	0	**362**
5:30AM	12	0	84	0	**96**	0	117	0	20	0	0	**137**	0	**0**	0	105	45	0	0	**150**	0	**383**
5:45AM	23	0	110	0	**133**	0	150	2	39	0	0	**191**	0	**0**	1	80	69	0	0	**149**	0	**473**
Hourly Total	63	0	277	0	**340**	0	532	6	95	0	0	**633**	0	**0**	3	395	171	0	0	**566**	0	**1539**
6:00AM	24	0	52	0	**76**	0	167	3	38	0	0	**208**	0	**0**	0	102	61	0	0	**163**	0	**447**
6:15AM	22	0	62	0	**84**	0	177	1	56	0	0	**234**	0	**0**	0	122	77	0	0	**199**	0	**517**
6:30AM	45	1	91	0	**137**	0	144	3	74	0	0	**221**	0	**0**	1	110	71	0	0	**181**	0	**539**
6:45AM	40	0	96	0	**136**	2	139	3	106	0	0	**248**	0	**0**	2	110	75	0	0	**185**	0	**569**
Hourly Total	131	1	301	0	**433**	2	627	10	274	0	0	**911**	0	**0**	3	444	284	0	0	**728**	0	**2072**
7:00AM	29	1	65	0	**95**	2	171	2	114	0	0	**287**	0	**0**	3	99	96	0	0	**195**	0	**577**
7:15AM	50	0	84	0	**134**	0	155	3	117	0	0	**275**	0	**0**	0	112	137	0	0	**249**	0	**658**
7:30AM	39	0	127	0	**166**	0	147	3	91	0	0	**241**	1	**0**	2	88	124	0	0	**212**	0	**619**
7:45AM	47	0	145	0	**192**	0	120	3	127	0	0	**250**	0	**0**	2	67	97	0	0	**164**	0	**606**
Hourly Total	165	1	421	0	**587**	2	593	11	449	0	0	**1053**	1	**0**	7	366	454	0	0	**820**	0	**2460**
8:00AM	44	1	69	0	**114**	0	117	0	136	0	0	**253**	0	**0**	0	89	97	0	0	**186**	0	**553**
8:15AM	42	0	83	0	**125**	0	116	1	119	0	0	**236**	0	**0**	0	104	123	0	0	**227**	0	**588**
8:30AM	45	0	81	0	**126**	1	98	3	118	0	0	**219**	0	**0**	0	96	137	0	0	**233**	0	**578**
8:45AM	48	0	81	0	**129**	1	90	1	121	0	0	**212**	0	**0**	1	95	137	0	0	**232**	0	**573**
Hourly Total	179	1	314	0	**494**	2	421	5	494	0	0	**920**	0	**0**	1	384	494	0	0	**878**	0	**2292**
9:00AM	52	1	74	0	**127**	0	102	0	144	0	0	**246**	0	**0**	0	72	118	0	0	**190**	0	**563**
9:15AM	57	0	60	0	**117**	1	120	2	187	0	0	**309**	0	**0**	2	82	124	0	0	**206**	0	**632**
9:30AM	53	0	76	0	**129**	2	103	2	201	0	0	**306**	0	**0**	0	91	135	0	0	**226**	0	**661**
9:45AM	66	0	68	0	**134**	3	110	0	200	0	0	**310**	0	**0**	3	86	139	0	0	**225**	0	**669**
Hourly Total	228	1	278	0	**507**	6	435	4	732	0	0	**1171**	0	**0**	5	331	516	0	0	**847**	0	**2525**
10:00AM	57	0	56	0	**113**	3	86	1	195	0	0	**282**	0	**0**	0	85	165	0	0	**250**	0	**645**
10:15AM	51	2	83	0	**136**	1	100	1	200	0	0	**301**	0	**0**	1	88	139	0	0	**227**	1	**664**
10:30AM	73	1	68	0	**142**	3	93	3	223	0	0	**319**	0	**0**	0	102	175	0	0	**277**	0	**738**
10:45AM	56	0	72	0	**128**	1	108	0	244	0	0	**352**	0	**0**	0	96	208	0	0	**304**	0	**784**
Hourly Total	237	3	279	0	**519**	8	387	5	862	0	0	**1254**	0	**0**	1	371	687	0	0	**1058**	1	**2831**
11:00AM	72	0	70	0	**142**	0	119	0	234	0	0	**353**	0	**0**	6	101	199	0	0	**300**	0	**795**
11:15AM	71	0	68	0	**139**	0	121	1	238	0	0	**360**	0	**0**	3	99	207	0	0	**306**	1	**805**

Leg	I-5 SB Ramps						SR 531 (172nd St NE)							I-5 SB ON Ramp		SR 531 (172nd St NE)						
Direction	Southbound						Westbound							Northbound		Eastbound						
Time	R	T	L	U	App	Ped*	HR	R	T	L	U	App	Ped*	App	Ped*	R	T	L	U	App	Ped*	Int
11:30AM	61	0	61	0	**122**	0	130	0	271	0	0	**401**	0	**0**	0	139	189	0	0	**328**	2	**851**
11:45AM	76	0	75	0	**151**	0	118	1	272	0	0	**391**	0	**0**	1	96	208	0	0	**304**	0	**846**
Hourly Total	280	0	274	0	**554**	0	488	2	1015	0	0	**1505**	0	**0**	10	435	803	0	0	**1238**	3	**3297**
12:00PM	61	1	73	0	**135**	2	110	1	278	0	0	**389**	0	**0**	1	97	211	0	0	**308**	1	**832**
12:15PM	90	0	65	0	**155**	0	114	1	280	0	0	**395**	0	**0**	0	122	214	0	0	**336**	0	**886**
12:30PM	64	0	67	0	**131**	1	126	1	258	0	0	**385**	0	**0**	0	111	227	0	0	**338**	0	**854**
12:45PM	68	1	69	0	**138**	2	131	0	266	0	0	**397**	0	**0**	2	101	249	0	0	**350**	0	**885**
Hourly Total	283	2	274	0	**559**	5	481	3	1082	0	0	**1566**	0	**0**	3	431	901	0	0	**1332**	1	**3457**
1:00PM	66	0	49	0	**115**	1	113	0	258	0	0	**371**	0	**0**	4	119	202	0	0	**321**	0	**807**
1:15PM	80	0	62	0	**142**	0	129	0	267	0	0	**396**	0	**0**	1	106	224	0	0	**330**	0	**868**
1:30PM	68	0	61	0	**129**	0	130	3	250	0	0	**383**	0	**0**	1	114	227	0	0	**341**	0	**853**
1:45PM	60	1	61	0	**122**	0	103	0	272	0	0	**375**	0	**0**	3	118	212	0	0	**330**	1	**827**
Hourly Total	274	1	233	0	**508**	1	475	3	1047	0	0	**1525**	0	**0**	9	457	865	0	0	**1322**	1	**3355**
2:00PM	63	0	65	0	**128**	2	110	4	259	0	0	**373**	0	**0**	3	122	228	0	0	**350**	1	**851**
2:15PM	60	1	51	0	**112**	0	126	0	310	0	0	**436**	0	**0**	1	132	245	0	0	**377**	0	**925**
2:30PM	64	1	62	0	**127**	1	125	5	318	0	0	**448**	0	**0**	4	128	220	0	0	**348**	0	**923**
2:45PM	84	1	63	0	**148**	6	112	3	322	0	0	**437**	0	**0**	4	105	221	0	0	**326**	0	**911**
Hourly Total	271	3	241	0	**515**	9	473	12	1209	0	0	**1694**	0	**0**	12	487	914	0	0	**1401**	1	**3610**
3:00PM	45	0	58	0	**103**	3	117	0	321	0	0	**438**	0	**0**	3	122	239	0	0	**361**	1	**902**
3:15PM	59	2	63	0	**124**	1	96	3	310	0	0	**409**	0	**0**	2	103	258	0	0	**361**	0	**894**
3:30PM	53	0	55	0	**108**	13	132	3	303	0	0	**438**	0	**0**	4	113	246	0	0	**359**	0	**905**
3:45PM	80	1	82	0	**163**	8	117	0	335	0	0	**452**	0	**0**	0	105	213	0	0	**318**	0	**933**
Hourly Total	237	3	258	0	**498**	25	462	6	1269	0	0	**1737**	0	**0**	9	443	956	0	0	**1399**	1	**3634**
4:00PM	76	0	53	0	**129**	12	136	4	313	0	0	**453**	1	**0**	2	111	250	0	0	**361**	0	**943**
4:15PM	74	0	63	0	**137**	4	110	4	333	0	0	**447**	0	**0**	7	97	240	0	0	**337**	0	**921**
4:30PM	70	0	70	0	**140**	4	147	1	351	0	0	**499**	0	**0**	1	104	230	0	0	**334**	0	**973**
4:45PM	63	0	72	0	**135**	1	92	2	316	0	0	**410**	0	**0**	1	103	237	0	0	**340**	1	**885**
Hourly Total	283	0	258	0	**541**	21	485	11	1313	0	0	**1809**	1	**0**	11	415	957	0	0	**1372**	1	**3722**
5:00PM	76	0	74	0	**150**	2	131	3	339	0	0	**473**	0	**0**	1	116	245	0	0	**361**	0	**984**
5:15PM	77	1	71	0	**149**	1	132	2	377	0	0	**511**	0	**0**	1	111	236	0	0	**347**	0	**1007**
5:30PM	56	0	80	0	**136**	0	140	5	289	0	0	**434**	0	**0**	1	81	215	0	0	**296**	1	**866**
5:45PM	63	0	79	0	**142**	4	84	0	334	0	0	**418**	0	**0**	2	75	191	0	0	**266**	2	**826**
Hourly Total	272	1	304	0	**577**	7	487	10	1339	0	0	**1836**	0	**0**	5	383	887	0	0	**1270**	3	**3683**
6:00PM	63	0	50	0	**113**	0	100	0	324	0	0	**424**	0	**0**	4	94	219	0	0	**313**	0	**850**
6:15PM	62	0	53	0	**115**	0	97	1	304	0	0	**402**	0	**0**	2	89	203	0	0	**292**	1	**809**
6:30PM	54	0	44	0	**98**	0	104	0	307	0	0	**411**	0	**0**	6	91	199	0	0	**290**	0	**799**
6:45PM	34	0	48	0	**82**	1	72	0	267	0	0	**339**	0	**0**	2	93	213	0	0	**306**	1	**727**
Hourly Total	213	0	195	0	**408**	1	373	1	1202	0	0	**1576**	0	**0**	14	367	834	0	0	**1201**	2	**3185**
7:00PM	44	1	24	0	**69**	2	71	1	215	0	0	**287**	1	**0**	0	86	197	0	0	**283**	1	**639**
7:15PM	37	0	28	0	**65**	1	72	1	222	0	0	**295**	0	**0**	3	88	155	0	0	**243**	0	**603**
7:30PM	35	0	39	0	**74**	1	75	0	195	0	0	**270**	0	**0**	1	85	161	0	0	**246**	0	**590**
7:45PM	20	0	19	0	**39**	0	52	0	187	0	0	**239**	0	**0**	2	58	142	0	0	**200**	0	**478**
Hourly Total	136	1	110	0	**247**	4	270	2	819	0	0	**1091**	1	**0**	6	317	655	0	0	**972**	1	**2310**
8:00PM	41	0	25	0	**66**	4	64	0	163	0	0	**227**	0	**0**	2	59	155	0	0	**214**	2	**507**
8:15PM	32	0	31	0	**63**	2	53	1	144	0	0	**198**	0	**0**	4	53	110	0	0	**163**	1	**424**
8:30PM	23	0	29	0	**52**	3	44	0	139	0	0	**183**	0	**0**	0	61	122	0	0	**183**	3	**418**
8:45PM	18	0	22	0	**40**	0	44	0	134	0	0	**178**	0	**0**	2	49	96	0	0	**145**	0	**363**
Hourly Total	114	0	107	0	**221**	9	205	1	580	0	0	**786**	0	**0**	8	222	483	0	0	**705**	6	**1712**
9:00PM	22	0	17	0	**39**	0	64	0	126	0	0	**190**	0	**0**	0	45	98	0	0	**143**	0	**372**
9:15PM	15	0	18	0	**33**	3	48	0	88	0	0	**136**	0	**0**	0	50	89	0	0	**139**	2	**308**
9:30PM	9	0	20	0	**29**	3	39	0	97	0	0	**136**	0	**0**	0	33	65	0	0	**98**	1	**263**
9:45PM	9	0	21	0	**30**	2	36	0	64	0	0	**100**	0	**0**	0	31	45	0	0	**76**	2	**206**
Hourly Total	55	0	76	0	**131**	8	187	0	375	0	0	**562**	0	**0**	0	159	297	0	0	**456**	5	**1149**
10:00PM	11	0	9	0	**20**	1	40	0	61	0	0	**101**	0	**0**	1	42	45	0	0	**87**	0	**208**
10:15PM	6	0	5	0	**11**	0	30	0	51	0	0	**81**	0	**0**	1	27	31	0	0	**58**	0	**150**
10:30PM	10	0	11	0	**21**	1	24	0	42	0	0	**66**	0	**0**	3	22	27	0	0	**49**	1	**136**
10:45PM	5	0	8	0	**13**	1	16	0	38	0	0	**54**	0	**0**	0	20	33	0	0	**53**	0	**120**
Hourly Total	32	0	33	0	**65**	3	110	0	192	0	0	**302**	0	**0**	5	111	136	0	0	**247**	1	**614**
11:00PM	6	1	7	0	**14**	0	17	0	35	0	0	**52**	0	**0**	1	8	15	0	0	**23**	0	**89**
11:15PM	1	0	10	0	**11**	2	11	0	39	0	0	**50**	0	**0**	0	6	20	0	0	**26**	0	**87**
11:30PM	4	0	3	0	**7**	0	11	0	38	0	0	**49**	0	**0**	0	8	17	0	0	**25**	0	**81**
11:45PM	2	0	9	0	**11**	0	6	0	32	0	0	**38**	0	**0**	2	13	10	0	0	**23**	0	**72**
Hourly Total	13	1	29	0	**43**	2	45	0	144	0	0	**189**	0	**0**	3	35	62	0	0	**97**	0	**329**
Total	3544	20	4493	0	**8057**	116	8258	96	14754	0	0	**23108**	3	**0**	121	6954	11526	0	0	**18480**	30	**49645**
% Approach	44.0%	0.2%	55.8%	0%	-	-	35.7%	0.4%	63.8%	0%	0%	-	-	-	-	37.6%	62.4%	0%	0%	-	-	-

Leg	I-5 SB Ramps						SR 531 (172nd St NE)							I-5 SB ON Ramp		SR 531 (172nd St NE)						
Direction	Southbound						Westbound							Northbound		Eastbound						
Time	R	T	L	U	App	Ped*	HR	R	T	L	U	App	Ped*	App	Ped*	R	T	L	U	App	Ped*	Int
% Total	7.1%	0%	9.1%	0%	**16.2%**	-	16.6%	0.2%	29.7%	0%	0%	**46.5%**	-	**0%**	-	14.0%	23.2%	0%	0%	**37.2%**	-	-
Motorcycles	3	0	10	0	**13**	-	12	3	13	0	0	**28**	-	**0**	-	6	14	0	0	**20**	-	61
% Motorcycles	0.1%	0%	0.2%	0%	**0.2%**	-	0.1%	3.1%	0.1%	0%	0%	**0.1%**	-	**-**	-	0.1%	0.1%	0%	0%	**0.1%**	-	0.1%
Lights	3461	19	4193	0	**7673**	-	7665	84	14397	0	0	**22146**	-	**0**	-	6767	11279	0	0	**18046**	-	47865
% Lights	97.7%	95.0%	93.3%	0%	**95.2%**	-	92.8%	87.5%	97.6%	0%	0%	**95.8%**	-	**-**	-	97.3%	97.9%	0%	0%	**97.7%**	-	96.4%
Single-Unit Trucks	51	1	150	0	**202**	-	275	1	179	0	0	**455**	-	**0**	-	109	131	0	0	**240**	-	897
% Single-Unit Trucks	1.4%	5.0%	3.3%	0%	**2.5%**	-	3.3%	1.0%	1.2%	0%	0%	**2.0%**	-	**-**	-	1.6%	1.1%	0%	0%	**1.3%**	-	1.8%
Articulated Trucks	17	0	128	0	**145**	-	242	0	93	0	0	**335**	-	**0**	-	54	33	0	0	**87**	-	567
% Articulated Trucks	0.5%	0%	2.8%	0%	**1.8%**	-	2.9%	0%	0.6%	0%	0%	**1.4%**	-	**-**	-	0.8%	0.3%	0%	0%	**0.5%**	-	1.1%
Buses	12	0	12	0	**24**	-	64	8	71	0	0	**143**	-	**0**	-	17	68	0	0	**85**	-	252
% Buses	0.3%	0%	0.3%	0%	**0.3%**	-	0.8%	8.3%	0.5%	0%	0%	**0.6%**	-	**-**	-	0.2%	0.6%	0%	0%	**0.5%**	-	0.5%
Bicycles on Road	0	0	0	0	**0**	-	0	0	1	0	0	**1**	-	**0**	-	1	1	0	0	**2**	-	3
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	**-**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	109	-	-	-	-	-	-	3	-	112	-	-	-	-	-	28	
% Pedestrians	-	-	-	-	-	94.0%	-	-	-	-	-	-	100%	-	92.6%	-	-	-	-	-	93.3%	-
Bicycles on Crosswalk	-	-	-	-	-	7	-	-	-	-	-	-	0	-	9	-	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	-	6.0%	-	-	-	-	-	-	0%	-	7.4%	-	-	-	-	-	6.7%	-

*Pedestrians and Bicycles on Crosswalk. HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

I-5mp206.08_SR531NB_Ramps_2016-0713 - TMC
Wed Jul 13, 2016
Full Length (12AM-12AM (+1))
All Classes (Motorcycles, Cars, Light Goods Vehicles, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 331647, Location: 48.152382, -122.187505, Site Code: 0520608NB0716

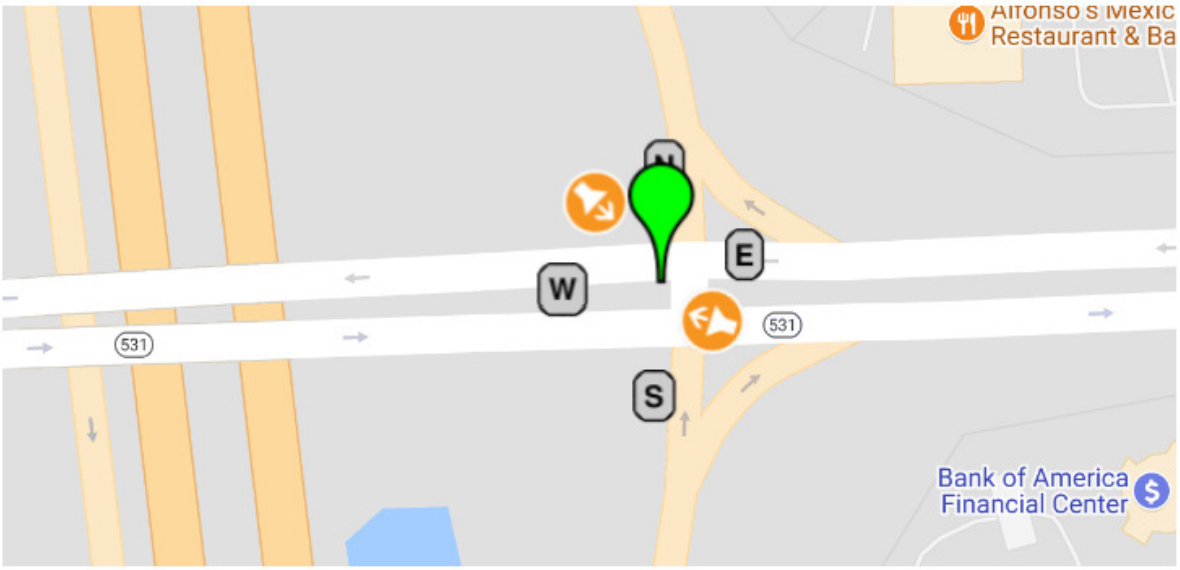
WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies
Provided by: Washington State DOT
15700 Dayton Ave North, MS-120,
P.O. Box 330310,
Seattle, WA, 98133, US

I-5mp206.08_SR531NB_Ramps_2...

Complete (Published) Arlington, WA

57°F Clear

0.959 PHF
3.9%



I-5mp206.08_SR531NB_Ramps_2016-0713 - TMC

Wed Jul 13, 2016

Full Length (12AM-12AM (+1))

All Classes (Motorcycles, Cars, Light Goods Vehicles, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 331647, Location: 48.152382, -122.187505, Site Code: 0520608NB0716

Leg	I-5 NB ON Ramp		SR531 (172nd St NE)					I-5 NB OFF Ramp						SR531 (172nd St NE)					
Direction	Southbound		Westbound					Northbound						Eastbound					
Time	**App**	Ped*	T	R	U	**App**	Ped*	L	T	R	HR	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
2016-07-13 12:00AM	**0**	0	19	10	0	**29**	0	24	0	1	32	**57**	1	5	29	0	**34**	0	**120**
12:15AM	**0**	0	15	10	0	**25**	0	13	1	2	33	**49**	0	5	15	0	**20**	0	**94**
12:30AM	**0**	1	19	12	0	**31**	0	3	0	2	16	**21**	0	6	12	0	**18**	0	**70**
12:45AM	**0**	0	11	3	0	**14**	0	8	0	2	25	**35**	0	2	15	0	**17**	0	**66**
Hourly Total	**0**	1	64	35	0	**99**	0	48	1	7	106	**162**	1	18	71	0	**89**	0	**350**
1:00AM	**0**	1	18	8	0	**26**	1	4	1	0	21	**26**	1	4	18	0	**22**	0	**74**
1:15AM	**0**	1	18	9	0	**27**	1	10	0	0	20	**30**	1	2	8	0	**10**	0	**67**
1:30AM	**0**	2	22	4	0	**26**	0	6	0	1	20	**27**	0	3	18	0	**21**	0	**74**
1:45AM	**0**	0	15	9	0	**24**	0	4	2	1	12	**19**	0	0	11	0	**11**	0	**54**
Hourly Total	**0**	4	73	30	0	**103**	2	24	3	2	73	**102**	2	9	55	0	**64**	0	**269**
2:00AM	**0**	0	16	7	0	**23**	0	11	0	0	14	**25**	0	3	5	0	**8**	0	**56**
2:15AM	**0**	0	17	5	0	**22**	0	7	0	0	12	**19**	0	1	8	0	**9**	0	**50**
2:30AM	**0**	1	23	6	0	**29**	1	4	0	0	10	**14**	1	1	11	0	**12**	0	**55**
2:45AM	**0**	0	33	12	0	**45**	0	9	0	0	16	**25**	0	2	10	0	**12**	0	**82**
Hourly Total	**0**	1	89	30	0	**119**	1	31	0	0	52	**83**	1	7	34	0	**41**	0	**243**
3:00AM	**0**	1	40	3	0	**43**	0	6	0	1	10	**17**	0	3	6	0	**9**	0	**69**
3:15AM	**0**	0	33	2	1	**36**	0	3	0	0	12	**15**	0	3	7	0	**10**	0	**61**
3:30AM	**0**	0	42	10	0	**52**	0	4	0	0	13	**17**	0	2	22	0	**24**	0	**93**
3:45AM	**0**	0	44	8	0	**52**	0	7	0	1	13	**21**	0	3	16	0	**19**	0	**92**
Hourly Total	**0**	1	159	23	1	**183**	0	20	0	2	48	**70**	0	11	51	0	**62**	0	**315**
4:00AM	**0**	0	78	6	0	**84**	0	6	0	0	15	**21**	0	3	11	0	**14**	0	**119**
4:15AM	**0**	0	102	5	0	**107**	0	4	0	1	18	**23**	0	2	23	0	**25**	0	**155**
4:30AM	**0**	0	107	9	0	**116**	0	3	0	0	16	**19**	1	3	52	0	**55**	0	**190**
4:45AM	**0**	1	120	15	0	**135**	0	3	0	0	28	**31**	0	6	69	0	**75**	0	**241**
Hourly Total	**0**	1	407	35	0	**442**	0	16	0	1	77	**94**	1	14	155	0	**169**	0	**705**
5:00AM	**0**	1	125	18	0	**143**	0	15	0	0	31	**46**	0	5	52	0	**57**	0	**246**
5:15AM	**0**	1	155	34	0	**189**	0	9	0	0	59	**68**	0	9	60	0	**69**	0	**326**
5:30AM	**0**	2	157	45	0	**202**	0	20	0	0	94	**114**	0	9	117	0	**126**	0	**442**
5:45AM	**0**	1	195	38	0	**233**	0	33	0	0	99	**132**	0	10	130	0	**140**	0	**505**
Hourly Total	**0**	5	632	135	0	**767**	0	77	0	0	283	**360**	0	33	359	0	**392**	0	**1519**
6:00AM	**0**	1	169	27	0	**196**	0	20	0	1	75	**96**	0	12	80	0	**92**	0	**384**
6:15AM	**0**	0	187	33	0	**220**	0	31	0	0	92	**123**	0	13	89	0	**102**	0	**445**
6:30AM	**0**	0	197	48	0	**245**	0	51	0	1	103	**155**	0	28	120	0	**148**	0	**548**
6:45AM	**0**	0	188	55	0	**243**	0	60	0	0	94	**154**	0	17	131	0	**148**	0	**545**
Hourly Total	**0**	1	741	163	0	**904**	0	162	0	2	364	**528**	0	70	420	0	**490**	0	**1922**
7:00AM	**0**	1	211	57	0	**268**	0	48	1	0	80	**129**	0	28	123	0	**151**	0	**548**
7:15AM	**0**	3	252	53	0	**305**	0	36	0	2	97	**135**	1	24	113	0	**137**	0	**577**
7:30AM	**0**	1	226	66	0	**292**	0	61	1	2	133	**197**	0	27	136	0	**163**	0	**652**
7:45AM	**0**	2	203	69	0	**272**	0	48	0	2	153	**203**	2	24	175	0	**199**	0	**674**
Hourly Total	**0**	7	892	245	0	**1137**	0	193	2	6	463	**664**	3	103	547	0	**650**	0	**2451**
8:00AM	**0**	0	169	72	0	**241**	0	35	0	0	118	**153**	2	27	134	0	**161**	0	**555**
8:15AM	**0**	0	202	60	0	**262**	0	56	1	2	111	**170**	1	18	157	0	**175**	0	**607**
8:30AM	**0**	0	205	54	0	**259**	0	48	0	0	129	**177**	1	22	141	0	**163**	0	**599**
8:45AM	**0**	1	204	52	0	**256**	0	50	0	1	131	**182**	0	29	169	0	**198**	0	**636**
Hourly Total	**0**	1	780	238	0	**1018**	0	189	1	3	489	**682**	4	96	601	0	**697**	0	**2397**
9:00AM	**0**	2	201	49	0	**250**	0	50	0	2	94	**146**	2	18	124	0	**142**	0	**538**
9:15AM	**0**	0	201	67	0	**268**	0	71	0	2	96	**169**	0	28	151	0	**179**	0	**616**
9:30AM	**0**	1	214	65	0	**279**	0	58	0	3	92	**153**	0	41	156	0	**197**	0	**629**
9:45AM	**0**	2	208	64	0	**272**	0	58	0	2	122	**182**	4	31	156	0	**187**	0	**641**
Hourly Total	**0**	5	824	245	0	**1069**	0	237	0	9	404	**650**	6	118	587	0	**705**	0	**2424**
10:00AM	**0**	0	233	66	0	**299**	0	72	0	2	107	**181**	0	31	164	0	**195**	0	**675**
10:15AM	**0**	0	257	83	0	**340**	0	64	2	2	105	**173**	0	35	158	0	**193**	0	**706**
10:30AM	**0**	0	212	70	0	**282**	0	89	0	2	118	**209**	3	43	187	0	**230**	0	**721**
10:45AM	**0**	2	243	71	0	**314**	0	105	0	5	142	**252**	6	58	191	0	**249**	0	**815**

Leg	I-5 NB ON Ramp		SR531 (172nd St NE)					I-5 NB OFF Ramp						SR531 (172nd St NE)					
Direction	Southbound		Westbound					Northbound						Eastbound					
Time	**App**	Ped*	T	R	U	**App**	Ped*	L	T	R	HR	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
Hourly Total	**0**	2	945	290	0	**1235**	0	330	2	11	472	**815**	9	167	700	0	**867**	0	**2917**
11:00AM	**0**	1	238	73	0	**311**	0	79	0	0	121	**200**	3	51	196	0	**247**	0	**758**
11:15AM	**0**	3	287	86	0	**373**	0	92	0	0	119	**211**	6	52	198	0	**250**	0	**834**
11:30AM	**0**	3	259	90	0	**349**	0	96	0	0	124	**220**	0	48	215	0	**263**	0	**832**
11:45AM	**0**	1	265	98	0	**363**	0	101	0	0	127	**228**	3	75	213	0	**288**	0	**879**
Hourly Total	**0**	8	1049	347	0	**1396**	0	368	0	0	491	**859**	12	226	822	0	**1048**	0	**3303**
12:00PM	**0**	1	284	92	0	**376**	0	79	0	4	129	**212**	4	58	224	0	**282**	0	**870**
12:15PM	**0**	0	328	94	0	**422**	0	120	0	4	130	**254**	1	69	202	0	**271**	0	**947**
12:30PM	**0**	1	298	89	0	**387**	0	86	0	3	126	**215**	0	59	217	0	**276**	0	**878**
12:45PM	**0**	1	312	84	0	**396**	0	125	0	16	164	**305**	0	41	254	0	**295**	0	**996**
Hourly Total	**0**	3	1222	359	0	**1581**	0	410	0	27	549	**986**	5	227	897	0	**1124**	0	**3691**
1:00PM	**0**	1	263	79	0	**342**	0	130	3	20	207	**360**	2	38	205	0	**243**	0	**945**
1:15PM	**0**	0	259	57	0	**316**	0	130	5	24	195	**354**	1	35	295	0	**330**	0	**1000**
1:30PM	**0**	1	255	74	0	**329**	0	127	3	28	197	**355**	3	42	265	0	**307**	0	**991**
1:45PM	**0**	0	272	67	0	**339**	0	138	1	11	218	**368**	0	49	208	0	**257**	0	**964**
Hourly Total	**0**	2	1049	277	0	**1326**	0	525	12	83	817	**1437**	6	164	973	0	**1137**	0	**3900**
2:00PM	**0**	3	281	78	0	**359**	0	101	0	4	149	**254**	4	57	187	0	**244**	0	**857**
2:15PM	**0**	1	261	73	0	**334**	0	132	0	4	186	**322**	0	58	180	0	**238**	0	**894**
2:30PM	**0**	0	254	95	0	**349**	0	113	0	6	195	**314**	2	72	191	0	**263**	0	**926**
2:45PM	**0**	0	250	100	0	**350**	0	129	0	0	169	**298**	2	82	278	0	**360**	0	**1008**
Hourly Total	**0**	4	1046	346	0	**1392**	0	475	0	14	699	**1188**	8	269	836	0	**1105**	0	**3685**
3:00PM	**0**	4	285	114	0	**399**	2	148	0	5	177	**330**	1	63	203	0	**266**	0	**995**
3:15PM	**0**	0	268	101	0	**369**	0	152	0	9	195	**356**	1	65	213	0	**278**	0	**1003**
3:30PM	**0**	2	274	96	0	**370**	2	142	0	7	218	**367**	7	73	187	1	**261**	0	**998**
3:45PM	**0**	0	285	118	0	**403**	0	142	1	4	177	**324**	2	78	211	0	**289**	0	**1016**
Hourly Total	**0**	6	1112	429	0	**1541**	4	584	1	25	767	**1377**	11	279	814	1	**1094**	0	**4012**
4:00PM	**0**	0	264	113	0	**377**	0	146	0	7	182	**335**	0	88	222	0	**310**	0	**1022**
4:15PM	**0**	0	286	132	1	**419**	0	126	0	5	222	**353**	0	75	223	0	**298**	0	**1070**
4:30PM	**0**	0	292	134	0	**426**	2	140	0	10	194	**344**	2	78	221	0	**299**	0	**1069**
4:45PM	**0**	1	342	132	0	**474**	2	164	0	8	211	**383**	0	75	224	0	**299**	0	**1156**
Hourly Total	**0**	1	1184	511	1	**1696**	4	576	0	30	809	**1415**	2	316	890	0	**1206**	0	**4317**
5:00PM	**0**	2	327	142	0	**469**	1	151	0	12	228	**391**	4	64	212	0	**276**	0	**1136**
5:15PM	**0**	0	320	130	0	**450**	0	135	0	5	187	**327**	3	78	217	0	**295**	0	**1072**
5:30PM	**0**	1	310	117	0	**427**	0	143	0	6	183	**332**	1	76	185	0	**261**	0	**1020**
5:45PM	**0**	0	273	97	0	**370**	1	152	0	4	195	**351**	3	79	173	0	**252**	0	**973**
Hourly Total	**0**	3	1230	486	0	**1716**	2	581	0	27	793	**1401**	11	297	787	0	**1084**	0	**4201**
6:00PM	**0**	3	252	108	0	**360**	1	98	0	2	143	**243**	1	41	198	0	**239**	0	**842**
6:15PM	**0**	2	225	74	0	**299**	2	85	0	1	130	**216**	1	71	229	0	**300**	0	**815**
6:30PM	**0**	0	211	82	0	**293**	0	104	1	9	117	**231**	1	60	178	0	**238**	0	**762**
6:45PM	**0**	3	237	86	0	**323**	0	101	0	4	137	**242**	2	52	154	0	**206**	0	**771**
Hourly Total	**0**	8	925	350	0	**1275**	3	388	1	16	527	**932**	5	224	759	0	**983**	0	**3190**
7:00PM	**0**	0	217	78	0	**295**	0	113	1	0	127	**241**	6	35	169	0	**204**	0	**740**
7:15PM	**0**	3	174	61	0	**235**	0	85	1	4	124	**214**	0	39	160	1	**200**	0	**649**
7:30PM	**0**	0	178	69	0	**247**	0	97	0	1	131	**229**	0	54	175	1	**230**	0	**706**
7:45PM	**0**	0	155	53	0	**208**	0	89	1	2	117	**209**	1	48	165	0	**213**	0	**630**
Hourly Total	**0**	3	724	261	0	**985**	0	384	3	7	499	**893**	7	176	669	2	**847**	0	**2725**
8:00PM	**0**	0	176	60	0	**236**	0	85	1	3	117	**206**	3	42	137	0	**179**	0	**621**
8:15PM	**0**	0	189	55	0	**244**	0	81	1	1	118	**201**	4	48	124	0	**172**	0	**617**
8:30PM	**0**	0	154	54	0	**208**	0	67	1	2	98	**168**	1	46	130	0	**176**	0	**552**
8:45PM	**0**	1	142	45	0	**187**	0	49	0	5	71	**125**	1	39	91	0	**130**	0	**442**
Hourly Total	**0**	1	661	214	0	**875**	0	282	3	11	404	**700**	9	175	482	0	**657**	0	**2232**
9:00PM	**0**	0	115	42	0	**157**	0	51	0	4	72	**127**	0	29	86	0	**115**	0	**399**
9:15PM	**0**	1	117	41	0	**158**	0	52	0	1	71	**124**	2	23	86	0	**109**	0	**391**
9:30PM	**0**	6	92	37	0	**129**	0	48	0	1	72	**121**	2	18	76	0	**94**	0	**344**
9:45PM	**0**	0	101	29	0	**130**	0	39	0	0	61	**100**	0	21	79	0	**100**	0	**330**
Hourly Total	**0**	7	425	149	0	**574**	0	190	0	6	276	**472**	4	91	327	0	**418**	0	**1464**
10:00PM	**0**	0	91	19	0	**110**	0	31	0	1	51	**83**	0	20	70	0	**90**	0	**283**
10:15PM	**0**	0	70	20	0	**90**	0	38	1	1	56	**96**	0	12	49	0	**61**	0	**247**
10:30PM	**0**	0	49	21	0	**70**	0	40	0	0	66	**106**	0	9	41	0	**50**	0	**226**
10:45PM	**0**	0	52	30	0	**82**	0	34	0	0	69	**103**	0	16	28	0	**44**	0	**229**
Hourly Total	**0**	0	262	90	0	**352**	0	143	1	2	242	**388**	0	57	188	0	**245**	0	**985**
11:00PM	**0**	0	45	18	0	**63**	0	32	0	1	54	**87**	2	4	32	0	**36**	0	**186**

Leg	I-5 NB ON Ramp		SR531 (172nd St NE)					I-5 NB OFF Ramp						SR531 (172nd St NE)					
Direction	Southbound		Westbound					Northbound						Eastbound					
Time	**App**	Ped*	T	R	U	**App**	Ped*	L	T	R	HR	**App**	Ped*	L	T	U	**App**	Ped*	**Int**
11:15PM	**0**	0	33	17	0	**50**	0	23	0	1	61	**85**	0	12	31	0	**43**	0	**178**
11:30PM	**0**	0	28	16	0	**44**	0	17	0	1	52	**70**	2	4	24	0	**28**	0	**142**
11:45PM	**0**	0	21	11	0	**32**	0	18	0	0	36	**54**	0	5	20	0	**25**	0	**111**
Hourly Total	**0**	0	127	62	0	**189**	0	90	0	3	203	**296**	4	25	107	0	**132**	0	**617**
Total	**0**	75	16622	5350	2	**21974**	16	6323	30	294	9907	**16554**	111	3172	12131	3	**15306**	0	**53834**
% Approach	**-**	-	75.6%	24.3%	0%	**-**	-	38.2%	0.2%	1.8%	59.8%	**-**	-	20.7%	79.3%	0%	**-**	-	-
% Total	**0%**	-	30.9%	9.9%	0%	**40.8%**	-	11.7%	0.1%	0.5%	18.4%	**30.8%**	-	5.9%	22.5%	0%	**28.4%**	-	-
Motorcycles	**0**	-	127	27	0	**154**	-	33	0	0	86	**119**	-	20	99	0	**119**	-	392
% Motorcycles	**-**	-	0.8%	0.5%	0%	**0.7%**	-	0.5%	0%	0%	0.9%	**0.7%**	-	0.6%	0.8%	0%	**0.8%**	-	0.7%
Cars	**0**	-	12966	4190	2	**17158**	-	5138	20	233	7803	**13194**	-	2584	9403	2	**11989**	-	42341
% Cars	**-**	-	78.0%	78.3%	100%	**78.1%**	-	81.3%	66.7%	79.3%	78.8%	**79.7%**	-	81.5%	77.5%	66.7%	**78.3%**	-	78.7%
Light Goods Vehicles	**0**	-	2896	833	0	**3729**	-	1013	5	35	1451	**2504**	-	468	2277	1	**2746**	-	8979
% Light Goods Vehicles	**-**	-	17.4%	15.6%	0%	**17.0%**	-	16.0%	16.7%	11.9%	14.6%	**15.1%**	-	14.8%	18.8%	33.3%	**17.9%**	-	16.7%
Single-Unit Trucks	**0**	-	370	189	0	**559**	-	96	2	13	310	**421**	-	81	234	0	**315**	-	1295
% Single-Unit Trucks	**-**	-	2.2%	3.5%	0%	**2.5%**	-	1.5%	6.7%	4.4%	3.1%	**2.5%**	-	2.6%	1.9%	0%	**2.1%**	-	2.4%
Articulated Trucks	**0**	-	213	109	0	**322**	-	32	3	10	231	**276**	-	19	89	0	**108**	-	706
% Articulated Trucks	**-**	-	1.3%	2.0%	0%	**1.5%**	-	0.5%	10.0%	3.4%	2.3%	**1.7%**	-	0.6%	0.7%	0%	**0.7%**	-	1.3%
Buses	**0**	-	49	2	0	**51**	-	11	0	3	26	**40**	-	0	25	0	**25**	-	116
% Buses	**-**	-	0.3%	0%	0%	**0.2%**	-	0.2%	0%	1.0%	0.3%	**0.2%**	-	0%	0.2%	0%	**0.2%**	-	0.2%
Bicycles on Road	**0**	-	1	0	0	**1**	-	0	0	0	0	**0**	-	0	4	0	**4**	-	5
% Bicycles on Road	**-**	-	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians		71	-	-	-		16	-	-	-	-		103	-	-	-		0	
% Pedestrians		94.7%	-	-	-		100%	-	-	-	-		92.8%	-	-	-		-	
Bicycles on Crosswalk		4	-	-	-		0	-	-	-	-		8	-	-	-		0	
% Bicycles on Crosswalk		5.3%	-	-	-		0%	-	-	-	-		7.2%	-	-	-		-	

*Pedestrians and Bicycles on Crosswalk. HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

SR531mp6.63_Smokey_Point_Blvd_2019-0723 - TMC
Tue Jul 23, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 680546, Location: 48.15245, -122.182971, Site Code: 53100663_0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

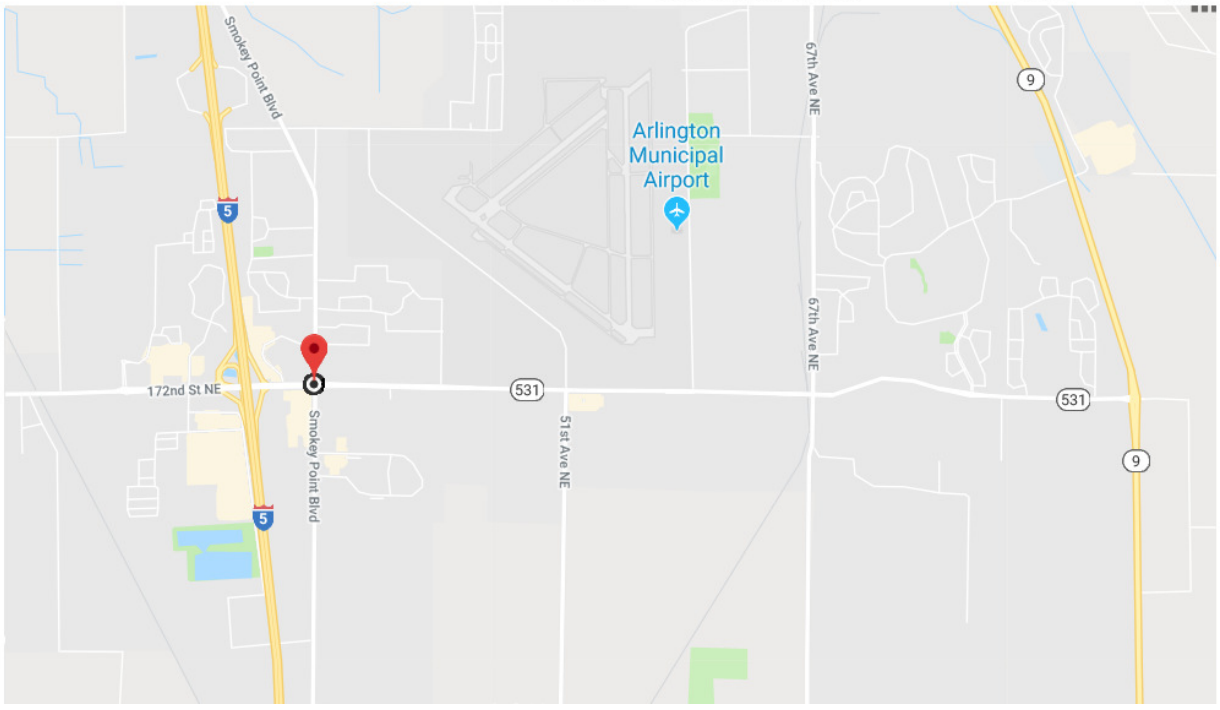
Tue Jul 23, 2019
24 h TMC

61°F Clear

Lat: 48.152450 N
Long: 122.182971 W

Peak Hour Factor

Scope	Time	Count	PHF
▶ AM	Tue Jul 23, 2019 10:00 AM	3,373	0.958
▶ Midday	Tue Jul 23, 2019 12:00 PM	3,988	0.972
▶ PM	Tue Jul 23, 2019 4:45 PM	4,431	0.964



SR531mp6.63_Smokey_Point_Blvd_2019-0723 - TMC
Tue Jul 23, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 680546, Location: 48.15245, -122.182971, Site Code: 53100663_0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

Leg	Smokey Point Blvd						SR 531 (172nd St NE)						Smokey Point Blvd						SR 531 (172nd St NE)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2019-07-23 12:00AM	3	2	3	0	**8**	0	0	16	2	0	**18**	6	6	3	11	0	**20**	0	5	32	16	1	**54**	0	**100**
12:15AM	3	3	5	0	**11**	0	6	19	2	0	**27**	0	3	6	16	0	**25**	0	3	28	9	4	**44**	0	**107**
12:30AM	3	3	1	0	**7**	0	2	12	2	1	**17**	1	2	3	14	0	**19**	0	6	14	7	1	**28**	0	**71**
12:45AM	4	1	3	0	**8**	2	2	11	1	0	**14**	0	1	5	5	0	**11**	0	7	21	9	0	**37**	0	**70**
Hourly Total	13	9	12	0	**34**	2	10	58	7	1	**76**	7	12	17	46	0	**75**	0	21	95	41	6	**163**	0	**348**
1:00AM	9	0	4	0	**13**	0	3	16	3	0	**22**	0	1	4	5	0	**10**	0	10	17	17	1	**45**	0	**90**
1:15AM	7	1	3	0	**11**	1	1	9	5	0	**15**	2	1	5	5	0	**11**	1	6	14	4	0	**24**	1	**61**
1:30AM	6	3	8	0	**17**	0	0	7	0	0	**7**	0	1	2	10	0	**13**	0	11	10	8	0	**29**	0	**66**
1:45AM	4	1	2	0	**7**	0	0	15	2	0	**17**	1	1	3	3	0	**7**	2	3	19	5	1	**28**	0	**59**
Hourly Total	26	5	17	0	**48**	1	4	47	10	0	**61**	3	4	14	23	0	**41**	3	30	60	34	2	**126**	1	**276**
2:00AM	2	2	2	0	**6**	1	1	10	0	0	**11**	0	2	3	12	0	**17**	0	1	12	8	0	**21**	2	**55**
2:15AM	5	3	3	0	**11**	2	1	14	2	0	**17**	2	4	2	4	0	**10**	0	3	9	1	1	**14**	0	**52**
2:30AM	4	1	5	0	**10**	0	1	13	0	1	**15**	0	2	4	6	0	**12**	2	5	9	9	1	**24**	0	**61**
2:45AM	6	1	2	0	**9**	0	0	18	0	0	**18**	0	2	2	10	0	**14**	0	6	8	6	0	**20**	0	**61**
Hourly Total	17	7	12	0	**36**	3	3	55	2	1	**61**	2	10	11	32	0	**53**	2	15	38	24	2	**79**	2	**229**
3:00AM	4	1	1	0	**6**	0	0	22	4	0	**26**	0	2	2	7	0	**11**	2	9	13	2	2	**26**	2	**69**
3:15AM	11	3	2	0	**16**	0	0	26	1	0	**27**	0	1	3	5	0	**9**	0	9	17	4	1	**31**	0	**83**
3:30AM	8	3	7	0	**18**	0	0	29	1	0	**30**	0	2	1	13	0	**16**	0	6	26	9	0	**41**	0	**105**
3:45AM	17	7	3	0	**27**	0	0	41	2	1	**44**	0	1	0	7	0	**8**	0	17	37	3	0	**57**	0	**136**
Hourly Total	40	14	13	0	**67**	0	0	118	8	1	**127**	0	6	6	32	0	**44**	2	41	93	18	3	**155**	2	**393**
4:00AM	34	6	3	0	**43**	0	1	49	2	0	**52**	0	4	2	24	0	**30**	1	9	10	11	0	**30**	0	**155**
4:15AM	34	2	2	0	**38**	1	2	71	13	0	**86**	1	6	2	13	0	**21**	0	12	30	4	1	**47**	0	**192**
4:30AM	43	7	8	0	**58**	0	3	73	3	2	**81**	0	5	3	19	0	**27**	0	22	45	16	2	**85**	0	**251**
4:45AM	46	10	4	0	**60**	1	2	90	10	0	**102**	1	11	7	27	0	**45**	0	31	98	20	5	**154**	0	**361**
Hourly Total	157	25	17	0	**199**	2	8	283	28	2	**321**	2	26	14	83	0	**123**	1	74	183	51	8	**316**	0	**959**
5:00AM	58	12	7	0	**77**	0	2	96	3	0	**101**	0	2	9	25	0	**36**	0	29	68	11	0	**108**	1	**322**
5:15AM	52	21	2	0	**75**	0	3	104	5	1	**113**	0	4	10	35	0	**49**	0	28	85	15	2	**130**	0	**367**
5:30AM	50	22	6	0	**78**	0	0	92	9	2	**103**	0	16	10	36	0	**62**	0	51	158	20	1	**230**	1	**473**
5:45AM	68	25	12	0	**105**	1	3	86	7	0	**96**	3	12	9	32	0	**53**	0	61	161	24	3	**249**	0	**503**
Hourly Total	228	80	27	0	**335**	1	8	378	24	3	**413**	3	34	38	128	0	**200**	0	169	472	70	6	**717**	2	**1665**
6:00AM	56	25	19	0	**100**	0	7	121	8	0	**136**	2	14	4	38	0	**56**	0	37	101	20	2	**160**	0	**452**
6:15AM	66	28	16	0	**110**	0	8	135	21	2	**166**	0	11	20	45	0	**76**	0	60	132	36	2	**230**	0	**582**
6:30AM	73	31	19	0	**123**	0	2	150	19	3	**174**	1	15	18	38	0	**71**	2	71	125	50	2	**248**	1	**616**
6:45AM	33	32	24	0	**89**	2	13	113	32	1	**159**	3	16	24	49	0	**89**	0	87	132	48	3	**270**	0	**607**
Hourly Total	228	116	78	0	**422**	2	30	519	80	6	**635**	6	56	66	170	0	**292**	2	255	490	154	9	**908**	1	**2257**
7:00AM	56	39	11	0	**106**	0	6	125	25	0	**156**	3	11	17	64	0	**92**	1	60	104	32	2	**198**	0	**552**
7:15AM	67	51	21	0	**139**	3	6	146	27	4	**183**	1	25	28	52	0	**105**	2	97	140	34	6	**277**	1	**704**
7:30AM	69	44	18	0	**131**	0	13	143	42	1	**199**	3	25	32	63	0	**120**	1	73	134	42	2	**251**	0	**701**
7:45AM	46	47	24	0	**117**	0	12	122	35	3	**172**	1	19	24	55	0	**98**	2	103	167	42	6	**318**	1	**705**
Hourly Total	238	181	74	0	**493**	3	37	536	129	8	**710**	8	80	101	234	0	**415**	6	333	545	150	16	**1044**	2	**2662**
8:00AM	56	34	19	0	**109**	1	8	133	26	1	**168**	2	29	30	51	0	**110**	1	76	143	47	9	**275**	0	**662**
8:15AM	38	39	24	0	**101**	3	10	127	40	2	**179**	4	22	19	61	0	**102**	1	73	139	30	6	**248**	0	**630**
8:30AM	69	43	27	0	**139**	1	11	143	37	3	**194**	4	31	43	85	0	**159**	0	69	112	37	9	**227**	2	**719**
8:45AM	45	66	20	0	**131**	1	17	138	58	2	**215**	2	34	42	70	0	**146**	1	82	144	44	7	**277**	3	**769**
Hourly Total	208	182	90	0	**480**	6	46	541	161	8	**756**	12	116	134	267	0	**517**	3	300	538	158	31	**1027**	5	**2780**
9:00AM	37	57	47	0	**141**	0	17	105	40	1	**163**	6	37	55	100	0	**192**	0	65	109	65	8	**247**	2	**743**
9:15AM	60	56	23	0	**139**	2	14	139	39	0	**192**	1	39	55	64	0	**158**	2	72	109	53	6	**240**	3	**729**
9:30AM	49	48	17	0	**114**	7	23	174	45	1	**243**	3	39	47	91	0	**177**	0	60	148	46	12	**266**	2	**800**
9:45AM	52	56	22	0	**130**	2	20	137	47	1	**205**	6	41	51	92	0	**184**	0	76	127	63	13	**279**	2	**798**
Hourly Total	198	217	109	0	**524**	11	74	555	171	3	**803**	16	156	208	347	0	**711**	2	273	493	227	39	**1032**	9	**3070**
10:00AM	44	39	38	0	**121**	3	31	166	36	0	**233**	5	32	38	86	0	**156**	1	46	122	54	11	**233**	2	**743**
10:15AM	53	48	33	0	**134**	2	19	141	40	4	**204**	1	49	72	133	0	**254**	4	79	151	43	9	**282**	3	**874**
10:30AM	41	68	39	0	**148**	2	19	148	45	3	**215**	6	48	49	104	0	**201**	3	70	171	60	12	**313**	3	**877**
10:45AM	46	50	32	0	**128**	0	20	160	62	1	**243**	2	40	59	121	0	**220**	1	81	146	54	8	**289**	1	**880**
Hourly Total	184	205	142	0	**531**	7	89	615	183	8	**895**	14	169	218	444	0	**831**	9	276	590	211	40	**1117**	9	**3374**
11:00AM	53	51	29	0	**133**	3	15	157	66	1	**239**	7	35	54	98	0	**187**	0	70	124	48	9	**251**	4	**810**
11:15AM	48	59	43	0	**150**	1	26	156	48	2	**232**	1	51	67	112	0	**230**	3	65	190	53	18	**326**	6	**938**
11:30AM	47	55	27	0	**129**	1	17	172	52	3	**244**	7	56	61	109	0	**226**	2	63	179	68	10	**320**	6	**919**
11:45AM	56	67	34	0	**157**	1	21	182	51	0	**254**	2	59	62	116	0	**237**	0	76	220	55	6	**357**	1	**1005**
Hourly Total	204	232	133	0	**569**	6	79	667	217	6	**969**	17	201	244	435	0	**880**	5	274	713	224	43	**1254**	17	**3672**
12:00PM	68	53	50	0	**171**	1	31	146	58	1	**236**	6	55	65	119	0	**239**	5	76	159	59	9	**303**	5	**949**
12:15PM	46	62	47	0	**155**	0	26	178	68	0	**272**	0	62	72	108	0	**242**	2	69	190	64	14	**337**	8	**1006**
12:30PM	39	66	44	0	**149**	3	25	178	65	1	**269**	4	44	85	135	0	**264**	0	83	184	67	11	**345**	4	**1027**
12:45PM	55	62	41	0	**158**	6	26	168	54	2	**250**	3	70	73	114	0	**257**	1	81	186	60	15	**342**	9	**1007**
Hourly Total	208	243	182	0	**633**	10	108	670	245	4	**1027**	13	231	295	476	0	**1002**	8	309	719	250	49	**1327**	26	**3989**
1:00PM	45	91	39	0	**175**	4	27	201	62	1	**291**	1	58	74	141	0	**273**	3	93	180	60	18	**351**	2	**1090**
1:15PM	59	67	27	0	**153**	4	26	173	60	1	**260**	4	59	77	115	0	**251**	3	84	182	73	7	**346**	1	**1010**
1:30PM	72	78	31	0	**181**	1	25	169	55	1	**250**	3	51	89	118	0	**258**	0	84	202	69	18	**373**	3	**1062**
1:45PM	44	60	27	0	**131**	2	26	195	67	0	**288**	10	60	81	107	0	**248**	1	87	190	68	18	**363**	6	**1030**
Hourly Total	220	296	124	0	**640**	11	104	738	244	3	**1089**	18	228	321	481	0	**1030**	7	348	754	270	61	**1433**	12	**4192**
2:00PM	62	52	39	0	**153**	6	24	121	45	3	**193**	5	44	68	120	0	**232**	1	72	184	82	13	**351**	1	**929**
2:15PM	56	53	29	0	**138**	4	19	175	62	4	**260**	13	51	70	114	0	**235**	1	84	183	82	13	**362**	4	**995**
2:30PM	74	52	55	0	**181**	3	29	166	33	1	**229**	4	51	89	143	0	**283**	2	68	228	65	15	**376**	5	**1069**
2:45PM	61	70	35	0	**166**	1	15	198	71	1	**285**	4	49	96	128	0	**273**	3	94	188	98	21	**401**	4	**1125**

Leg	Smokey Point Blvd						SR 531 (172nd St NE)						Smokey Point Blvd						SR 531 (172nd St NE)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
Hourly Total	253	227	158	0	**638**	14	87	660	211	9	**967**	26	195	323	505	0	**1023**	7	318	783	327	62	**1490**	14	**4118**
3:00PM	75	70	47	0	**192**	1	17	134	51	1	**203**	5	70	118	136	0	**324**	1	89	171	82	10	**352**	1	**1071**
3:15PM	70	56	35	0	**161**	3	18	184	51	1	**254**	1	46	87	118	0	**251**	0	83	221	92	19	**415**	1	**1081**
3:30PM	75	66	34	1	**176**	3	33	175	60	0	**268**	6	48	116	128	0	**292**	1	89	183	67	16	**355**	2	**1091**
3:45PM	76	52	43	0	**171**	3	33	216	53	0	**302**	7	52	102	132	0	**286**	0	88	198	85	19	**390**	4	**1149**
Hourly Total	296	244	159	1	**700**	10	101	709	215	2	**1027**	19	216	423	514	0	**1153**	2	349	773	326	64	**1512**	8	**4392**
4:00PM	64	66	22	0	**152**	2	23	215	54	1	**293**	5	49	111	129	0	**289**	1	68	163	84	21	**336**	2	**1070**
4:15PM	53	42	38	0	**133**	5	27	180	47	1	**255**	3	49	99	133	0	**281**	0	96	186	96	14	**392**	2	**1061**
4:30PM	61	70	29	0	**160**	0	23	191	42	0	**256**	8	48	109	124	0	**281**	1	96	159	92	17	**364**	1	**1061**
4:45PM	74	70	35	0	**179**	1	35	216	53	0	**304**	5	47	95	162	0	**304**	0	83	175	91	13	**362**	0	**1149**
Hourly Total	252	248	124	0	**624**	8	108	802	196	2	**1108**	21	193	414	548	0	**1155**	2	343	683	363	65	**1454**	5	**4341**
5:00PM	70	50	39	0	**159**	1	26	218	40	0	**284**	1	57	107	136	0	**300**	1	73	186	86	11	**356**	1	**1099**
5:15PM	76	45	29	0	**150**	1	24	225	38	0	**287**	0	48	96	127	0	**271**	3	68	218	104	16	**406**	4	**1114**
5:30PM	86	58	44	0	**188**	1	17	177	36	1	**231**	5	67	115	134	0	**316**	3	72	159	87	16	**334**	4	**1069**
5:45PM	58	33	30	0	**121**	1	21	186	43	0	**250**	18	37	97	111	0	**245**	3	77	198	91	17	**383**	6	**999**
Hourly Total	290	186	142	0	**618**	4	88	806	157	1	**1052**	24	209	415	508	0	**1132**	10	290	761	368	60	**1479**	15	**4281**
6:00PM	51	50	34	0	**135**	2	23	133	38	1	**195**	5	53	95	144	0	**292**	1	62	177	82	19	**340**	2	**962**
6:15PM	34	44	34	0	**112**	1	14	131	39	1	**185**	6	38	79	122	0	**239**	0	65	191	96	14	**366**	1	**902**
6:30PM	57	32	29	0	**118**	0	34	151	33	2	**220**	8	28	69	99	0	**196**	1	58	164	69	17	**308**	5	**842**
6:45PM	46	29	24	0	**99**	2	18	140	26	2	**186**	3	32	51	104	0	**187**	0	52	146	63	5	**266**	0	**738**
Hourly Total	188	155	121	0	**464**	5	89	555	136	6	**786**	22	151	294	469	0	**914**	2	237	678	310	55	**1280**	8	**3444**
7:00PM	18	25	26	0	**69**	1	16	116	28	1	**161**	1	34	44	98	0	**176**	2	45	124	74	5	**248**	7	**654**
7:15PM	41	26	19	0	**86**	5	15	103	27	0	**145**	2	32	41	80	0	**153**	0	40	134	64	4	**242**	2	**626**
7:30PM	27	24	25	0	**76**	1	11	95	13	1	**120**	2	25	37	79	0	**141**	1	31	126	51	13	**221**	3	**558**
7:45PM	34	28	26	0	**88**	3	15	87	22	2	**126**	6	28	41	60	0	**129**	0	37	102	54	12	**205**	3	**548**
Hourly Total	120	103	96	0	**319**	10	57	401	90	4	**552**	11	119	163	317	0	**599**	3	153	486	243	34	**916**	15	**2386**
8:00PM	37	29	21	0	**87**	0	13	81	21	1	**116**	3	24	45	62	0	**131**	2	35	105	55	4	**199**	0	**533**
8:15PM	34	30	24	0	**88**	3	11	61	21	1	**94**	4	25	46	67	0	**138**	1	28	130	64	15	**237**	2	**557**
8:30PM	30	24	23	0	**77**	1	5	63	16	0	**84**	6	24	37	50	0	**111**	2	43	80	50	10	**183**	6	**455**
8:45PM	28	22	15	0	**65**	1	14	65	12	0	**91**	3	20	31	42	0	**93**	2	45	102	55	5	**207**	1	**456**
Hourly Total	129	105	83	0	**317**	5	43	270	70	2	**385**	16	93	159	221	0	**473**	7	151	417	224	34	**826**	9	**2001**
9:00PM	20	10	13	0	**43**	2	4	58	16	1	**79**	2	13	26	56	0	**95**	0	27	74	41	8	**150**	3	**367**
9:15PM	18	18	17	0	**53**	1	8	71	12	2	**93**	3	11	26	40	0	**77**	1	21	67	51	6	**145**	4	**368**
9:30PM	25	16	16	0	**57**	0	1	44	16	3	**64**	1	21	15	32	0	**68**	0	15	81	35	7	**138**	0	**327**
9:45PM	13	11	6	0	**30**	2	7	44	8	4	**63**	2	9	18	33	0	**60**	2	16	74	33	3	**126**	2	**279**
Hourly Total	76	55	52	0	**183**	5	20	217	52	10	**299**	8	54	85	161	0	**300**	3	79	296	160	24	**559**	9	**1341**
10:00PM	16	10	5	0	**31**	2	5	45	9	1	**60**	3	7	11	27	0	**45**	0	23	46	34	4	**107**	0	**243**
10:15PM	16	8	5	0	**29**	0	5	32	9	2	**48**	0	6	12	17	0	**35**	0	11	44	31	4	**90**	2	**202**
10:30PM	10	3	6	0	**19**	0	3	40	7	0	**50**	1	3	12	22	0	**37**	0	9	47	29	1	**86**	2	**192**
10:45PM	7	5	6	0	**18**	0	4	16	2	0	**22**	2	3	6	23	0	**32**	1	20	49	29	1	**99**	0	**171**
Hourly Total	49	26	22	0	**97**	2	17	133	27	3	**180**	6	19	41	89	0	**149**	1	63	186	123	10	**382**	4	**808**
11:00PM	8	6	3	0	**17**	0	2	17	2	1	**22**	6	10	10	23	0	**43**	4	11	54	15	1	**81**	1	**163**
11:15PM	9	1	1	0	**11**	5	2	30	2	1	**35**	1	3	9	17	0	**29**	1	7	36	15	3	**61**	1	**136**
11:30PM	6	2	3	0	**11**	0	2	22	2	0	**26**	5	6	4	18	0	**28**	0	9	33	21	1	**64**	1	**129**
11:45PM	5	1	3	0	**9**	0	1	17	3	1	**22**	1	2	10	4	0	**16**	0	7	32	18	3	**60**	0	**107**
Hourly Total	28	10	10	0	**48**	5	7	86	9	3	**105**	13	21	33	62	0	**116**	5	34	155	69	8	**266**	3	**535**
Total	3850	3171	1997	1	**9019**	133	1217	10419	2672	96	**14404**	287	2599	4037	6592	0	**13228**	92	4735	11001	4395	731	**20862**	178	**57513**
% Approach	42.7%	35.2%	22.1%	0%	-	-	8.4%	72.3%	18.6%	0.7%	-	-	19.6%	30.5%	49.8%	0%	-	-	22.7%	52.7%	21.1%	3.5%	-	-	-
% Total	6.7%	5.5%	3.5%	0%	**15.7%**	-	2.1%	18.1%	4.6%	0.2%	**25.0%**	-	4.5%	7.0%	11.5%	0%	**23.0%**	-	8.2%	19.1%	7.6%	1.3%	**36.3%**	-	-
Motorcycles	22	35	8	0	**65**	-	4	38	18	0	**60**	-	26	36	48	0	**110**	-	31	49	18	2	**100**	-	335
% Motorcycles	0.6%	1.1%	0.4%	0%	**0.7%**	-	0.3%	0.4%	0.7%	0%	**0.4%**	-	1.0%	0.9%	0.7%	0%	**0.8%**	-	0.7%	0.4%	0.4%	0.3%	**0.5%**	-	0.6%
Lights	3700	2983	1954	1	**8638**	-	1195	9653	2487	96	**13431**	-	2444	3825	6164	0	**12433**	-	4406	10294	4247	726	**19673**	-	54175
% Lights	96.1%	94.1%	97.8%	100%	**95.8%**	-	98.2%	92.6%	93.1%	100%	**93.2%**	-	94.0%	94.7%	93.5%	0%	**94.0%**	-	93.1%	93.6%	96.6%	99.3%	**94.3%**	-	94.2%
Single-Unit Trucks	43	64	25	0	**132**	-	11	404	77	0	**492**	-	83	61	198	0	**342**	-	168	379	50	3	**600**	-	1566
% Single-Unit Trucks	1.1%	2.0%	1.3%	0%	**1.5%**	-	0.9%	3.9%	2.9%	0%	**3.4%**	-	3.2%	1.5%	3.0%	0%	**2.6%**	-	3.5%	3.4%	1.1%	0.4%	**2.9%**	-	2.7%
Articulated Trucks	12	25	5	0	**42**	-	3	296	87	0	**386**	-	45	49	165	0	**259**	-	122	262	7	0	**391**	-	1078
% Articulated Trucks	0.3%	0.8%	0.3%	0%	**0.5%**	-	0.2%	2.8%	3.3%	0%	**2.7%**	-	1.7%	1.2%	2.5%	0%	**2.0%**	-	2.6%	2.4%	0.2%	0%	**1.9%**	-	1.9%
Buses	73	63	1	0	**137**	-	2	25	3	0	**30**	-	0	63	14	0	**77**	-	8	14	73	0	**95**	-	339
% Buses	1.9%	2.0%	0.1%	0%	**1.5%**	-	0.2%	0.2%	0.1%	0%	**0.2%**	-	0%	1.6%	0.2%	0%	**0.6%**	-	0.2%	0.1%	1.7%	0%	**0.5%**	-	0.6%
Pedestrians	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Pedestrians	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Bicycles on Road	0	1	4	0	**5**	-	2	2	0	0	**4**	-	1	3	3	0	**7**	-	0	3	0	0	**3**	-	19
% Bicycles on Road	0%	0%	0.2%	0%	**0.1%**	-	0.2%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	130	-	-	-	-	-	265	-	-	-	-	-	86	-	-	-	-	-	171	
% Pedestrians	-	-	-	-	-	97.7%	-	-	-	-	-	92.3%	-	-	-	-	-	93.5%	-	-	-	-	-	96.1%	-
Bicycles on Crosswalk	-	-	-	-	-	3	-	-	-	-	-	22	-	-	-	-	-	6	-	-	-	-	-	7	
% Bicycles on Crosswalk	-	-	-	-	-	2.3%	-	-	-	-	-	7.7%	-	-	-	-	-	6.5%	-	-	-	-	-	3.9%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

SR531mp6.92_40th_Ave_NE_2019-0723 - TMC
Tue Jul 23, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 680545, Location: 48.152363, -122.1766, Site Code: 53100692_0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

Tue Jul 23, 2019
24 h TMC

61°F Clear

Lat: 48.152363 N
Long: 122.176600 W

Peak Hour Factor

Scope	Time	Count	PHF
▶ AM	Tue Jul 23, 2019 10:00 AM	1,700	0.947
▶ Midday	Tue Jul 23, 2019 12:00 PM	2,051	0.966
▶ PM	Tue Jul 23, 2019 4:45 PM	2,169	0.997

SR531mp6.92_40th_Ave_NE_2019-0723 - TMC
Tue Jul 23, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 680545, Location: 48.152363, -122.1766, Site Code: 53100692_0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

Leg	40th Ave NE (Not open yet)						SR 531 (172nd St NE)						40th Ave NE (Businesses)						SR 531 (172nd St NE)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2019-07-23 12:00AM	0	0	0	0	**0**	0	0	12	0	0	**12**	0	0	0	4	0	**4**	0	2	30	0	0	**32**	0	**48**
12:15AM	0	0	0	0	**0**	0	0	20	0	0	**20**	0	0	0	3	0	**3**	0	1	23	0	0	**24**	0	**47**
12:30AM	0	0	0	0	**0**	0	0	13	0	0	**13**	0	1	0	3	0	**4**	0	2	20	0	0	**22**	0	**39**
12:45AM	0	0	0	0	**0**	0	0	15	0	0	**15**	0	0	0	1	0	**1**	0	1	21	0	0	**22**	0	**38**
Hourly Total	0	0	0	0	**0**	0	0	60	0	0	**60**	0	1	0	11	0	**12**	0	6	94	0	0	**100**	0	**172**
1:00AM	0	0	0	0	**0**	0	0	13	0	0	**13**	0	0	0	3	0	**3**	0	0	17	0	0	**17**	0	**33**
1:15AM	0	0	0	0	**0**	0	0	10	0	0	**10**	0	0	0	3	0	**3**	0	1	18	0	0	**19**	0	**32**
1:30AM	0	0	0	0	**0**	0	0	8	0	0	**8**	0	0	0	1	0	**1**	0	0	16	0	0	**16**	0	**25**
1:45AM	0	0	0	0	**0**	0	0	15	0	0	**15**	0	1	0	0	0	**1**	0	0	21	0	0	**21**	0	**37**
Hourly Total	0	0	0	0	**0**	0	0	46	0	0	**46**	0	1	0	7	0	**8**	0	1	72	0	0	**73**	0	**127**
2:00AM	0	0	0	0	**0**	0	0	7	0	0	**7**	0	0	0	2	0	**2**	0	0	14	0	0	**14**	0	**23**
2:15AM	0	0	0	0	**0**	0	0	18	0	0	**18**	0	0	0	0	0	**0**	0	0	12	0	0	**12**	0	**30**
2:30AM	0	0	0	0	**0**	0	0	13	0	0	**13**	0	0	0	2	0	**2**	1	0	13	0	0	**13**	0	**28**
2:45AM	0	0	0	0	**0**	0	0	19	0	0	**19**	0	0	0	0	0	**0**	0	0	12	0	0	**12**	0	**31**
Hourly Total	0	0	0	0	**0**	0	0	57	0	0	**57**	0	0	0	4	0	**4**	1	0	51	0	0	**51**	0	**112**
3:00AM	0	0	0	0	**0**	0	0	25	0	0	**25**	0	0	0	2	0	**2**	0	0	14	0	0	**14**	0	**41**
3:15AM	0	0	0	0	**0**	0	0	31	0	0	**31**	0	0	0	0	0	**0**	0	0	21	0	0	**21**	0	**52**
3:30AM	0	0	0	0	**0**	0	0	29	0	0	**29**	0	0	0	0	0	**0**	0	0	30	0	0	**30**	1	**59**
3:45AM	0	0	0	0	**0**	0	0	44	0	0	**44**	0	0	0	0	0	**0**	0	1	33	0	0	**34**	0	**78**
Hourly Total	0	0	0	0	**0**	0	0	129	0	0	**129**	0	0	0	2	0	**2**	0	1	98	0	0	**99**	1	**230**
4:00AM	0	0	0	0	**0**	0	0	61	0	0	**61**	0	0	0	0	0	**0**	0	0	14	0	0	**14**	0	**75**
4:15AM	0	0	0	0	**0**	0	0	82	0	0	**82**	0	0	0	1	0	**1**	1	0	33	0	0	**33**	0	**116**
4:30AM	0	0	0	0	**0**	0	0	87	0	0	**87**	0	0	0	2	0	**2**	1	1	48	0	0	**49**	0	**138**
4:45AM	0	0	0	0	**0**	0	0	92	0	0	**92**	0	0	0	1	0	**1**	0	2	101	0	0	**103**	0	**196**
Hourly Total	0	0	0	0	**0**	0	0	322	0	0	**322**	0	0	0	4	0	**4**	2	3	196	0	0	**199**	0	**525**
5:00AM	0	0	0	0	**0**	0	0	107	0	0	**107**	0	1	0	4	0	**5**	0	1	69	0	0	**70**	0	**182**
5:15AM	0	0	0	0	**0**	0	0	115	0	0	**115**	0	0	0	2	0	**2**	0	0	81	0	0	**81**	0	**198**
5:30AM	0	0	0	0	**0**	0	0	103	0	0	**103**	0	0	0	0	0	**0**	1	2	166	0	0	**168**	0	**271**
5:45AM	0	0	0	0	**0**	1	0	119	0	0	**119**	0	0	0	1	0	**1**	1	3	200	0	0	**203**	0	**323**
Hourly Total	0	0	0	0	**0**	1	0	444	0	0	**444**	0	1	0	7	0	**8**	2	6	516	0	0	**522**	0	**974**
6:00AM	0	0	0	0	**0**	2	0	147	0	0	**147**	0	0	0	3	0	**3**	0	4	118	0	0	**122**	0	**272**
6:15AM	0	0	0	0	**0**	0	0	150	0	0	**150**	0	1	0	7	0	**8**	0	2	127	0	0	**129**	0	**287**
6:30AM	0	0	0	0	**0**	0	0	164	0	0	**164**	0	0	0	2	0	**2**	0	3	144	0	0	**147**	0	**313**
6:45AM	0	0	0	0	**0**	1	0	165	0	0	**165**	0	0	0	2	0	**2**	1	1	138	0	0	**139**	0	**306**
Hourly Total	0	0	0	0	**0**	3	0	626	0	0	**626**	0	1	0	14	0	**15**	1	10	527	0	0	**537**	0	**1178**
7:00AM	0	0	0	0	**0**	0	0	163	0	0	**163**	0	0	0	2	0	**2**	0	0	113	0	0	**113**	0	**278**
7:15AM	0	0	0	0	**0**	1	0	188	0	0	**188**	0	0	0	6	0	**6**	0	4	138	0	0	**142**	0	**336**
7:30AM	0	0	0	0	**0**	2	0	187	0	0	**187**	0	0	0	6	0	**6**	0	4	141	0	0	**145**	0	**338**
7:45AM	0	0	0	0	**0**	0	0	173	0	0	**173**	0	2	0	4	0	**6**	0	6	158	0	0	**164**	0	**343**
Hourly Total	0	0	0	0	**0**	3	0	711	0	0	**711**	0	2	0	18	0	**20**	0	14	550	0	0	**564**	0	**1295**
8:00AM	0	0	0	0	**0**	1	0	169	0	0	**169**	0	0	0	4	0	**4**	0	8	139	0	0	**147**	0	**320**
8:15AM	0	0	0	0	**0**	0	0	165	0	0	**165**	0	1	0	9	0	**10**	0	1	163	0	0	**164**	0	**339**
8:30AM	0	0	0	0	**0**	0	0	183	0	0	**183**	0	1	0	3	0	**4**	0	6	143	0	0	**149**	0	**336**
8:45AM	0	0	0	0	**0**	0	0	200	0	0	**200**	0	0	0	11	0	**11**	1	3	138	0	1	**142**	0	**353**
Hourly Total	0	0	0	0	**0**	1	0	717	0	0	**717**	0	2	0	27	0	**29**	1	18	583	0	1	**602**	0	**1348**
9:00AM	0	0	0	0	**0**	0	0	162	0	0	**162**	0	1	0	10	0	**11**	0	8	129	0	0	**137**	0	**310**
9:15AM	0	0	0	0	**0**	0	0	190	0	0	**190**	0	3	0	7	0	**10**	0	7	142	0	0	**149**	1	**349**
9:30AM	0	0	0	0	**0**	1	0	213	0	0	**213**	0	2	0	8	0	**10**	0	8	150	0	0	**158**	1	**381**
9:45AM	0	0	0	0	**0**	0	0	185	0	0	**185**	0	3	0	10	0	**13**	0	9	144	0	0	**153**	1	**351**
Hourly Total	0	0	0	0	**0**	1	0	750	0	0	**750**	0	9	0	35	0	**44**	0	32	565	0	0	**597**	3	**1391**
10:00AM	0	0	0	0	**0**	0	0	227	0	0	**227**	0	4	0	11	0	**15**	0	6	155	0	0	**161**	0	**403**
10:15AM	0	0	0	0	**0**	0	0	183	0	0	**183**	0	1	0	12	0	**13**	3	14	199	0	0	**213**	0	**409**
10:30AM	0	0	0	0	**0**	0	0	217	0	0	**217**	0	3	0	9	0	**12**	0	15	205	0	0	**220**	0	**449**
10:45AM	0	0	0	0	**0**	0	0	233	0	0	**233**	0	2	0	16	0	**18**	0	10	178	0	0	**188**	0	**439**
Hourly Total	0	0	0	0	**0**	0	0	860	0	0	**860**	0	10	0	48	0	**58**	3	45	737	0	0	**782**	0	**1700**
11:00AM	0	0	0	0	**0**	0	0	234	0	0	**234**	0	5	0	16	0	**21**	0	10	174	0	0	**184**	0	**439**
11:15AM	0	0	0	0	**0**	0	0	240	0	0	**240**	0	8	0	9	0	**17**	0	8	215	0	0	**223**	0	**480**
11:30AM	0	0	0	0	**0**	0	0	220	0	0	**220**	0	6	0	14	0	**20**	0	8	220	0	0	**228**	0	**468**
11:45AM	0	0	0	0	**0**	1	0	222	0	0	**222**	0	1	0	18	0	**19**	0	19	246	0	0	**265**	0	**506**
Hourly Total	0	0	0	0	**0**	1	0	916	0	0	**916**	0	20	0	57	0	**77**	0	45	855	0	0	**900**	0	**1893**
12:00PM	0	0	0	0	**0**	0	0	225	0	0	**225**	0	5	0	24	0	**29**	0	20	220	0	0	**240**	0	**494**
12:15PM	0	0	0	0	**0**	0	0	249	0	0	**249**	0	5	0	28	0	**33**	0	25	224	0	0	**249**	0	**531**
12:30PM	0	0	0	0	**0**	0	0	247	0	0	**247**	0	6	0	20	0	**26**	1	23	224	0	0	**247**	0	**520**
12:45PM	0	0	0	0	**0**	0	0	242	0	0	**242**	0	5	0	23	0	**28**	1	25	214	0	0	**239**	0	**509**
Hourly Total	0	0	0	0	**0**	0	0	963	0	0	**963**	0	21	0	95	0	**116**	2	93	882	0	0	**975**	0	**2054**
1:00PM	0	0	0	0	**0**	1	0	265	0	0	**265**	0	7	1	31	0	**39**	1	19	223	0	1	**243**	0	**547**
1:15PM	0	0	1	0	**1**	1	0	259	0	0	**259**	0	6	0	12	0	**18**	0	20	236	0	0	**256**	0	**534**
1:30PM	0	0	0	0	**0**	0	0	235	0	0	**235**	0	2	0	23	0	**25**	0	18	231	0	0	**249**	0	**509**

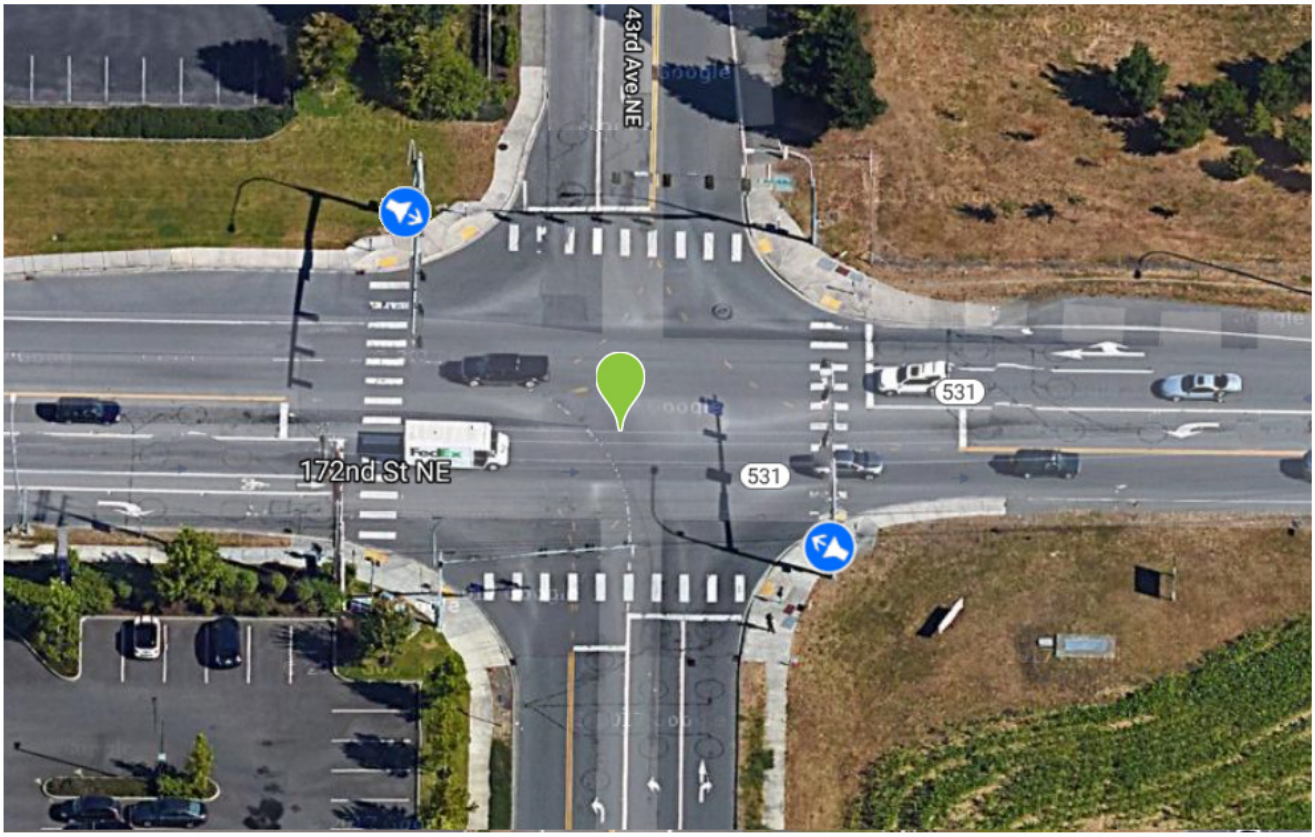
Leg	40th Ave NE (Not open yet)						SR 531 (172nd St NE)						40th Ave NE (Businesses)						SR 531 (172nd St NE)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
1:45PM	0	0	0	0	**0**	0	1	227	0	0	**228**	0	7	2	25	0	**34**	2	16	207	0	0	**223**	0	**485**
Hourly Total	0	0	1	0	**1**	2	1	986	0	0	**987**	0	22	3	91	0	**116**	3	73	897	0	1	**971**	0	**2075**
2:00PM	1	0	0	0	**1**	0	0	235	0	0	**235**	0	1	0	16	0	**17**	2	12	225	0	0	**237**	0	**490**
2:15PM	0	0	0	0	**0**	0	0	243	0	0	**243**	0	6	0	18	0	**24**	0	14	219	0	0	**233**	0	**500**
2:30PM	0	0	0	0	**0**	1	0	282	0	0	**282**	1	4	0	18	0	**22**	3	22	260	0	1	**283**	1	**587**
2:45PM	0	0	0	0	**0**	3	0	260	0	0	**260**	0	2	0	23	0	**25**	0	18	223	0	0	**241**	0	**526**
Hourly Total	1	0	0	0	**1**	4	0	1020	0	0	**1020**	1	13	0	75	0	**88**	5	66	927	0	1	**994**	1	**2103**
3:00PM	0	0	0	0	**0**	0	0	204	0	0	**204**	0	6	0	13	0	**19**	0	22	222	0	0	**244**	0	**467**
3:15PM	0	0	0	0	**0**	5	0	258	0	0	**258**	1	5	0	15	0	**20**	1	19	224	0	0	**243**	0	**521**
3:30PM	0	0	0	0	**0**	0	0	296	0	0	**296**	0	6	0	24	0	**30**	1	18	237	0	0	**255**	0	**581**
3:45PM	0	0	0	0	**0**	4	0	300	0	0	**300**	0	6	0	18	0	**24**	0	18	205	0	0	**223**	0	**547**
Hourly Total	0	0	0	0	**0**	9	0	1058	0	0	**1058**	1	23	0	70	0	**93**	2	77	888	0	0	**965**	0	**2116**
4:00PM	0	0	0	0	**0**	0	0	263	0	0	**263**	0	4	0	16	0	**20**	0	14	217	0	0	**231**	0	**514**
4:15PM	0	0	0	0	**0**	2	0	235	0	0	**235**	0	6	0	25	0	**31**	1	15	232	0	0	**247**	0	**513**
4:30PM	0	0	0	0	**0**	0	0	289	0	0	**289**	0	7	0	24	0	**31**	0	22	200	0	0	**222**	0	**542**
4:45PM	0	0	0	0	**0**	0	0	285	0	0	**285**	0	7	0	21	0	**28**	0	8	221	0	0	**229**	0	**542**
Hourly Total	0	0	0	0	**0**	2	0	1072	0	0	**1072**	0	24	0	86	0	**110**	1	59	870	0	0	**929**	0	**2111**
5:00PM	0	0	0	0	**0**	3	0	247	0	0	**247**	0	9	0	27	0	**36**	0	18	242	0	0	**260**	0	**543**
5:15PM	0	0	0	0	**0**	2	0	254	0	0	**254**	0	5	0	18	0	**23**	1	15	248	0	0	**263**	0	**540**
5:30PM	0	0	0	0	**0**	3	0	251	0	0	**251**	0	7	0	29	0	**36**	1	29	228	0	0	**257**	0	**544**
5:45PM	0	0	0	0	**0**	1	0	209	0	0	**209**	0	4	0	24	0	**28**	1	13	212	0	0	**225**	0	**462**
Hourly Total	0	0	0	0	**0**	9	0	961	0	0	**961**	0	25	0	98	0	**123**	3	75	930	0	0	**1005**	0	**2089**
6:00PM	0	0	0	0	**0**	0	0	191	0	0	**191**	0	11	0	13	0	**24**	0	17	209	0	0	**226**	0	**441**
6:15PM	0	0	0	0	**0**	0	0	196	0	0	**196**	0	8	0	20	0	**28**	2	11	225	0	0	**236**	0	**460**
6:30PM	0	0	0	0	**0**	0	0	197	0	0	**197**	0	8	0	11	0	**19**	0	19	174	0	0	**193**	0	**409**
6:45PM	0	0	0	0	**0**	1	0	166	0	0	**166**	0	7	0	17	0	**24**	2	17	185	0	0	**202**	0	**392**
Hourly Total	0	0	0	0	**0**	1	0	750	0	0	**750**	0	34	0	61	0	**95**	4	64	793	0	0	**857**	0	**1702**
7:00PM	0	0	0	0	**0**	1	0	143	0	0	**143**	0	8	0	15	0	**23**	0	14	155	0	0	**169**	4	**335**
7:15PM	0	0	0	0	**0**	0	0	143	0	0	**143**	0	11	0	11	0	**22**	1	7	168	0	0	**175**	0	**340**
7:30PM	0	0	0	0	**0**	0	0	118	0	0	**118**	0	7	0	4	0	**11**	0	10	147	0	0	**157**	0	**286**
7:45PM	0	0	0	0	**0**	0	0	109	0	0	**109**	0	4	0	11	0	**15**	0	6	136	0	0	**142**	0	**266**
Hourly Total	0	0	0	0	**0**	1	0	513	0	0	**513**	0	30	0	41	0	**71**	1	37	606	0	0	**643**	4	**1227**
8:00PM	0	0	0	0	**0**	1	0	110	0	0	**110**	0	3	0	9	0	**12**	1	6	133	0	0	**139**	0	**261**
8:15PM	0	0	0	0	**0**	0	0	94	0	0	**94**	0	2	0	13	0	**15**	0	20	126	0	0	**146**	0	**255**
8:30PM	0	0	0	0	**0**	0	0	71	0	0	**71**	0	1	0	12	0	**13**	0	4	131	0	0	**135**	0	**219**
8:45PM	0	0	0	0	**0**	0	0	76	0	0	**76**	0	3	0	13	0	**16**	2	7	112	0	0	**119**	0	**211**
Hourly Total	0	0	0	0	**0**	1	0	351	0	0	**351**	0	9	0	47	0	**56**	3	37	502	0	0	**539**	0	**946**
9:00PM	0	0	0	0	**0**	1	0	70	0	0	**70**	0	1	0	1	0	**2**	2	1	98	1	0	**100**	0	**172**
9:15PM	0	0	0	0	**0**	0	0	86	0	0	**86**	0	1	0	6	0	**7**	0	2	90	0	0	**92**	0	**185**
9:30PM	0	0	0	0	**0**	2	0	60	0	0	**60**	0	0	0	3	0	**3**	0	1	92	0	0	**93**	0	**156**
9:45PM	0	0	0	0	**0**	0	0	48	0	0	**48**	0	1	0	5	0	**6**	2	4	84	0	0	**88**	0	**142**
Hourly Total	0	0	0	0	**0**	3	0	264	0	0	**264**	0	3	0	15	0	**18**	4	8	364	1	0	**373**	0	**655**
10:00PM	0	0	0	0	**0**	0	0	55	0	0	**55**	0	1	0	7	0	**8**	0	1	57	0	0	**58**	0	**121**
10:15PM	0	0	0	0	**0**	0	0	35	0	0	**35**	0	1	0	5	0	**6**	0	2	44	0	0	**46**	0	**87**
10:30PM	0	0	0	0	**0**	1	0	35	0	0	**35**	0	0	0	10	0	**10**	0	1	49	0	0	**50**	0	**95**
10:45PM	0	0	0	0	**0**	1	0	21	0	0	**21**	0	0	0	1	0	**1**	0	0	48	0	0	**48**	0	**70**
Hourly Total	0	0	0	0	**0**	2	0	146	0	0	**146**	0	2	0	23	0	**25**	0	4	198	0	0	**202**	0	**373**
11:00PM	0	0	0	0	**0**	0	0	26	0	0	**26**	0	0	0	2	0	**2**	0	1	63	0	0	**64**	0	**92**
11:15PM	0	0	0	0	**0**	0	0	21	0	0	**21**	0	0	0	3	0	**3**	0	0	40	0	0	**40**	0	**64**
11:30PM	0	0	0	0	**0**	0	0	21	0	0	**21**	0	0	0	2	0	**2**	0	1	35	0	0	**36**	0	**59**
11:45PM	0	0	0	0	**0**	0	0	18	0	0	**18**	0	0	0	2	0	**2**	0	0	29	0	0	**29**	0	**49**
Hourly Total	0	0	0	0	**0**	0	0	86	0	0	**86**	0	0	0	9	0	**9**	0	2	167	0	0	**169**	0	**264**
Total	1	0	1	0	**2**	44	1	13808	0	0	**13809**	2	253	3	945	0	**1201**	38	776	12868	1	3	**13648**	9	**28660**
% Approach	50.0%	0%	50.0%	0%	-	-	0%	100.0%	0%	0%	-	-	21.1%	0.2%	78.7%	0%	-	-	5.7%	94.3%	0%	0%	-	-	-
% Total	0%	0%	0%	0%	**0%**	-	0%	48.2%	0%	0%	**48.2%**	-	0.9%	0%	3.3%	0%	**4.2%**	-	2.7%	44.9%	0%	0%	**47.6%**	-	-
Motorcycles	0	0	0	0	**0**	-	0	83	0	0	**83**	-	1	0	4	0	**5**	-	4	74	0	0	**78**	-	166
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0.6%	0%	0%	**0.6%**	-	0.4%	0%	0.4%	0%	**0.4%**	-	0.5%	0.6%	0%	0%	**0.6%**	-	0.6%
Lights	1	0	1	0	**2**	-	1	12838	0	0	**12839**	-	248	2	922	0	**1172**	-	743	12028	0	3	**12774**	-	26787
% Lights	100%	0%	100%	0%	**100%**	-	100%	93.0%	0%	0%	**93.0%**	-	98.0%	66.7%	97.6%	0%	**97.6%**	-	95.7%	93.5%	0%	100%	**93.6%**	-	93.5%
Single-Unit Trucks	0	0	0	0	**0**	-	0	467	0	0	**467**	-	4	0	15	0	**19**	-	12	442	0	0	**454**	-	940
% Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	3.4%	0%	0%	**3.4%**	-	1.6%	0%	1.6%	0%	**1.6%**	-	1.5%	3.4%	0%	0%	**3.3%**	-	3.3%
Articulated Trucks	0	0	0	0	**0**	-	0	382	0	0	**382**	-	0	1	3	0	**4**	-	12	308	0	0	**320**	-	706
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	2.8%	0%	0%	**2.8%**	-	0%	33.3%	0.3%	0%	**0.3%**	-	1.5%	2.4%	0%	0%	**2.3%**	-	2.5%
Buses	0	0	0	0	**0**	-	0	32	0	0	**32**	-	0	0	1	0	**1**	-	1	11	0	0	**12**	-	45
% Buses	0%	0%	0%	0%	**0%**	-	0%	0.2%	0%	0%	**0.2%**	-	0%	0%	0.1%	0%	**0.1%**	-	0.1%	0.1%	0%	0%	**0.1%**	-	0.2%
Pedestrians	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Pedestrians	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Bicycles on Road	0	0	0	0	**0**	-	0	5	0	0	**5**	-	0	0	0	0	**0**	-	4	5	1	0	**10**	-	15
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.5%	0%	100%	0%	**0.1%**	-	0.1%
Pedestrians	-	-	-	-	-	41	-	-	-	-	-	2	-	-	-	-	-	33	-	-	-	-	-	8	
% Pedestrians	-	-	-	-	-	93.2%	-	-	-	-	-	100%	-	-	-	-	-	86.8%	-	-	-	-	-	88.9%	-
Bicycles on Crosswalk	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	6.8%	-	-	-	-	-	0%	-	-	-	-	-	13.2%	-	-	-	-	-	11.1%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

SR531mp7.12_43rd_Ave_NE_2019-0710 - TMC
Wed Jul 10, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 676657, Location: 48.152292, -122.172292, Site Code: 53100712_0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US



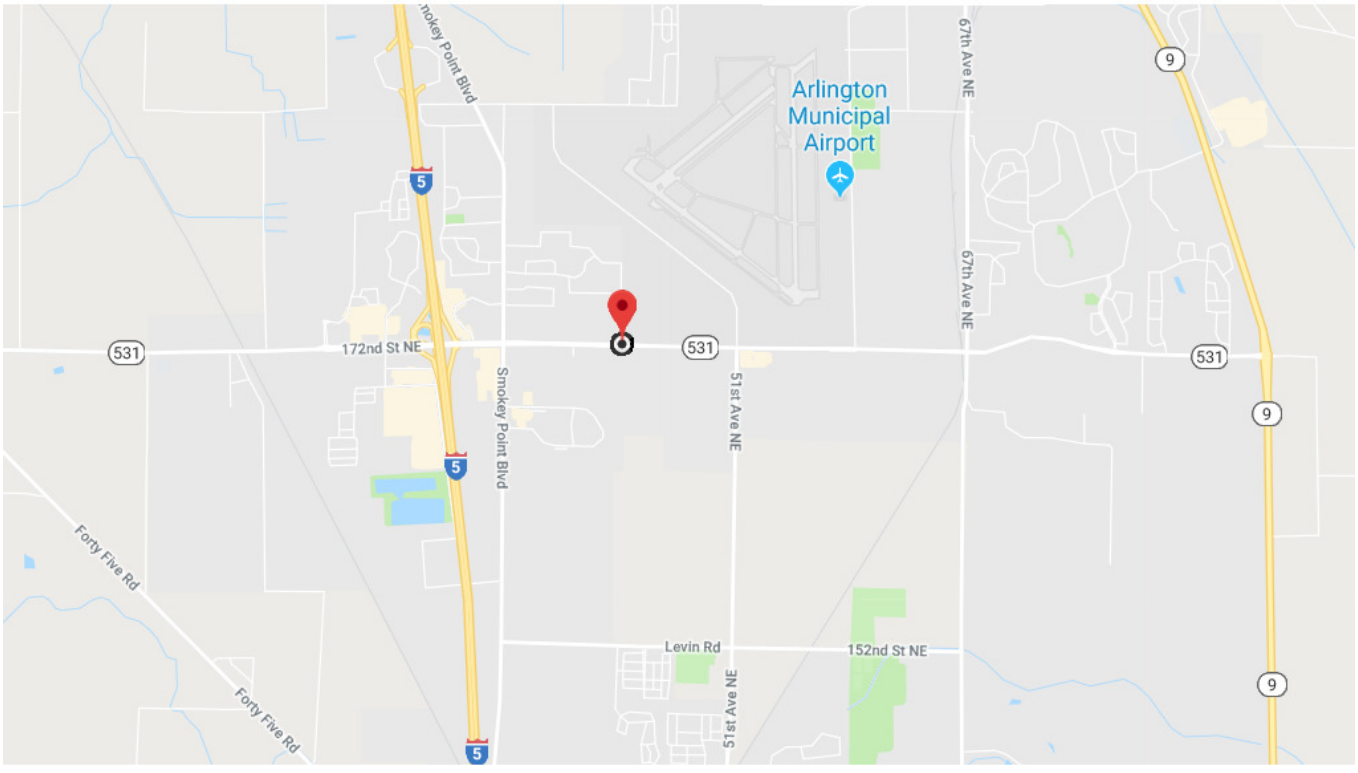
Wed Jul 10, 2019
24 h TMC

61°F Drizzle

Lat: 48.152292 N
Long: 122.172292 W

Peak Hour Factor

Scope	Time	Count	PHF
▶ AM	Wed Jul 10, 2019 10:00 AM	1,671	0.914
▶ Midday	Wed Jul 10, 2019 12:00 PM	2,142	0.944
▶ PM	Wed Jul 10, 2019 4:00 PM	2,259	0.944



SR531mp7.12_43rd_Ave_NE_2019-0710 - TMC
Wed Jul 10, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 676657, Location: 48.152292, -122.172292, Site Code: 53100712_0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

Leg	43rd Ave NE						SR 531 (172nd St NE)						43rd Ave NE						SR 531 (172nd St NE)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2019-07-10 12:00AM	2	0	0	0	**2**	0	0	8	3	0	**11**	0	3	0	4	0	**7**	0	0	27	0	1	**28**	0	**48**
12:15AM	1	0	0	0	**1**	0	0	18	3	0	**21**	0	4	0	2	0	**6**	0	0	19	0	2	**21**	0	**49**
12:30AM	0	0	0	0	**0**	0	0	8	1	0	**9**	0	3	1	4	0	**8**	0	0	21	2	0	**23**	0	**40**
12:45AM	0	0	0	0	**0**	0	0	7	3	0	**10**	0	4	1	2	0	**7**	0	0	16	0	0	**16**	0	**33**
Hourly Total	3	0	0	0	**3**	0	0	41	10	0	**51**	0	14	2	12	0	**28**	0	0	83	2	3	**88**	0	**170**
1:00AM	1	0	0	0	**1**	0	0	11	2	0	**13**	0	2	0	3	0	**5**	0	0	20	0	2	**22**	0	**41**
1:15AM	1	0	0	0	**1**	0	0	11	0	0	**11**	0	3	0	1	0	**4**	0	0	14	0	1	**15**	0	**31**
1:30AM	0	0	0	0	**0**	0	0	9	1	0	**10**	0	2	0	1	0	**3**	0	0	4	1	1	**6**	0	**19**
1:45AM	1	0	0	0	**1**	0	0	9	0	0	**9**	0	2	0	0	0	**2**	0	1	14	0	0	**15**	0	**27**
Hourly Total	3	0	0	0	**3**	0	0	40	3	0	**43**	0	9	0	5	0	**14**	0	1	52	1	4	**58**	0	**118**
2:00AM	0	0	0	0	**0**	0	0	6	0	0	**6**	0	1	0	0	0	**1**	0	1	21	1	0	**23**	0	**30**
2:15AM	0	0	1	0	**1**	0	1	16	1	0	**18**	0	5	0	1	0	**6**	0	0	14	0	0	**14**	0	**39**
2:30AM	0	0	0	0	**0**	0	0	5	0	0	**5**	0	1	0	0	0	**1**	0	0	6	0	0	**6**	0	**12**
2:45AM	0	0	1	0	**1**	0	0	14	1	0	**15**	0	0	0	0	0	**0**	0	0	12	0	0	**12**	0	**28**
Hourly Total	0	0	2	0	**2**	0	1	41	2	0	**44**	0	7	0	1	0	**8**	0	1	53	1	0	**55**	0	**109**
3:00AM	0	0	0	0	**0**	0	0	31	1	0	**32**	0	2	0	2	0	**4**	0	0	10	0	0	**10**	0	**46**
3:15AM	0	0	0	0	**0**	0	0	34	2	0	**36**	0	3	0	3	0	**6**	0	1	16	1	1	**19**	0	**61**
3:30AM	2	0	2	0	**4**	0	1	13	3	0	**17**	0	2	0	1	0	**3**	0	2	22	1	0	**25**	0	**49**
3:45AM	0	0	0	0	**0**	0	1	38	0	0	**39**	0	0	0	2	0	**2**	0	0	26	0	0	**26**	0	**67**
Hourly Total	2	0	2	0	**4**	0	2	116	6	0	**124**	0	7	0	8	0	**15**	0	3	74	2	1	**80**	0	**223**
4:00AM	0	0	0	0	**0**	0	0	62	2	0	**64**	0	1	0	2	0	**3**	0	2	22	0	0	**24**	0	**91**
4:15AM	0	0	0	0	**0**	1	0	69	0	0	**69**	0	0	0	0	0	**0**	0	0	31	0	0	**31**	0	**100**
4:30AM	2	0	0	0	**2**	0	1	95	3	0	**99**	0	0	0	2	0	**2**	0	1	40	0	0	**41**	0	**144**
4:45AM	3	0	1	0	**4**	0	1	99	3	0	**103**	0	2	0	1	0	**3**	0	2	77	0	1	**80**	0	**190**
Hourly Total	5	0	1	0	**6**	1	2	325	8	0	**335**	0	3	0	5	0	**8**	0	5	170	0	1	**176**	0	**525**
5:00AM	1	0	0	0	**1**	0	0	91	5	0	**96**	0	0	0	2	0	**2**	0	1	53	0	0	**54**	0	**153**
5:15AM	1	0	1	0	**2**	0	0	104	2	0	**106**	0	1	0	4	0	**5**	0	0	80	0	1	**81**	0	**194**
5:30AM	0	0	1	0	**1**	1	0	123	5	0	**128**	0	6	0	0	0	**6**	0	1	164	1	0	**166**	0	**301**
5:45AM	1	0	4	0	**5**	0	1	134	4	0	**139**	0	2	0	3	0	**5**	2	0	163	0	0	**163**	0	**312**
Hourly Total	3	0	6	0	**9**	1	1	452	16	0	**469**	0	9	0	9	0	**18**	2	2	460	1	1	**464**	0	**960**
6:00AM	1	0	2	0	**3**	4	1	149	3	0	**153**	0	2	0	3	0	**5**	0	1	108	0	0	**109**	0	**270**
6:15AM	0	0	5	0	**5**	0	1	154	5	0	**160**	0	5	0	5	0	**10**	0	0	122	1	0	**123**	0	**298**
6:30AM	3	0	2	0	**5**	0	2	153	2	0	**157**	0	5	1	4	0	**10**	0	3	121	1	1	**126**	0	**298**
6:45AM	1	0	4	0	**5**	3	0	147	7	0	**154**	0	1	0	6	0	**7**	0	2	162	0	0	**164**	0	**330**
Hourly Total	5	0	13	0	**18**	7	4	603	17	0	**624**	0	13	1	18	0	**32**	0	6	513	2	1	**522**	0	**1196**
7:00AM	3	1	7	0	**11**	0	2	147	4	0	**153**	0	1	1	9	0	**11**	1	5	110	0	2	**117**	0	**292**
7:15AM	6	0	3	0	**9**	2	0	188	3	0	**191**	0	4	0	6	0	**10**	0	1	126	0	1	**128**	0	**338**
7:30AM	2	0	2	0	**4**	0	2	168	6	0	**176**	0	8	0	10	0	**18**	0	2	154	0	4	**160**	1	**358**
7:45AM	6	0	2	0	**8**	0	3	171	8	0	**182**	0	7	0	9	0	**16**	0	3	146	0	1	**150**	0	**356**
Hourly Total	17	1	14	0	**32**	2	7	674	21	0	**702**	0	20	1	34	0	**55**	1	11	536	0	8	**555**	1	**1344**
8:00AM	3	1	2	0	**6**	0	0	173	7	0	**180**	0	9	2	7	0	**18**	0	4	140	1	0	**145**	0	**349**
8:15AM	4	1	1	0	**6**	0	3	169	5	0	**177**	0	8	0	15	0	**23**	0	3	102	3	3	**111**	1	**317**
8:30AM	2	0	1	0	**3**	0	1	192	10	0	**203**	0	10	1	10	0	**21**	0	2	157	0	2	**161**	1	**388**
8:45AM	5	1	2	0	**8**	0	3	179	19	0	**201**	0	11	0	14	0	**25**	0	5	147	1	0	**153**	0	**387**
Hourly Total	14	3	6	0	**23**	0	7	713	41	0	**761**	0	38	3	46	0	**87**	0	14	546	5	5	**570**	2	**1441**
9:00AM	2	0	3	0	**5**	9	3	182	9	0	**194**	0	12	0	8	0	**20**	0	8	108	0	0	**116**	0	**335**
9:15AM	3	1	1	0	**5**	0	4	169	15	0	**188**	0	14	0	27	0	**41**	0	5	115	2	5	**127**	0	**361**
9:30AM	4	0	5	0	**9**	5	2	169	13	0	**184**	0	16	0	24	0	**40**	0	3	148	1	3	**155**	0	**388**
9:45AM	3	0	5	0	**8**	0	2	165	23	0	**190**	0	13	0	28	0	**41**	0	4	112	3	4	**123**	0	**362**
Hourly Total	12	1	14	0	**27**	14	11	685	60	0	**756**	0	55	0	87	0	**142**	0	20	483	6	12	**521**	0	**1446**
10:00AM	8	1	2	0	**11**	0	1	191	17	0	**209**	0	12	1	28	0	**41**	0	3	113	2	6	**124**	0	**385**
10:15AM	0	0	4	0	**4**	0	1	212	25	0	**238**	0	19	0	26	0	**45**	0	4	122	3	5	**134**	0	**421**
10:30AM	3	0	5	0	**8**	0	1	175	27	0	**203**	0	24	0	25	0	**49**	0	3	141	2	2	**148**	0	**408**
10:45AM	2	1	3	0	**6**	0	2	176	19	0	**197**	0	28	0	40	0	**68**	0	14	163	5	4	**186**	0	**457**
Hourly Total	13	2	14	0	**29**	0	5	754	88	0	**847**	0	83	1	119	0	**203**	0	24	539	12	17	**592**	0	**1671**
11:00AM	1	3	1	0	**5**	0	1	216	26	0	**243**	0	28	2	32	0	**62**	0	3	162	0	2	**167**	1	**477**
11:15AM	6	0	2	0	**8**	0	5	181	20	0	**206**	0	29	3	42	0	**74**	0	7	180	8	5	**200**	0	**488**
11:30AM	4	0	8	0	**12**	0	3	235	22	0	**260**	0	23	2	46	0	**71**	0	9	181	3	6	**199**	0	**542**
11:45AM	3	0	3	0	**6**	0	2	221	22	0	**245**	0	32	1	41	0	**74**	0	6	180	3	5	**194**	2	**519**
Hourly Total	14	3	14	0	**31**	0	11	853	90	0	**954**	0	112	8	161	0	**281**	0	25	703	14	18	**760**	3	**2026**
12:00PM	4	0	4	0	**8**	2	5	173	30	0	**208**	0	27	2	39	0	**68**	0	8	176	2	5	**191**	0	**475**
12:15PM	3	2	4	0	**9**	1	3	224	38	0	**265**	0	37	0	49	0	**86**	0	11	188	2	2	**203**	0	**563**
12:30PM	4	2	3	0	**9**	0	3	208	35	0	**246**	0	37	0	49	0	**86**	0	16	174	3	3	**196**	0	**537**
12:45PM	1	1	1	0	**3**	1	3	173	39	0	**215**	0	65	5	74	0	**144**	0	19	177	2	7	**205**	0	**567**
Hourly Total	12	5	12	0	**29**	4	14	778	142	0	**934**	0	166	7	211	0	**384**	0	54	715	9	17	**795**	0	**2142**
1:00PM	2	2	1	0	**5**	0	1	195	36	0	**232**	0	37	4	64	0	**105**	0	11	187	1	3	**202**	0	**544**
1:15PM	3	0	0	0	**3**	0	5	197	21	0	**223**	0	47	3	45	0	**95**	1	7	174	0	5	**186**	1	**507**
1:30PM	1	4	6	0	**11**	1	3	198	35	0	**236**	0	53	1	55	0	**109**	0	5	192	4	11	**212**	2	**568**
1:45PM	9	0	1	0	**10**	0	4	192	19	0	**215**	0	36	1	44	0	**81**	1	14	199	4	8	**225**	0	**531**
Hourly Total	15	6	8	0	**29**	1	13	782	111	0	**906**	0	173	9	208	0	**390**	2	37	752	9	27	**825**	3	**2150**
2:00PM	2	0	4	0	**6**	0	1	192	24	0	**217**	0	40	0	52	0	**92**	0	6	172	3	6	**187**	2	**502**

Leg	43rd Ave NE						SR 531 (172nd St NE)						43rd Ave NE						SR 531 (172nd St NE)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2:15PM	4	1	1	0	**6**	0	1	205	20	0	**226**	0	44	2	58	0	**104**	0	10	208	3	4	**225**	0	**561**
2:30PM	7	1	0	0	**8**	3	2	221	30	0	**253**	0	42	0	48	0	**90**	0	11	178	4	5	**198**	1	**549**
2:45PM	4	3	3	0	**10**	0	3	194	40	0	**237**	1	38	2	60	0	**100**	1	4	173	2	8	**187**	2	**534**
Hourly Total	17	5	8	0	**30**	3	7	812	114	0	**933**	1	164	4	218	0	**386**	1	31	731	12	23	**797**	5	**2146**
3:00PM	1	1	0	0	**2**	0	2	149	16	0	**167**	0	43	2	51	0	**96**	1	6	193	3	3	**205**	0	**470**
3:15PM	4	2	2	0	**8**	0	2	206	28	0	**236**	1	47	4	63	0	**114**	2	8	182	0	9	**199**	2	**557**
3:30PM	3	2	2	0	**7**	0	2	202	27	0	**231**	0	41	9	68	0	**118**	0	13	150	6	5	**174**	0	**530**
3:45PM	3	1	2	0	**6**	1	5	198	31	0	**234**	0	30	2	36	0	**68**	1	7	200	3	4	**214**	2	**522**
Hourly Total	11	6	6	0	**23**	1	11	755	102	0	**868**	1	161	17	218	0	**396**	4	34	725	12	21	**792**	4	**2079**
4:00PM	3	2	3	0	**8**	0	4	216	33	0	**253**	0	52	2	67	0	**121**	0	9	198	3	6	**216**	0	**598**
4:15PM	5	0	1	0	**6**	2	4	208	31	0	**243**	0	54	2	73	0	**129**	0	6	170	6	6	**188**	0	**566**
4:30PM	3	1	0	0	**4**	1	3	229	35	0	**267**	0	48	2	51	0	**101**	0	6	178	3	3	**190**	1	**562**
4:45PM	3	1	3	0	**7**	0	6	215	31	0	**252**	0	35	4	42	0	**81**	0	8	177	7	2	**194**	0	**534**
Hourly Total	14	4	7	0	**25**	3	17	868	130	0	**1015**	0	189	10	233	0	**432**	0	29	723	19	17	**788**	1	**2260**
5:00PM	0	0	3	0	**3**	0	3	198	24	0	**225**	0	53	1	60	0	**114**	0	6	179	10	4	**199**	0	**541**
5:15PM	2	0	3	0	**5**	2	7	220	32	0	**259**	1	44	1	39	0	**84**	0	3	200	4	3	**210**	0	**558**
5:30PM	4	0	9	0	**13**	0	5	160	24	0	**189**	0	38	1	48	0	**87**	0	7	183	3	7	**200**	0	**489**
5:45PM	2	0	4	0	**6**	0	2	178	29	0	**209**	0	38	3	37	0	**78**	1	8	201	4	4	**217**	0	**510**
Hourly Total	8	0	19	0	**27**	2	17	756	109	0	**882**	1	173	6	184	0	**363**	1	24	763	21	18	**826**	0	**2098**
6:00PM	7	2	3	0	**12**	0	8	167	22	0	**197**	0	42	3	47	0	**92**	0	7	163	5	2	**177**	0	**478**
6:15PM	3	2	5	0	**10**	0	5	156	18	0	**179**	0	40	2	43	0	**85**	0	4	184	2	1	**191**	0	**465**
6:30PM	6	3	3	0	**12**	0	2	154	19	0	**175**	0	39	5	24	0	**68**	0	5	184	9	1	**199**	0	**454**
6:45PM	8	1	5	0	**14**	1	5	112	21	0	**138**	0	27	1	33	0	**61**	0	3	155	4	4	**166**	1	**379**
Hourly Total	24	8	16	0	**48**	1	20	589	80	0	**689**	0	148	11	147	0	**306**	0	19	686	20	8	**733**	1	**1776**
7:00PM	7	2	3	0	**12**	0	1	125	14	0	**140**	0	28	0	25	0	**53**	0	4	116	7	1	**128**	0	**333**
7:15PM	2	1	2	0	**5**	2	4	95	15	0	**114**	0	41	3	33	0	**77**	0	1	137	1	2	**141**	1	**337**
7:30PM	3	1	0	0	**4**	0	1	104	25	0	**130**	0	26	1	30	0	**57**	0	1	135	4	4	**144**	0	**335**
7:45PM	2	0	2	0	**4**	0	1	77	13	0	**91**	0	28	2	31	0	**61**	1	5	125	2	5	**137**	1	**293**
Hourly Total	14	4	7	0	**25**	2	7	401	67	0	**475**	0	123	6	119	0	**248**	1	11	513	14	12	**550**	2	**1298**
8:00PM	2	1	1	0	**4**	0	4	98	17	0	**119**	0	41	1	25	0	**67**	0	3	126	4	2	**135**	0	**325**
8:15PM	1	1	1	0	**3**	0	1	73	8	0	**82**	0	21	1	24	0	**46**	2	4	109	5	6	**124**	0	**255**
8:30PM	5	0	5	0	**10**	0	4	66	16	0	**86**	0	30	1	17	0	**48**	0	2	97	1	2	**102**	0	**246**
8:45PM	3	0	0	0	**3**	1	1	63	12	0	**76**	0	17	0	23	0	**40**	0	3	80	5	0	**88**	0	**207**
Hourly Total	11	2	7	0	**20**	1	10	300	53	0	**363**	0	109	3	89	0	**201**	2	12	412	15	10	**449**	0	**1033**
9:00PM	0	1	2	0	**3**	0	2	60	14	0	**76**	0	24	2	13	0	**39**	1	3	102	2	2	**109**	0	**227**
9:15PM	3	0	2	0	**5**	2	1	56	7	0	**64**	1	18	1	21	0	**40**	0	2	68	2	2	**74**	0	**183**
9:30PM	0	0	0	0	**0**	0	1	48	8	0	**57**	0	16	0	14	0	**30**	0	3	58	0	2	**63**	0	**150**
9:45PM	1	1	0	0	**2**	0	1	33	12	0	**46**	0	12	1	16	0	**29**	0	1	65	2	1	**69**	1	**146**
Hourly Total	4	2	4	0	**10**	2	5	197	41	0	**243**	1	70	4	64	0	**138**	1	9	293	6	7	**315**	1	**706**
10:00PM	2	0	5	0	**7**	0	1	29	7	0	**37**	1	13	2	14	0	**29**	1	0	59	2	2	**63**	0	**136**
10:15PM	0	0	0	0	**0**	0	0	22	3	0	**25**	0	12	1	10	0	**23**	0	3	58	0	2	**63**	0	**111**
10:30PM	0	0	0	0	**0**	0	1	24	7	0	**32**	0	11	0	5	0	**16**	0	1	51	0	1	**53**	0	**101**
10:45PM	1	0	0	0	**1**	1	0	24	1	0	**25**	0	7	0	8	0	**15**	0	0	43	2	0	**45**	1	**86**
Hourly Total	3	0	5	0	**8**	1	2	99	18	0	**119**	1	43	3	37	0	**83**	1	4	211	4	5	**224**	1	**434**
11:00PM	2	0	1	0	**3**	0	1	26	7	0	**34**	0	4	0	8	0	**12**	0	0	41	0	2	**43**	0	**92**
11:15PM	0	0	1	0	**1**	0	0	19	5	0	**24**	0	5	1	9	0	**15**	0	1	42	0	0	**43**	1	**83**
11:30PM	0	0	0	0	**0**	0	0	11	1	0	**12**	0	6	0	2	0	**8**	0	0	27	1	1	**29**	0	**49**
11:45PM	2	0	0	0	**2**	0	0	18	0	0	**18**	0	5	0	6	0	**11**	0	0	27	0	0	**27**	0	**58**
Hourly Total	4	0	2	0	**6**	0	1	74	13	0	**88**	0	20	1	25	0	**46**	0	1	137	1	3	**142**	1	**282**
Total	228	52	187	0	**467**	46	175	11708	1342	0	**13225**	5	1909	97	2258	0	**4264**	16	377	10873	188	239	**11677**	25	**29633**
% Approach	48.8%	11.1%	40.0%	0%	**-**	-	1.3%	88.5%	10.1%	0%	**-**	-	44.8%	2.3%	53.0%	0%	**-**	-	3.2%	93.1%	1.6%	2.0%	**-**	-	-
% Total	0.8%	0.2%	0.6%	0%	**1.6%**	-	0.6%	39.5%	4.5%	0%	**44.6%**	-	6.4%	0.3%	7.6%	0%	**14.4%**	-	1.3%	36.7%	0.6%	0.8%	**39.4%**	-	-
Motorcycles	0	0	1	0	**1**	-	0	16	2	0	**18**	-	4	1	1	0	**6**	-	0	22	0	0	**22**	-	47
% Motorcycles	0%	0%	0.5%	0%	**0.2%**	-	0%	0.1%	0.1%	0%	**0.1%**	-	0.2%	1.0%	0%	0%	**0.1%**	-	0%	0.2%	0%	0%	**0.2%**	-	0.2%
Lights	228	51	186	0	**465**	-	173	10995	1322	0	**12490**	-	1881	96	2220	0	**4197**	-	370	10235	188	239	**11032**	-	28184
% Lights	100%	98.1%	99.5%	0%	**99.6%**	-	98.9%	93.9%	98.5%	0%	**94.4%**	-	98.5%	99.0%	98.3%	0%	**98.4%**	-	98.1%	94.1%	100%	100%	**94.5%**	-	95.1%
Single-Unit Trucks	0	1	0	0	**1**	-	1	399	12	0	**412**	-	19	0	22	0	**41**	-	5	344	0	0	**349**	-	803
% Single-Unit Trucks	0%	1.9%	0%	0%	**0.2%**	-	0.6%	3.4%	0.9%	0%	**3.1%**	-	1.0%	0%	1.0%	0%	**1.0%**	-	1.3%	3.2%	0%	0%	**3.0%**	-	2.7%
Articulated Trucks	0	0	0	0	**0**	-	1	268	3	0	**272**	-	1	0	11	0	**12**	-	2	254	0	0	**256**	-	540
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0.6%	2.3%	0.2%	0%	**2.1%**	-	0.1%	0%	0.5%	0%	**0.3%**	-	0.5%	2.3%	0%	0%	**2.2%**	-	1.8%
Buses	0	0	0	0	**0**	-	0	27	2	0	**29**	-	3	0	4	0	**7**	-	0	16	0	0	**16**	-	52
% Buses	0%	0%	0%	0%	**0%**	-	0%	0.2%	0.1%	0%	**0.2%**	-	0.2%	0%	0.2%	0%	**0.2%**	-	0%	0.1%	0%	0%	**0.1%**	-	0.2%
Bicycles on Road	0	0	0	0	**0**	-	0	3	1	0	**4**	-	1	0	0	0	**1**	-	0	2	0	0	**2**	-	7
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0.1%	0%	**0%**	-	0.1%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	39	-	-	-	-	-	2	-	-	-	-	-	13	-	-	-	-	-	21	
% Pedestrians	-	-	-	-	-	-84.8%	-	-	-	-	-40.0%		-	-	-	-	-81.3%		-	-	-	-	-84.0%		-
Bicycles on Crosswalk	-	-	-	-	-	7	-	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	4	
% Bicycles on Crosswalk	-	-	-	-	-	-15.2%	-	-	-	-	-60.0%		-	-	-	-	-18.8%		-	-	-	-	-16.0%		-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

SR531mp7.62_51st_Ave_NE_2019-0710 - TMC
Wed Jul 10, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 676655, Location: 48.152117, -122.161569, Site Code: 53100762_0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

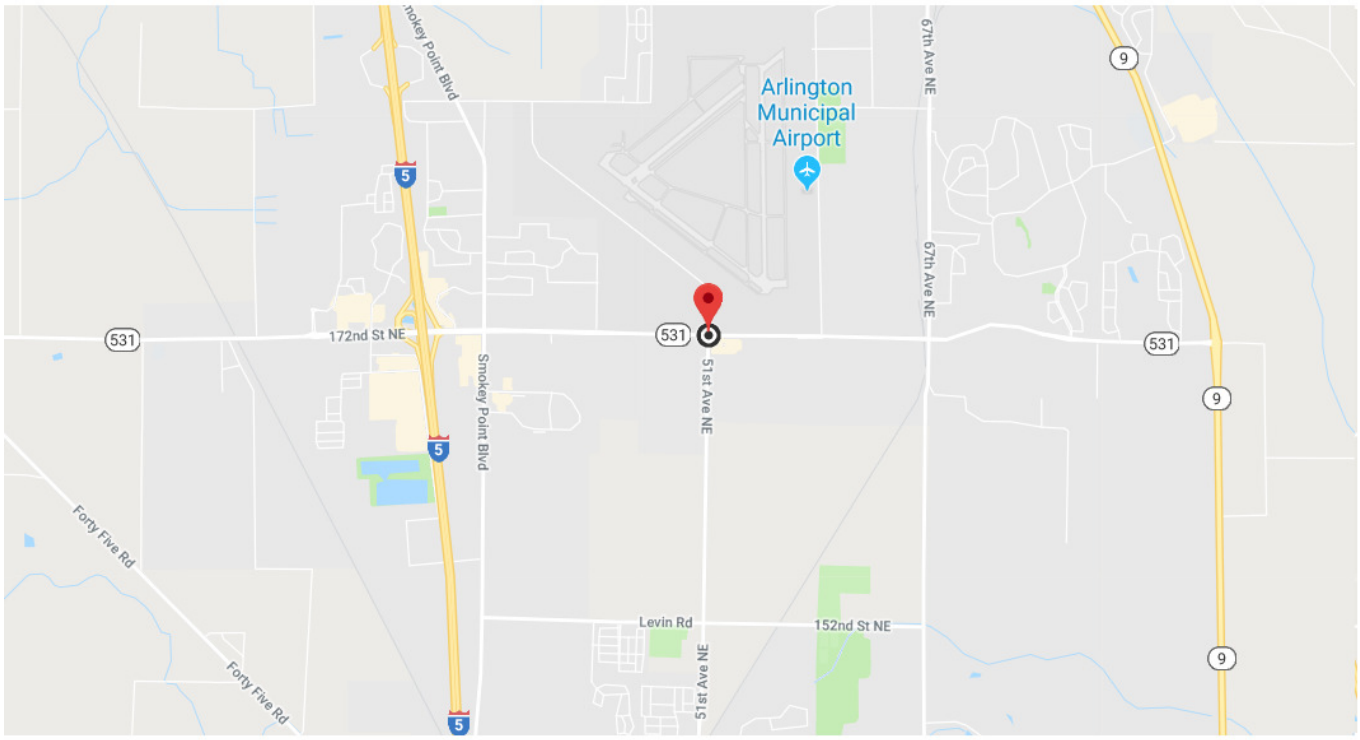
Wed Jul 10, 2019
24 h TMC

61°F Drizzle

Lat: 48.152117 N
Long: 122.161569 W

Peak Hour Factor

Scope	Time	Count	PHF
▶ AM	Wed Jul 10, 2019 10:00 AM	1,672	0.959
▶ Midday	Wed Jul 10, 2019 11:30 AM	2,062	0.978
▶ PM	Wed Jul 10, 2019 4:00 PM	2,272	0.956



SR531mp7.62_51st_Ave_NE_2019-0710 - TMC
Wed Jul 10, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 676655, Location: 48.152117, -122.161569, Site Code: 53100762_0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

Leg	51st Ave NE						SR 531 (172nd St NE)						51st Ave NE						SR 531 (172nd St NE)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2019-07-10 12:00AM	0	0	1	0	**1**	0	1	12	0	0	**13**	0	2	1	0	0	**3**	0	3	30	0	0	**33**	0	**50**
12:15AM	1	0	1	0	**2**	0	1	16	1	0	**18**	0	1	0	3	0	**4**	0	0	21	0	0	**21**	0	**45**
12:30AM	0	0	1	0	**1**	0	1	4	2	0	**7**	0	0	0	4	0	**4**	0	1	24	0	0	**25**	0	**37**
12:45AM	0	1	1	0	**2**	0	1	10	1	0	**12**	0	0	0	1	0	**1**	0	2	15	3	0	**20**	0	**35**
Hourly Total	1	1	4	0	**6**	0	4	42	4	0	**50**	0	3	1	8	0	**12**	0	6	90	3	0	**99**	0	**167**
1:00AM	0	0	0	0	**0**	0	0	12	1	0	**13**	0	0	0	0	0	**0**	0	2	22	0	0	**24**	0	**37**
1:15AM	0	0	0	0	**0**	0	0	11	0	0	**11**	0	0	0	1	0	**1**	0	2	15	0	0	**17**	0	**29**
1:30AM	0	0	1	0	**1**	0	1	7	0	0	**8**	0	0	0	2	0	**2**	0	1	5	0	0	**6**	0	**17**
1:45AM	0	1	0	0	**1**	0	0	7	0	0	**7**	0	0	0	2	0	**2**	0	3	12	1	0	**16**	0	**26**
Hourly Total	0	1	1	0	**2**	0	1	37	1	0	**39**	0	0	0	5	0	**5**	0	8	54	1	0	**63**	0	**109**
2:00AM	1	1	1	0	**3**	0	0	7	0	0	**7**	0	0	0	0	0	**0**	0	2	19	0	0	**21**	0	**31**
2:15AM	0	0	0	0	**0**	0	0	12	0	0	**12**	0	0	0	4	0	**4**	0	3	17	0	0	**20**	0	**36**
2:30AM	0	0	0	0	**0**	0	0	6	2	0	**8**	0	1	0	1	0	**2**	0	1	4	2	0	**7**	0	**17**
2:45AM	0	1	1	0	**2**	0	1	15	1	0	**17**	0	2	0	0	0	**2**	0	3	10	1	0	**14**	0	**35**
Hourly Total	1	2	2	0	**5**	0	1	40	3	0	**44**	0	3	0	5	0	**8**	0	9	50	3	0	**62**	0	**119**
3:00AM	6	1	1	0	**8**	0	1	27	2	0	**30**	0	3	0	1	0	**4**	0	2	9	1	0	**12**	0	**54**
3:15AM	1	1	1	0	**3**	0	1	27	0	0	**28**	0	1	0	5	0	**6**	0	1	16	0	0	**17**	0	**54**
3:30AM	1	0	0	0	**1**	0	0	15	0	0	**15**	0	2	0	2	0	**4**	0	4	23	0	0	**27**	0	**47**
3:45AM	0	2	0	0	**2**	0	0	38	2	0	**40**	0	5	0	1	0	**6**	0	0	26	0	0	**26**	1	**74**
Hourly Total	8	4	2	0	**14**	0	2	107	4	0	**113**	0	11	0	9	0	**20**	0	7	74	1	0	**82**	1	**229**
4:00AM	0	0	0	0	**0**	0	1	57	1	0	**59**	0	2	0	8	0	**10**	0	0	23	0	0	**23**	0	**92**
4:15AM	0	0	2	0	**2**	0	0	68	1	0	**69**	0	3	1	5	0	**9**	0	2	28	0	0	**30**	0	**110**
4:30AM	0	1	1	0	**2**	0	1	89	0	0	**90**	0	3	1	10	0	**14**	0	1	40	0	0	**41**	0	**147**
4:45AM	1	3	3	0	**7**	0	5	91	4	0	**100**	0	8	1	11	0	**20**	0	6	70	5	0	**81**	0	**208**
Hourly Total	1	4	6	0	**11**	0	7	305	6	0	**318**	0	16	3	34	0	**53**	0	9	161	5	0	**175**	0	**557**
5:00AM	2	0	4	0	**6**	0	1	90	2	0	**93**	0	7	1	8	0	**16**	0	1	48	2	0	**51**	0	**166**
5:15AM	0	0	2	0	**2**	0	3	88	2	0	**93**	0	17	2	17	0	**36**	0	1	79	2	0	**82**	0	**213**
5:30AM	1	3	3	0	**7**	1	6	122	3	0	**131**	0	13	6	12	0	**31**	0	3	153	10	0	**166**	0	**335**
5:45AM	0	4	6	0	**10**	1	12	124	10	0	**146**	0	29	7	16	0	**52**	0	4	151	11	0	**166**	0	**374**
Hourly Total	3	7	15	0	**25**	2	22	424	17	0	**463**	0	66	16	53	0	**135**	0	9	431	25	0	**465**	0	**1088**
6:00AM	1	4	10	0	**15**	1	3	133	2	0	**138**	1	11	4	16	0	**31**	0	8	107	5	0	**120**	0	**304**
6:15AM	2	5	7	0	**14**	1	3	145	4	0	**152**	0	6	2	23	0	**31**	0	3	120	0	0	**123**	0	**320**
6:30AM	2	1	7	0	**10**	1	4	130	5	0	**139**	0	22	1	25	0	**48**	0	9	103	4	0	**116**	0	**313**
6:45AM	3	6	6	0	**15**	0	10	145	11	0	**166**	0	24	5	12	0	**41**	0	10	162	12	0	**184**	0	**406**
Hourly Total	8	16	30	0	**54**	3	20	553	22	0	**595**	1	63	12	76	0	**151**	0	30	492	21	0	**543**	0	**1343**
7:00AM	2	7	8	0	**17**	0	4	126	12	0	**142**	1	19	4	24	0	**47**	1	9	100	5	0	**114**	0	**320**
7:15AM	5	5	6	0	**16**	0	5	164	11	0	**180**	0	13	5	22	0	**40**	0	10	117	8	0	**135**	0	**371**
7:30AM	4	6	9	0	**19**	2	9	153	9	0	**171**	0	16	5	20	0	**41**	0	8	151	5	0	**164**	0	**395**
7:45AM	4	3	4	0	**11**	2	14	163	11	0	**188**	0	25	9	26	0	**60**	0	12	145	8	0	**165**	0	**424**
Hourly Total	15	21	27	0	**63**	4	32	606	43	0	**681**	1	73	23	92	0	**188**	1	39	513	26	0	**578**	0	**1510**
8:00AM	1	1	4	0	**6**	0	2	148	3	0	**153**	0	13	5	22	0	**40**	0	21	124	7	1	**153**	0	**352**
8:15AM	6	2	11	0	**19**	0	8	165	11	0	**184**	0	17	3	20	0	**40**	0	9	92	2	0	**103**	0	**346**
8:30AM	2	6	6	0	**14**	0	5	177	10	0	**192**	0	12	2	25	0	**39**	0	9	148	5	0	**162**	0	**407**
8:45AM	4	6	11	0	**21**	1	12	160	10	0	**182**	0	13	7	36	0	**56**	0	18	123	15	0	**156**	0	**415**
Hourly Total	13	15	32	0	**60**	1	27	650	34	0	**711**	0	55	17	103	0	**175**	0	57	487	29	1	**574**	0	**1520**
9:00AM	3	4	8	0	**15**	0	6	161	7	0	**174**	0	13	4	22	0	**39**	0	15	105	4	0	**124**	0	**352**
9:15AM	3	4	5	0	**12**	0	6	165	9	0	**180**	0	8	5	21	0	**34**	0	13	111	10	0	**134**	0	**360**
9:30AM	9	11	6	0	**26**	0	4	162	15	0	**181**	0	16	4	25	0	**45**	0	25	121	9	0	**155**	0	**407**
9:45AM	2	5	6	0	**13**	0	3	154	8	0	**165**	0	16	11	27	0	**54**	0	25	109	8	0	**142**	0	**374**
Hourly Total	17	24	25	0	**66**	0	19	642	39	0	**700**	0	53	24	95	0	**172**	0	78	446	31	0	**555**	0	**1493**
10:00AM	8	4	6	0	**18**	0	6	156	12	0	**174**	2	16	4	39	0	**59**	0	15	105	5	0	**125**	0	**376**
10:15AM	9	5	13	0	**27**	0	2	197	7	0	**206**	0	12	8	34	0	**54**	0	23	117	9	0	**149**	0	**436**
10:30AM	11	6	14	0	**31**	0	4	158	11	0	**173**	0	17	3	34	0	**54**	0	26	139	8	0	**173**	0	**431**
10:45AM	10	3	8	1	**22**	0	5	158	23	0	**186**	0	6	8	27	0	**41**	0	26	146	8	0	**180**	0	**429**
Hourly Total	38	18	41	1	**98**	0	17	669	53	0	**739**	2	51	23	134	0	**208**	0	90	507	30	0	**627**	0	**1672**
11:00AM	10	9	11	0	**30**	0	3	197	10	0	**210**	1	17	13	28	0	**58**	0	23	165	4	0	**192**	0	**490**
11:15AM	4	4	7	0	**15**	0	5	179	13	0	**197**	1	26	13	31	0	**70**	0	32	149	12	0	**193**	0	**475**
11:30AM	13	8	10	0	**31**	0	2	214	19	0	**235**	0	13	3	33	0	**49**	0	30	158	12	0	**200**	0	**515**
11:45AM	15	13	6	0	**34**	0	7	185	17	0	**209**	0	15	5	35	0	**55**	0	25	187	17	0	**229**	0	**527**
Hourly Total	42	34	34	0	**110**	0	17	775	59	0	**851**	2	71	34	127	0	**232**	0	110	659	45	0	**814**	0	**2007**
12:00PM	11	6	12	0	**29**	1	9	176	16	0	**201**	0	14	6	36	0	**56**	0	24	171	13	0	**208**	0	**494**
12:15PM	14	6	13	0	**33**	0	6	193	11	0	**210**	0	14	8	46	0	**68**	0	37	169	9	0	**215**	0	**526**
12:30PM	10	11	10	0	**31**	0	5	181	13	0	**199**	0	19	7	49	0	**75**	0	36	163	8	0	**207**	0	**512**
12:45PM	9	6	9	0	**24**	0	11	167	8	0	**186**	0	17	7	37	0	**61**	0	37	201	11	0	**249**	0	**520**
Hourly Total	44	29	44	0	**117**	1	31	717	48	0	**796**	0	64	28	168	0	**260**	0	134	704	41	0	**879**	0	**2052**
1:00PM	8	6	12	0	**26**	0	8	189	10	0	**207**	0	20	5	39	0	**64**	0	32	194	10	0	**236**	0	**533**
1:15PM	9	4	4	0	**17**	0	11	177	13	0	**201**	0	13	8	35	0	**56**	1	41	174	9	0	**224**	0	**498**
1:30PM	11	10	7	0	**28**	0	5	197	12	0	**214**	0	18	7	31	0	**56**	0	39	186	9	0	**234**	0	**532**
1:45PM	9	12	5	0	**26**	0	3	157	14	0	**174**	0	18	5	42	0	**65**	1	34	178	8	0	**220**	0	**485**
Hourly Total	37	32	28	0	**97**	0	27	720	49	0	**796**	0	69	25	147	0	**241**	2	146	732	36	0	**914**	0	**2048**
2:00PM	4	7	2	0	**13**	0	4	190	12	0	**206**	0	9	6	38	0	**53**	0	30	208	11	0	**249**	0	**521**
2:15PM	12	5	5	0	**22**	2	8	175	12	0	**195**	0	15	7	28	0	**50**	0	36	190	11	0	**237**	0	**504**

Leg	51st Ave NE						SR 531 (172nd St NE)						51st Ave NE						SR 531 (172nd St NE)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2:30PM	8	13	13	0	**34**	0	6	191	17	0	**214**	0	24	10	48	0	**82**	1	45	173	11	0	**229**	1	**559**
2:45PM	6	4	6	0	**16**	2	10	207	23	0	**240**	2	17	10	21	0	**48**	0	44	181	8	0	**233**	0	**537**
Hourly Total	30	29	26	0	**85**	4	28	763	64	0	**855**	2	65	33	135	0	**233**	1	155	752	41	0	**948**	1	**2121**
3:00PM	3	6	12	0	**21**	1	9	147	12	0	**168**	1	28	9	31	0	**68**	0	47	170	8	0	**225**	0	**482**
3:15PM	8	5	4	0	**17**	1	7	175	26	0	**208**	0	21	8	45	0	**74**	0	43	164	13	0	**220**	0	**519**
3:30PM	9	15	11	0	**35**	0	7	200	17	0	**224**	0	29	10	35	0	**74**	0	41	170	10	0	**221**	0	**554**
3:45PM	5	12	9	0	**26**	1	5	191	21	0	**217**	0	12	15	36	0	**63**	0	45	158	12	0	**215**	0	**521**
Hourly Total	25	38	36	0	**99**	3	28	713	76	0	**817**	1	90	42	147	0	**279**	0	176	662	43	0	**881**	0	**2076**
4:00PM	15	8	5	0	**28**	0	12	207	11	0	**230**	0	22	10	39	0	**71**	0	37	192	11	0	**240**	0	**569**
4:15PM	14	15	3	0	**32**	0	6	200	21	0	**227**	0	11	15	40	0	**66**	2	40	175	5	0	**220**	2	**545**
4:30PM	27	16	27	0	**70**	1	7	206	21	0	**234**	0	20	19	24	0	**63**	0	39	175	13	0	**227**	0	**594**
4:45PM	15	11	11	0	**37**	0	3	199	19	0	**221**	0	22	12	38	0	**72**	0	43	187	4	0	**234**	0	**564**
Hourly Total	71	50	46	0	**167**	1	28	812	72	0	**912**	0	75	56	141	0	**272**	2	159	729	33	0	**921**	2	**2272**
5:00PM	10	12	9	0	**31**	0	6	192	14	0	**212**	1	25	10	38	0	**73**	0	40	173	14	0	**227**	0	**543**
5:15PM	8	6	2	0	**16**	2	5	194	13	0	**212**	2	17	6	36	0	**59**	0	36	196	14	0	**246**	0	**533**
5:30PM	4	12	5	0	**21**	0	7	148	13	0	**168**	0	15	12	41	0	**68**	1	30	211	5	0	**246**	0	**503**
5:45PM	7	6	8	0	**21**	0	6	166	13	0	**185**	0	16	14	35	0	**65**	0	33	183	6	0	**222**	0	**493**
Hourly Total	29	36	24	0	**89**	2	24	700	53	0	**777**	3	73	42	150	0	**265**	1	139	763	39	0	**941**	0	**2072**
6:00PM	3	7	5	0	**15**	0	8	157	16	0	**181**	0	12	8	27	0	**47**	0	40	186	8	0	**234**	0	**477**
6:15PM	10	17	12	0	**39**	0	8	144	13	0	**165**	0	1	5	39	0	**45**	0	49	162	9	0	**220**	0	**469**
6:30PM	7	3	6	0	**16**	0	3	121	19	0	**143**	0	9	8	32	0	**49**	0	34	190	4	0	**228**	0	**436**
6:45PM	3	6	2	0	**11**	0	6	111	13	0	**130**	0	10	8	33	0	**51**	0	41	157	11	0	**209**	0	**401**
Hourly Total	23	33	25	0	**81**	0	25	533	61	0	**619**	0	32	29	131	0	**192**	0	164	695	32	0	**891**	0	**1783**
7:00PM	1	7	4	0	**12**	0	2	100	9	0	**111**	0	6	8	28	0	**42**	0	25	111	8	0	**144**	0	**309**
7:15PM	4	4	3	0	**11**	0	5	95	9	0	**109**	0	9	6	26	0	**41**	0	33	138	6	0	**177**	0	**338**
7:30PM	5	5	4	0	**14**	0	6	90	7	0	**103**	0	7	7	29	0	**43**	1	27	136	3	0	**166**	0	**326**
7:45PM	5	3	1	0	**9**	0	2	76	8	0	**86**	0	4	2	22	0	**28**	0	39	110	2	0	**151**	0	**274**
Hourly Total	15	19	12	0	**46**	0	15	361	33	0	**409**	0	26	23	105	0	**154**	1	124	495	19	0	**638**	0	**1247**
8:00PM	3	4	4	0	**11**	0	2	91	4	0	**97**	0	13	3	20	0	**36**	0	31	123	9	0	**163**	0	**307**
8:15PM	3	2	3	0	**8**	0	4	56	9	0	**69**	0	9	7	24	0	**40**	0	22	105	2	0	**129**	0	**246**
8:30PM	5	2	4	0	**11**	0	1	57	3	0	**61**	0	9	6	20	0	**35**	0	25	116	2	0	**143**	0	**250**
8:45PM	3	2	1	0	**6**	0	1	60	4	0	**65**	0	4	9	20	0	**33**	0	15	82	3	0	**100**	0	**204**
Hourly Total	14	10	12	0	**36**	0	8	264	20	0	**292**	0	35	25	84	0	**144**	0	93	426	16	0	**535**	0	**1007**
9:00PM	3	3	2	0	**8**	1	1	49	3	0	**53**	0	4	3	20	0	**27**	0	24	97	3	0	**124**	0	**212**
9:15PM	2	4	5	0	**11**	0	3	41	5	0	**49**	0	4	4	16	0	**24**	0	19	67	3	0	**89**	0	**173**
9:30PM	5	3	4	0	**12**	0	3	47	3	0	**53**	0	1	3	9	0	**13**	0	18	51	4	0	**73**	0	**151**
9:45PM	1	4	2	0	**7**	0	5	34	3	0	**42**	0	8	2	9	0	**19**	0	10	69	2	0	**81**	0	**149**
Hourly Total	11	14	13	0	**38**	1	12	171	14	0	**197**	0	17	12	54	0	**83**	0	71	284	12	0	**367**	0	**685**
10:00PM	0	2	2	0	**4**	0	1	30	1	0	**32**	0	4	2	5	0	**11**	0	15	57	3	0	**75**	0	**122**
10:15PM	0	0	0	0	**0**	0	3	19	4	0	**26**	0	1	2	6	0	**9**	0	7	66	1	0	**74**	0	**109**
10:30PM	1	0	1	0	**2**	0	1	22	2	0	**25**	0	0	1	9	0	**10**	2	15	45	0	0	**60**	2	**97**
10:45PM	1	0	0	0	**1**	1	0	15	2	0	**17**	0	0	0	10	0	**10**	0	6	43	1	0	**50**	0	**78**
Hourly Total	2	2	3	0	**7**	1	5	86	9	0	**100**	0	5	5	30	0	**40**	2	43	211	5	0	**259**	2	**406**
11:00PM	1	0	0	0	**1**	0	0	28	3	0	**31**	0	3	1	2	0	**6**	0	2	40	2	0	**44**	0	**82**
11:15PM	1	0	1	0	**2**	1	0	21	1	0	**22**	0	3	1	3	0	**7**	1	5	42	2	0	**49**	0	**80**
11:30PM	0	1	0	0	**1**	0	0	8	2	0	**10**	0	2	0	3	0	**5**	0	6	23	2	0	**31**	0	**47**
11:45PM	0	0	0	0	**0**	0	1	15	1	0	**17**	0	2	1	3	0	**6**	0	6	29	1	0	**36**	0	**59**
Hourly Total	2	1	1	0	**4**	1	1	72	7	0	**80**	0	10	3	11	0	**24**	1	19	134	7	0	**160**	0	**268**
Total	450	440	489	1	**1380**	24	401	10762	791	0	**11954**	12	1026	476	2044	0	**3546**	11	1875	10551	544	1	**12971**	6	**29851**
% Approach	32.6%	31.9%	35.4%	0.1%	**-**	-	3.4%	90.0%	6.6%	0%	**-**	-	28.9%	13.4%	57.6%	0%	**-**	-	14.5%	81.3%	4.2%	0%	**-**	-	-
% Total	1.5%	1.5%	1.6%	0%	**4.6%**	-	1.3%	36.1%	2.6%	0%	**40.0%**	-	3.4%	1.6%	6.8%	0%	**11.9%**	-	6.3%	35.3%	1.8%	0%	**43.5%**	-	-
Motorcycles	0	2	4	0	**6**	-	2	15	3	0	**20**	-	1	5	4	0	**10**	-	5	20	0	0	**25**	-	61
% Motorcycles	0%	0.5%	0.8%	0%	**0.4%**	-	0.5%	0.1%	0.4%	0%	**0.2%**	-	0.1%	1.1%	0.2%	0%	**0.3%**	-	0.3%	0.2%	0%	0%	**0.2%**	-	0.2%
Lights	435	414	464	1	**1314**	-	382	10114	699	0	**11195**	-	931	458	1958	0	**3347**	-	1807	9947	528	1	**12283**	-	28139
% Lights	96.7%	94.1%	94.9%	100%	**95.2%**	-	95.3%	94.0%	88.4%	0%	**93.7%**	-	90.7%	96.2%	95.8%	0%	**94.4%**	-	96.4%	94.3%	97.1%	100%	**94.7%**	-	94.3%
Single-Unit Trucks	5	20	10	0	**35**	-	11	340	74	0	**425**	-	69	7	64	0	**140**	-	30	322	11	0	**363**	-	963
% Single-Unit Trucks	1.1%	4.5%	2.0%	0%	**2.5%**	-	2.7%	3.2%	9.4%	0%	**3.6%**	-	6.7%	1.5%	3.1%	0%	**3.9%**	-	1.6%	3.1%	2.0%	0%	**2.8%**	-	3.2%
Articulated Trucks	9	3	7	0	**19**	-	4	261	13	0	**278**	-	23	2	17	0	**42**	-	28	243	5	0	**276**	-	615
% Articulated Trucks	2.0%	0.7%	1.4%	0%	**1.4%**	-	1.0%	2.4%	1.6%	0%	**2.3%**	-	2.2%	0.4%	0.8%	0%	**1.2%**	-	1.5%	2.3%	0.9%	0%	**2.1%**	-	2.1%
Buses	0	1	4	0	**5**	-	1	31	2	0	**34**	-	2	4	1	0	**7**	-	3	19	0	0	**22**	-	68
% Buses	0%	0.2%	0.8%	0%	**0.4%**	-	0.2%	0.3%	0.3%	0%	**0.3%**	-	0.2%	0.8%	0%	0%	**0.2%**	-	0.2%	0.2%	0%	0%	**0.2%**	-	0.2%
Bicycles on Road	1	0	0	0	**1**	-	1	1	0	0	**2**	-	0	0	0	0	**0**	-	2	0	0	0	**2**	-	5
% Bicycles on Road	0.2%	0%	0%	0%	**0.1%**	-	0.2%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	15	-	-	-	-	-	12	-	-	-	-	-	11	-	-	-	-	-	5	
% Pedestrians	-	-	-	-	-	62.5%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	83.3%	-
Bicycles on Crosswalk	-	-	-	-	-	9	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	37.5%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	16.7%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

SR531mp8.12_59th_Ave_NE_2019-0710 - TMC
Wed Jul 10, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 676656, Location: 48.152048, -122.150767, Site Code: 53100812_0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

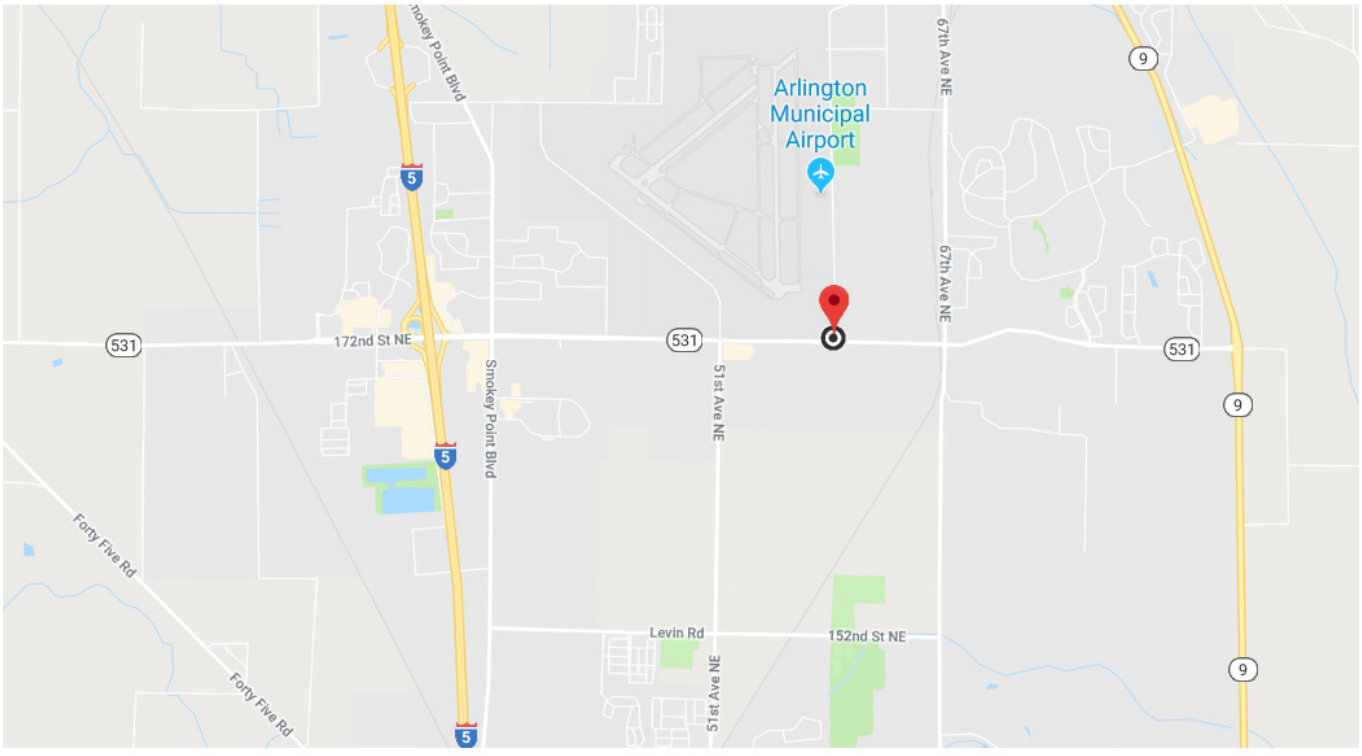
Wed Jul 10, 2019
24 h TMC

61°F Drizzle

Lat: 48.152048 N
Long: 122.150767 W

Peak Hour Factor

Scope	Time	Count	PHF
▶ AM	Wed Jul 10, 2019 7:45 AM	1,403	0.897
▶ Midday	Wed Jul 10, 2019 11:00 AM	1,766	0.964
▶ PM	Wed Jul 10, 2019 4:00 PM	1,929	0.919



SR531mp8.12_59th_Ave_NE_2019-0710 - TMC
Wed Jul 10, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 676656, Location: 48.152048, -122.150767, Site Code: 53100812_0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

Leg	59th Ave NE						SR 531 (172nd St NE)						59th Ave NE						SR 531 (172nd St NE)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2019-07-10 12:00AM	4	0	0	0	**4**	0	0	9	0	0	**9**	0	0	0	0	0	**0**	0	0	26	2	0	**28**	0	**41**
12:15AM	4	0	0	0	**4**	0	0	12	0	0	**12**	0	0	0	0	0	**0**	0	0	25	1	0	**26**	0	**42**
12:30AM	2	0	0	0	**2**	0	0	5	0	0	**5**	0	0	0	0	0	**0**	0	0	23	1	0	**24**	0	**31**
12:45AM	2	0	1	0	**3**	0	0	9	0	0	**9**	0	0	0	0	0	**0**	0	0	13	2	0	**15**	0	**27**
Hourly Total	12	0	1	0	**13**	0	0	35	0	0	**35**	0	0	0	0	0	**0**	0	0	87	6	0	**93**	0	**141**
1:00AM	2	0	0	0	**2**	0	0	10	1	0	**11**	0	0	0	0	0	**0**	0	0	24	0	0	**24**	0	**37**
1:15AM	1	0	0	0	**1**	0	0	12	0	0	**12**	0	0	0	0	0	**0**	0	1	15	1	0	**17**	0	**30**
1:30AM	2	0	0	0	**2**	0	0	5	0	0	**5**	0	0	0	2	0	**2**	0	1	5	0	0	**6**	0	**15**
1:45AM	1	0	0	0	**1**	0	0	5	0	0	**5**	0	0	0	0	0	**0**	0	0	10	1	0	**11**	0	**17**
Hourly Total	6	0	0	0	**6**	0	0	32	1	0	**33**	0	0	0	2	0	**2**	0	2	54	2	0	**58**	0	**99**
2:00AM	1	0	0	0	**1**	0	0	6	1	0	**7**	0	0	0	2	0	**2**	0	0	20	1	0	**21**	0	**31**
2:15AM	3	0	0	0	**3**	0	0	9	1	0	**10**	0	0	0	1	0	**1**	0	0	14	2	0	**16**	0	**30**
2:30AM	2	0	0	0	**2**	0	0	5	0	1	**6**	0	0	0	1	0	**1**	0	0	4	0	0	**4**	0	**13**
2:45AM	5	0	2	0	**7**	0	2	12	0	0	**14**	0	0	0	0	0	**0**	0	1	10	2	0	**13**	0	**34**
Hourly Total	11	0	2	0	**13**	0	2	32	2	1	**37**	0	0	0	4	0	**4**	0	1	48	5	0	**54**	0	**108**
3:00AM	5	0	3	0	**8**	0	2	24	0	0	**26**	0	0	0	1	0	**1**	0	2	9	3	0	**14**	0	**49**
3:15AM	1	0	1	0	**2**	0	0	26	0	0	**26**	0	1	0	0	0	**1**	0	0	14	3	0	**17**	0	**46**
3:30AM	1	0	0	0	**1**	0	1	16	0	0	**17**	0	0	0	1	0	**1**	0	0	17	6	0	**23**	0	**42**
3:45AM	1	0	0	0	**1**	0	3	39	0	0	**42**	0	0	0	0	0	**0**	0	1	14	18	0	**33**	0	**76**
Hourly Total	8	0	4	0	**12**	0	6	105	0	0	**111**	0	1	0	2	0	**3**	0	3	54	30	0	**87**	0	**213**
4:00AM	5	0	0	0	**5**	0	1	57	0	0	**58**	0	0	0	1	0	**1**	0	3	13	7	0	**23**	0	**87**
4:15AM	4	0	0	0	**4**	0	1	69	1	0	**71**	0	0	0	0	0	**0**	0	3	9	21	0	**33**	0	**108**
4:30AM	1	0	0	0	**1**	0	8	84	0	0	**92**	0	0	0	3	0	**3**	0	1	18	24	0	**43**	0	**139**
4:45AM	8	0	0	0	**8**	0	10	93	5	0	**108**	0	1	0	1	0	**2**	0	3	25	48	0	**76**	0	**194**
Hourly Total	18	0	0	0	**18**	0	20	303	6	0	**329**	0	1	0	5	0	**6**	0	10	65	100	0	**175**	0	**528**
5:00AM	6	0	1	0	**7**	0	3	81	9	0	**93**	0	2	0	2	0	**4**	0	11	11	34	0	**56**	0	**160**
5:15AM	10	0	2	0	**12**	0	6	95	14	0	**115**	0	1	0	2	0	**3**	0	16	25	49	0	**90**	0	**220**
5:30AM	18	0	0	0	**18**	0	10	111	11	0	**132**	0	5	1	3	0	**9**	0	17	48	82	0	**147**	0	**306**
5:45AM	12	0	0	0	**12**	0	23	117	11	0	**151**	0	6	0	13	0	**19**	0	12	66	116	0	**194**	0	**376**
Hourly Total	46	0	3	0	**49**	0	42	404	45	0	**491**	0	14	1	20	0	**35**	0	56	150	281	0	**487**	0	**1062**
6:00AM	22	0	3	0	**25**	0	10	116	8	0	**134**	0	5	0	8	0	**13**	0	16	56	48	0	**120**	0	**292**
6:15AM	18	0	2	0	**20**	0	8	114	9	0	**131**	0	6	1	18	0	**25**	0	13	64	45	0	**122**	0	**298**
6:30AM	15	0	1	0	**16**	0	14	115	5	0	**134**	0	2	1	9	0	**12**	0	4	82	45	0	**131**	0	**293**
6:45AM	27	0	0	0	**27**	0	25	142	14	0	**181**	0	6	1	13	0	**20**	0	7	68	92	0	**167**	0	**395**
Hourly Total	82	0	6	0	**88**	0	57	487	36	0	**580**	0	19	3	48	0	**70**	0	40	270	230	0	**540**	0	**1278**
7:00AM	24	0	2	0	**26**	0	5	110	16	0	**131**	0	3	0	16	0	**19**	0	6	77	59	0	**142**	0	**318**
7:15AM	35	0	0	0	**35**	0	7	141	10	0	**158**	0	6	0	13	0	**19**	0	6	66	53	0	**125**	0	**337**
7:30AM	40	3	2	0	**45**	0	12	114	7	0	**133**	0	2	0	13	0	**15**	0	6	80	64	0	**150**	0	**343**
7:45AM	42	0	5	0	**47**	0	17	131	5	0	**153**	0	2	0	8	0	**10**	0	9	71	101	0	**181**	0	**391**
Hourly Total	141	3	9	0	**153**	0	41	496	38	0	**575**	0	13	0	50	0	**63**	0	27	294	277	0	**598**	0	**1389**
8:00AM	35	0	3	0	**38**	0	9	121	3	0	**133**	0	5	0	8	0	**13**	0	4	79	63	0	**146**	0	**330**
8:15AM	36	0	4	0	**40**	0	13	155	8	0	**176**	0	1	0	8	0	**9**	0	3	56	50	0	**109**	0	**334**
8:30AM	43	0	3	0	**46**	0	8	127	4	0	**139**	0	4	1	13	0	**18**	0	3	82	60	0	**145**	0	**348**
8:45AM	47	0	5	0	**52**	0	9	139	5	0	**153**	0	5	1	14	0	**20**	0	4	97	52	0	**153**	0	**378**
Hourly Total	161	0	15	0	**176**	0	39	542	20	0	**601**	0	15	2	43	0	**60**	0	14	314	225	0	**553**	0	**1390**
9:00AM	42	0	5	0	**47**	0	4	120	5	0	**129**	0	5	0	9	0	**14**	0	2	80	52	0	**134**	0	**324**
9:15AM	37	1	5	0	**43**	0	7	130	5	0	**142**	0	2	0	8	0	**10**	0	3	72	46	0	**121**	0	**316**
9:30AM	49	1	3	0	**53**	0	5	129	4	0	**138**	0	1	2	8	0	**11**	0	8	70	45	0	**123**	0	**325**
9:45AM	47	2	1	0	**50**	0	7	113	2	0	**122**	0	1	2	10	0	**13**	0	7	93	41	0	**141**	0	**326**
Hourly Total	175	4	14	0	**193**	0	23	492	16	0	**531**	0	9	4	35	0	**48**	0	20	315	184	0	**519**	0	**1291**
10:00AM	48	0	4	0	**52**	0	3	129	1	0	**133**	0	2	1	6	0	**9**	0	1	76	38	0	**115**	0	**309**
10:15AM	56	1	4	0	**61**	0	5	152	3	0	**160**	0	1	0	5	0	**6**	0	4	106	46	0	**156**	0	**383**
10:30AM	38	0	4	0	**42**	0	6	130	2	0	**138**	0	2	0	8	0	**10**	0	6	120	35	0	**161**	0	**351**
10:45AM	45	3	4	0	**52**	0	3	128	9	0	**140**	0	1	3	11	0	**15**	0	5	103	41	0	**149**	0	**356**
Hourly Total	187	4	16	0	**207**	0	17	539	15	0	**571**	0	6	4	30	0	**40**	0	16	405	160	0	**581**	0	**1399**
11:00AM	87	2	7	0	**96**	0	3	131	16	1	**151**	0	5	0	14	0	**19**	0	6	123	50	0	**179**	0	**445**
11:15AM	67	0	8	0	**75**	0	7	124	4	0	**135**	0	9	2	21	0	**32**	0	1	110	79	0	**190**	0	**432**
11:30AM	88	0	0	0	**88**	0	6	153	6	0	**165**	0	6	0	10	0	**16**	0	7	127	55	0	**189**	0	**458**
11:45AM	50	1	2	0	**53**	0	12	141	6	0	**159**	0	2	0	7	0	**9**	1	8	126	76	0	**210**	0	**431**
Hourly Total	292	3	17	0	**312**	0	28	549	32	1	**610**	0	22	2	52	0	**76**	1	22	486	260	0	**768**	0	**1766**
12:00PM	104	1	8	0	**113**	1	5	122	8	0	**135**	0	4	0	19	0	**23**	0	4	115	50	0	**169**	0	**440**
12:15PM	71	1	6	0	**78**	0	6	124	5	0	**135**	0	3	2	11	0	**16**	0	5	133	58	0	**196**	0	**425**
12:30PM	64	1	9	0	**74**	0	2	136	12	0	**150**	0	4	0	16	0	**20**	0	5	125	53	0	**183**	1	**427**
12:45PM	50	0	2	0	**52**	0	7	119	5	0	**131**	0	6	4	13	0	**23**	0	10	149	65	0	**224**	1	**430**
Hourly Total	289	3	25	0	**317**	1	20	501	30	0	**551**	0	17	6	59	0	**82**	0	24	522	226	0	**772**	2	**1722**
1:00PM	60	1	4	0	**65**	0	5	154	2	0	**161**	0	5	0	11	0	**16**	0	4	143	58	0	**205**	0	**447**
1:15PM	47	0	7	0	**54**	0	9	133	2	0	**144**	0	2	3	18	0	**23**	0	9	137	48	0	**194**	0	**415**
1:30PM	64	0	9	0	**73**	0	6	128	2	0	**136**	0	5	0	15	0	**20**	0	4	144	37	0	**185**	0	**414**
1:45PM	54	1	3	0	**58**	0	4	117	12	0	**133**	0	11	0	11	0	**22**	0	3	148	50	0	**201**	0	**414**
Hourly Total	225	2	23	0	**250**	0	24	532	18	0	**574**	0	23	3	55	0	**81**	0	20	572	193	0	**785**	0	**1690**

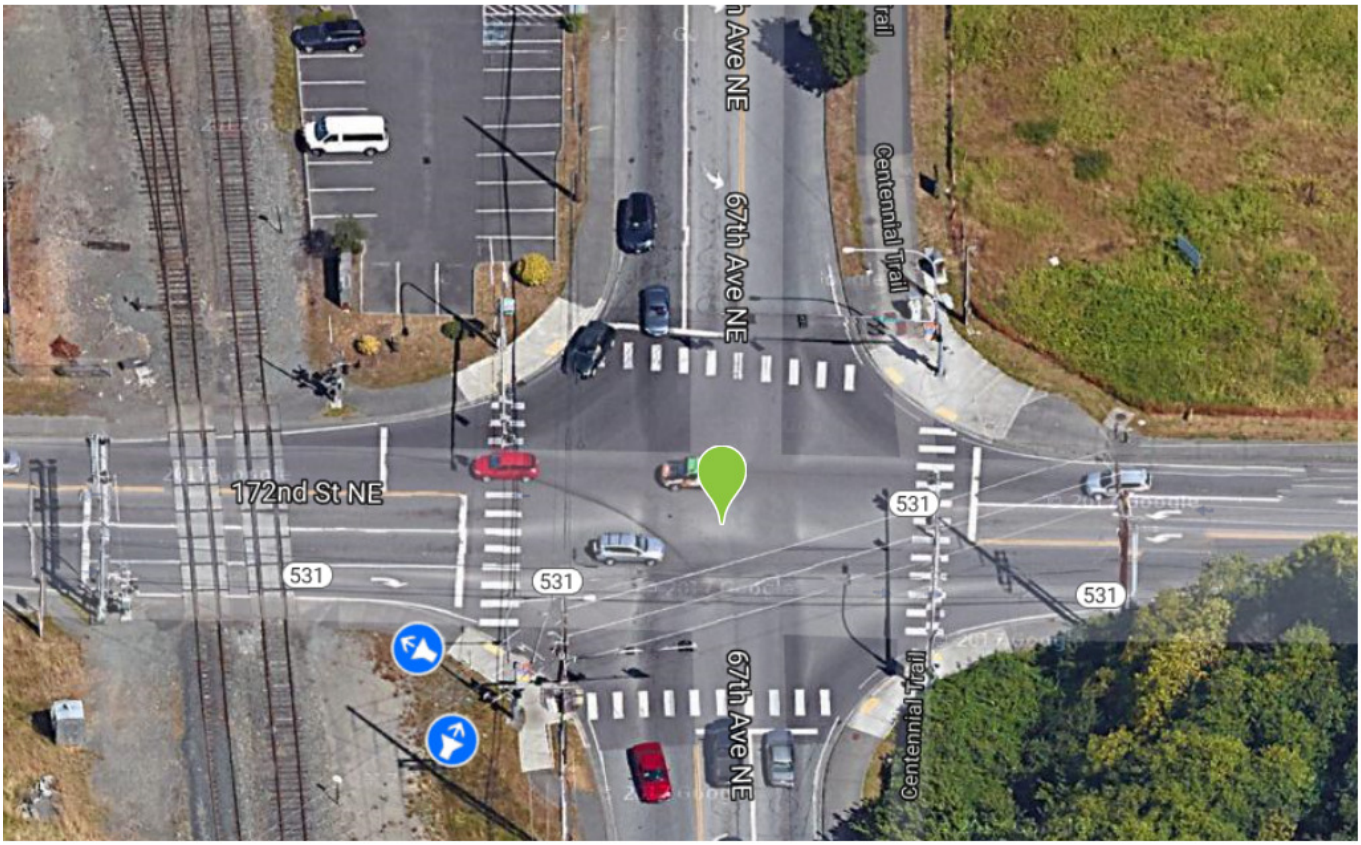
Leg	59th Ave NE						SR 531 (172nd St NE)						59th Ave NE						SR 531 (172nd St NE)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2:00PM	52	0	6	0	**58**	0	7	143	1	0	**151**	0	10	0	19	0	**29**	0	6	152	44	0	**202**	0	**440**
2:15PM	80	0	6	0	**86**	0	4	108	1	0	**113**	0	4	0	6	0	**10**	0	3	166	44	0	**213**	0	**422**
2:30PM	108	0	15	0	**123**	0	8	129	4	0	**141**	0	11	0	8	0	**19**	0	4	149	35	0	**188**	0	**471**
2:45PM	69	0	8	0	**77**	0	5	140	2	0	**147**	0	4	0	9	0	**13**	0	5	151	47	0	**203**	1	**440**
Hourly Total	309	0	35	0	**344**	0	24	520	8	0	**552**	0	29	0	42	0	**71**	0	18	618	170	0	**806**	1	**1773**
3:00PM	55	2	8	0	**65**	0	3	109	10	0	**122**	0	10	0	13	0	**23**	0	6	151	49	0	**206**	0	**416**
3:15PM	60	1	7	0	**68**	0	3	153	3	0	**159**	0	8	1	10	0	**19**	0	5	158	29	0	**192**	1	**438**
3:30PM	93	2	20	0	**115**	0	4	126	2	0	**132**	0	8	0	11	0	**19**	0	3	173	33	0	**209**	0	**475**
3:45PM	67	0	13	0	**80**	0	5	149	2	0	**156**	0	4	1	10	0	**15**	0	3	153	39	0	**195**	0	**446**
Hourly Total	275	5	48	0	**328**	0	15	537	17	0	**569**	0	30	2	44	0	**76**	0	17	635	150	0	**802**	1	**1775**
4:00PM	122	2	21	0	**145**	0	10	125	1	0	**136**	0	4	1	12	0	**17**	0	4	168	42	0	**214**	0	**512**
4:15PM	89	0	17	0	**106**	0	7	118	3	0	**128**	0	3	0	6	0	**9**	0	2	160	38	0	**200**	0	**443**
4:30PM	143	2	34	0	**179**	0	5	121	3	0	**129**	0	3	0	7	0	**10**	0	1	166	40	0	**207**	0	**525**
4:45PM	68	0	9	0	**77**	0	7	133	3	0	**143**	0	2	0	5	0	**7**	0	5	162	55	0	**222**	0	**449**
Hourly Total	422	4	81	0	**507**	0	29	497	10	0	**536**	0	12	1	30	0	**43**	0	12	656	175	0	**843**	0	**1929**
5:00PM	103	1	18	0	**122**	0	3	115	5	0	**123**	0	8	1	5	0	**14**	0	1	182	34	0	**217**	0	**476**
5:15PM	57	0	11	0	**68**	0	4	139	0	0	**143**	0	4	0	15	0	**19**	0	2	193	28	0	**223**	0	**453**
5:30PM	55	0	9	0	**64**	0	6	112	2	0	**120**	0	3	0	7	0	**10**	0	6	182	26	0	**214**	0	**408**
5:45PM	52	0	5	0	**57**	0	7	125	2	0	**134**	0	5	0	6	0	**11**	0	2	184	20	0	**206**	0	**408**
Hourly Total	267	1	43	0	**311**	0	20	491	9	0	**520**	0	20	1	33	0	**54**	0	11	741	108	0	**860**	0	**1745**
6:00PM	43	1	5	0	**49**	0	4	134	0	0	**138**	0	1	0	11	0	**12**	0	9	170	24	0	**203**	0	**402**
6:15PM	41	0	3	0	**44**	0	3	117	0	0	**120**	0	2	0	11	0	**13**	0	7	157	15	0	**179**	0	**356**
6:30PM	42	0	3	0	**45**	0	3	105	1	0	**109**	0	4	0	4	0	**8**	0	1	189	20	0	**210**	0	**372**
6:45PM	29	0	8	0	**37**	0	3	106	3	0	**112**	0	8	2	6	0	**16**	0	3	161	14	0	**178**	0	**343**
Hourly Total	155	1	19	0	**175**	0	13	462	4	0	**479**	0	15	2	32	0	**49**	0	20	677	73	0	**770**	0	**1473**
7:00PM	26	0	3	0	**29**	0	1	82	0	0	**83**	0	2	0	5	0	**7**	0	1	117	11	0	**129**	0	**248**
7:15PM	20	1	0	0	**21**	0	1	95	0	0	**96**	0	3	0	0	0	**3**	0	1	135	12	0	**148**	0	**268**
7:30PM	35	0	4	0	**39**	0	2	62	0	0	**64**	0	0	0	1	0	**1**	0	1	126	17	0	**144**	0	**248**
7:45PM	14	0	4	0	**18**	0	0	76	0	0	**76**	0	0	0	2	0	**2**	0	1	115	9	0	**125**	0	**221**
Hourly Total	95	1	11	0	**107**	0	4	315	0	0	**319**	0	5	0	8	0	**13**	0	4	493	49	0	**546**	0	**985**
8:00PM	21	0	1	0	**22**	0	1	72	0	0	**73**	0	0	0	2	0	**2**	0	3	133	9	0	**145**	0	**242**
8:15PM	17	0	1	0	**18**	0	1	57	0	0	**58**	0	1	0	1	0	**2**	0	0	114	9	0	**123**	0	**201**
8:30PM	9	0	4	0	**13**	0	1	55	0	0	**56**	0	0	0	1	0	**1**	0	1	115	9	0	**125**	0	**195**
8:45PM	10	0	2	0	**12**	0	0	51	0	0	**51**	0	0	0	2	0	**2**	0	0	86	11	0	**97**	0	**162**
Hourly Total	57	0	8	0	**65**	0	3	235	0	0	**238**	0	1	0	6	0	**7**	0	4	448	38	0	**490**	0	**800**
9:00PM	4	0	0	0	**4**	0	0	47	1	0	**48**	0	1	0	0	0	**1**	0	0	96	4	0	**100**	0	**153**
9:15PM	8	0	1	0	**9**	0	0	48	0	0	**48**	0	1	0	1	0	**2**	0	0	81	5	0	**86**	0	**145**
9:30PM	5	0	1	0	**6**	0	3	47	0	0	**50**	0	0	0	0	0	**0**	0	0	57	3	0	**60**	0	**116**
9:45PM	6	0	2	0	**8**	0	0	35	0	0	**35**	0	2	0	5	0	**7**	0	2	68	8	0	**78**	0	**128**
Hourly Total	23	0	4	0	**27**	0	3	177	1	0	**181**	0	4	0	6	0	**10**	0	2	302	20	0	**324**	0	**542**
10:00PM	3	0	0	0	**3**	0	0	26	0	0	**26**	0	1	0	1	0	**2**	0	2	63	4	0	**69**	0	**100**
10:15PM	5	0	0	0	**5**	0	0	23	0	0	**23**	0	0	0	0	0	**0**	0	0	61	1	0	**62**	0	**90**
10:30PM	6	0	0	0	**6**	0	0	19	0	0	**19**	0	0	0	0	0	**0**	0	0	42	6	0	**48**	0	**73**
10:45PM	2	0	2	0	**4**	1	0	14	0	0	**14**	0	0	0	0	0	**0**	0	0	46	1	0	**47**	0	**65**
Hourly Total	16	0	2	0	**18**	1	0	82	0	0	**82**	0	1	0	1	0	**2**	0	2	212	12	0	**226**	0	**328**
11:00PM	8	0	1	0	**9**	0	0	22	0	0	**22**	0	0	0	4	0	**4**	0	0	37	3	0	**40**	0	**75**
11:15PM	6	0	0	0	**6**	0	0	18	1	0	**19**	0	0	0	1	0	**1**	0	0	44	3	0	**47**	0	**73**
11:30PM	1	0	0	0	**1**	0	0	6	0	0	**6**	0	0	0	0	0	**0**	0	0	23	1	0	**24**	0	**31**
11:45PM	7	0	0	0	**7**	0	0	12	0	0	**12**	0	0	0	0	0	**0**	0	0	27	2	0	**29**	0	**48**
Hourly Total	22	0	1	0	**23**	0	0	58	1	0	**59**	0	0	0	5	0	**5**	0	0	131	9	0	**140**	0	**227**
Total	3294	31	387	0	**3712**	2	430	8423	309	2	**9164**	0	257	31	612	0	**900**	1	345	8549	2983	0	**11877**	4	**25653**
% Approach	88.7%	0.8%	10.4%	0%	**-**	-	4.7%	91.9%	3.4%	0%	**-**	-	28.6%	3.4%	68.0%	0%	**-**	-	2.9%	72.0%	25.1%	0%	**-**	-	-
% Total	12.8%	0.1%	1.5%	0%	**14.5%**	-	1.7%	32.8%	1.2%	0%	**35.7%**	-	1.0%	0.1%	2.4%	0%	**3.5%**	-	1.3%	33.3%	11.6%	0%	**46.3%**	-	-
Motorcycles	1	0	1	0	**2**	-	1	15	0	0	**16**	-	0	0	1	0	**1**	-	2	20	6	0	**28**	-	47
% Motorcycles	0%	0%	0.3%	0%	**0.1%**	-	0.2%	0.2%	0%	0%	**0.2%**	-	0%	0%	0.2%	0%	**0.1%**	-	0.6%	0.2%	0.2%	0%	**0.2%**	-	0.2%
Lights	2936	25	362	0	**3323**	-	400	8090	286	2	**8778**	-	239	27	521	0	**787**	-	266	8216	2669	0	**11151**	-	24039
% Lights	89.1%	80.6%	93.5%	0%	**89.5%**	-	93.0%	96.0%	92.6%	100%	**95.8%**	-	93.0%	87.1%	85.1%	0%	**87.4%**	-	77.1%	96.1%	89.5%	0%	**93.9%**	-	93.7%
Single-Unit Trucks	205	5	17	0	**227**	-	20	185	17	0	**222**	-	11	3	62	0	**76**	-	55	184	176	0	**415**	-	940
% Single-Unit Trucks	6.2%	16.1%	4.4%	0%	**6.1%**	-	4.7%	2.2%	5.5%	0%	**2.4%**	-	4.3%	9.7%	10.1%	0%	**8.4%**	-	15.9%	2.2%	5.9%	0%	**3.5%**	-	3.7%
Articulated Trucks	132	1	3	0	**136**	-	4	124	6	0	**134**	-	5	1	22	0	**28**	-	19	122	123	0	**264**	-	562
% Articulated Trucks	4.0%	3.2%	0.8%	0%	**3.7%**	-	0.9%	1.5%	1.9%	0%	**1.5%**	-	1.9%	3.2%	3.6%	0%	**3.1%**	-	5.5%	1.4%	4.1%	0%	**2.2%**	-	2.2%
Buses	19	0	4	0	**23**	-	5	8	0	0	**13**	-	2	0	6	0	**8**	-	3	6	9	0	**18**	-	62
% Buses	0.6%	0%	1.0%	0%	**0.6%**	-	1.2%	0.1%	0%	0%	**0.1%**	-	0.8%	0%	1.0%	0%	**0.9%**	-	0.9%	0.1%	0.3%	0%	**0.2%**	-	0.2%
Bicycles on Road	1	0	0	0	**1**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	3
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	75.0%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	25.0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

SR531mp8.59_67th_Ave_NE_2019-0710 - TMC
Wed Jul 10, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Trains, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 676658, Location: 48.151907, -122.14059, Site Code: 53100859-0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US



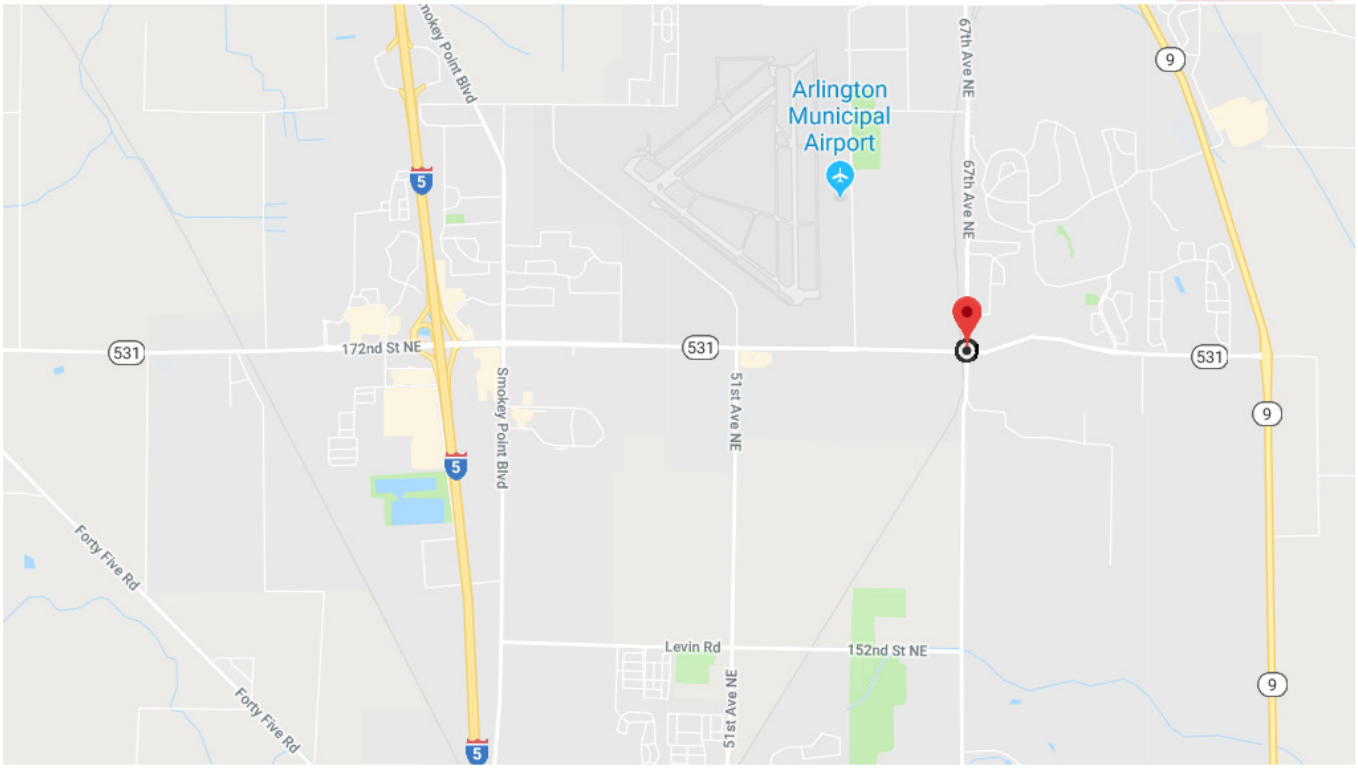
Wed Jul 10, 2019
24 h TMC

61°F Drizzle

Lat: 48.151907 N
Long: 122.140590 W

Peak Hour Factor

Scope	Time	Count	PHF
▶ AM	Wed Jul 10, 2019 6:45 AM	1,305	0.922
▶ Midday	Wed Jul 10, 2019 11:45 AM	1,468	0.936
▶ PM	Wed Jul 10, 2019 4:30 PM	1,938	0.975



SR531mp8.59_67th_Ave_NE_2019-0710 - TMC
Wed Jul 10, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Trains, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 676658, Location: 48.151907, -122.14059, Site Code: 53100859-0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

Leg	67th Ave NE						SR 531 (172nd St NE)						67th Ave NE					
Direction	Southbound						Westbound						Northbound					
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*
2019-07-10 12:00AM	3	4	1	0	**8**	0	1	6	1	0	**8**	0	1	1	1	0	**3**	0
12:15AM	1	1	1	0	**3**	0	1	9	1	0	**11**	0	1	2	1	0	**4**	0
12:30AM	2	1	0	0	**3**	0	1	2	0	0	**3**	0	2	1	1	0	**4**	0
12:45AM	1	1	0	0	**2**	0	0	5	1	0	**6**	0	4	0	2	0	**6**	0
Hourly Total	7	7	2	0	**16**	0	3	22	3	0	**28**	0	8	4	5	0	**17**	0
1:00AM	5	2	0	0	**7**	0	1	6	0	0	**7**	0	1	3	0	0	**4**	0
1:15AM	4	1	0	0	**5**	0	0	7	0	0	**7**	0	0	2	0	0	**2**	0
1:30AM	1	0	1	0	**2**	0	0	2	1	0	**3**	0	0	0	2	0	**2**	0
1:45AM	4	0	1	0	**5**	0	1	1	1	0	**3**	0	1	0	0	0	**1**	0
Hourly Total	14	3	2	0	**19**	0	2	16	2	0	**20**	0	2	5	2	0	**9**	0
2:00AM	3	2	3	0	**8**	0	1	5	1	0	**7**	0	0	2	0	0	**2**	0
2:15AM	4	2	2	0	**8**	0	1	4	1	0	**6**	0	2	2	0	0	**4**	0
2:30AM	6	3	0	0	**9**	0	0	3	0	0	**3**	0	1	0	0	0	**1**	0
2:45AM	3	2	0	0	**5**	0	0	8	0	0	**8**	0	0	2	1	0	**3**	0
Hourly Total	16	9	5	0	**30**	0	2	20	2	0	**24**	0	3	6	1	0	**10**	0
3:00AM	5	2	1	0	**8**	0	0	16	0	0	**16**	0	0	2	1	0	**3**	0
3:15AM	9	1	1	0	**11**	0	2	18	2	0	**22**	0	1	4	3	0	**8**	0
3:30AM	7	2	0	0	**9**	0	1	10	2	0	**13**	0	0	7	0	0	**7**	0
3:45AM	18	1	0	0	**19**	0	0	19	1	0	**20**	0	1	1	3	0	**5**	0
Hourly Total	39	6	2	0	**47**	0	3	63	5	0	**71**	0	2	14	7	0	**23**	0
4:00AM	14	8	1	0	**23**	0	1	40	1	0	**42**	0	0	2	6	0	**8**	0
4:15AM	21	4	4	0	**29**	0	0	50	2	0	**52**	0	0	7	3	0	**10**	0
4:30AM	28	7	0	0	**35**	0	6	54	3	0	**63**	0	0	7	7	0	**14**	0
4:45AM	22	5	0	0	**27**	0	6	75	6	0	**87**	0	1	16	7	0	**24**	0
Hourly Total	85	24	5	0	**114**	0	13	219	12	0	**244**	0	1	32	23	0	**56**	0
5:00AM	29	10	2	0	**41**	0	4	67	5	0	**76**	1	0	9	7	0	**16**	0
5:15AM	28	9	1	0	**38**	0	8	67	3	0	**78**	0	3	13	15	0	**31**	0
5:30AM	41	10	2	0	**53**	0	9	79	6	0	**94**	0	8	13	12	0	**33**	0
5:45AM	18	10	1	0	**29**	0	26	117	11	0	**154**	0	3	35	19	0	**57**	0
Hourly Total	116	39	6	0	**161**	0	47	330	25	0	**402**	1	14	70	53	0	**137**	0
6:00AM	35	13	9	0	**57**	0	23	73	4	0	**100**	0	1	19	17	0	**37**	0
6:15AM	31	17	2	0	**50**	0	26	90	3	0	**119**	0	2	24	14	0	**40**	0
6:30AM	40	35	2	0	**77**	0	21	76	11	0	**108**	0	5	32	10	0	**47**	0
6:45AM	44	24	5	0	**73**	0	28	116	12	0	**156**	0	3	39	17	0	**59**	0
Hourly Total	150	89	18	0	**257**	0	98	355	30	0	**483**	0	11	114	58	0	**183**	0
7:00AM	44	25	11	0	**80**	0	13	80	9	0	**102**	0	5	21	11	0	**37**	0
7:15AM	32	30	10	0	**72**	0	15	101	17	0	**133**	0	11	27	12	0	**50**	0
7:30AM	48	30	9	0	**87**	0	8	81	17	0	**106**	0	8	25	18	0	**51**	0
7:45AM	33	21	9	0	**63**	0	16	105	5	0	**126**	0	5	23	13	0	**41**	0
Hourly Total	157	106	39	0	**302**	0	52	367	48	0	**467**	0	29	96	54	0	**179**	0
8:00AM	31	19	8	0	**58**	0	7	76	9	0	**92**	0	3	25	10	0	**38**	0
8:15AM	41	19	9	0	**69**	0	5	132	11	0	**148**	0	5	30	12	0	**47**	0
8:30AM	34	21	5	0	**60**	0	11	81	5	0	**97**	1	10	19	19	0	**48**	0
8:45AM	46	26	6	0	**78**	0	10	99	13	0	**122**	0	4	16	10	0	**30**	0
Hourly Total	152	85	28	0	**265**	0	33	388	38	0	**459**	1	22	90	51	0	**163**	0
9:00AM	41	18	3	0	**62**	0	11	72	6	0	**89**	0	10	23	11	0	**44**	0
9:15AM	51	25	9	0	**85**	0	18	77	9	0	**104**	0	4	17	11	0	**32**	0
9:30AM	27	31	8	0	**66**	0	9	89	13	0	**111**	0	7	15	20	0	**42**	0
9:45AM	39	25	10	0	**74**	0	3	76	13	0	**92**	1	9	22	5	0	**36**	0
Hourly Total	158	99	30	0	**287**	0	41	314	41	0	**396**	1	30	77	47	0	**154**	0
10:00AM	34	10	4	0	**48**	0	6	89	17	0	**112**	0	7	17	13	0	**37**	0

Leg	67th Ave NE						SR 531 (172nd St NE)						67th Ave NE					
Direction	Southbound						Westbound						Northbound					
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*
10:15AM	49	27	6	0	**82**	0	9	88	11	0	**108**	0	8	13	12	0	**33**	0
10:30AM	40	16	15	0	**71**	0	12	92	10	0	**114**	0	5	17	14	0	**36**	0
10:45AM	43	21	6	0	**70**	0	10	84	15	0	**109**	0	13	26	20	0	**59**	0
Hourly Total	166	74	31	0	**271**	0	37	353	53	0	**443**	0	33	73	59	0	**165**	0
11:00AM	49	16	7	0	**72**	0	11	84	11	0	**106**	0	12	19	12	0	**43**	0
11:15AM	49	28	11	0	**88**	0	10	72	4	0	**86**	0	12	27	12	0	**51**	0
11:30AM	58	32	8	0	**98**	0	10	74	18	0	**102**	0	12	18	15	0	**45**	0
11:45AM	42	28	10	0	**80**	0	8	96	17	0	**121**	0	5	33	7	0	**45**	0
Hourly Total	198	104	36	0	**338**	0	39	326	50	0	**415**	0	41	97	46	0	**184**	0
12:00PM	45	24	8	0	**77**	0	9	89	7	0	**105**	1	10	25	10	0	**45**	0
12:15PM	54	30	7	0	**91**	0	8	63	5	0	**76**	0	11	22	17	0	**50**	0
12:30PM	44	34	10	0	**88**	0	7	90	11	0	**108**	0	11	24	16	0	**51**	0
12:45PM	40	19	10	0	**69**	0	6	70	6	0	**82**	1	11	23	16	0	**50**	0
Hourly Total	183	107	35	0	**325**	0	30	312	29	0	**371**	2	43	94	59	0	**196**	0
1:00PM	31	24	3	0	**58**	0	6	106	20	0	**132**	0	13	32	11	0	**56**	0
1:15PM	40	28	6	0	**74**	0	13	90	18	0	**121**	0	5	25	7	0	**37**	0
1:30PM	44	21	9	0	**74**	0	5	89	13	0	**107**	0	14	31	12	0	**57**	0
1:45PM	39	22	13	0	**74**	0	18	76	10	0	**104**	0	12	34	12	0	**58**	0
Hourly Total	154	95	31	0	**280**	0	42	361	61	0	**464**	0	44	122	42	0	**208**	0
2:00PM	35	21	12	0	**68**	0	18	84	15	0	**117**	0	15	33	10	0	**58**	0
2:15PM	29	17	8	0	**54**	0	14	82	12	0	**108**	2	16	31	7	0	**54**	0
2:30PM	53	47	10	0	**110**	0	8	67	12	0	**87**	0	13	35	19	0	**67**	0
2:45PM	42	37	13	0	**92**	0	8	69	8	0	**85**	0	14	31	12	0	**57**	0
Hourly Total	159	122	43	0	**324**	0	48	302	47	0	**397**	2	58	130	48	0	**236**	0
3:00PM	46	35	15	0	**96**	0	12	74	10	0	**96**	0	5	31	8	0	**44**	0
3:15PM	46	37	13	0	**96**	0	14	94	15	0	**123**	0	19	42	11	0	**72**	0
3:30PM	46	48	29	0	**123**	0	9	74	13	0	**96**	0	11	40	10	0	**61**	0
3:45PM	41	38	19	0	**98**	0	18	101	13	0	**132**	0	15	38	15	0	**68**	0
Hourly Total	179	158	76	0	**413**	0	53	343	51	0	**447**	0	50	151	44	0	**245**	0
4:00PM	48	35	33	0	**116**	0	14	79	16	0	**109**	1	22	53	12	0	**87**	0
4:15PM	38	38	17	0	**93**	0	13	59	15	0	**87**	1	16	56	11	0	**83**	0
4:30PM	36	56	37	0	**129**	0	13	70	13	0	**96**	0	17	50	13	0	**80**	0
4:45PM	31	40	14	0	**85**	0	14	88	10	0	**112**	1	29	35	16	0	**80**	0
Hourly Total	153	169	101	0	**423**	0	54	296	54	0	**404**	3	84	194	52	0	**330**	0
5:00PM	41	62	31	0	**134**	0	10	75	13	0	**98**	0	15	42	10	0	**67**	0
5:15PM	32	48	16	0	**96**	0	8	83	9	0	**100**	0	19	50	13	0	**82**	0
5:30PM	22	33	14	0	**69**	0	6	93	17	0	**116**	1	16	25	9	0	**50**	0
5:45PM	32	25	14	0	**71**	0	8	62	10	0	**80**	0	22	46	23	0	**91**	0
Hourly Total	127	168	75	0	**370**	0	32	313	49	0	**394**	1	72	163	55	0	**290**	0
6:00PM	35	25	14	0	**74**	0	10	83	17	0	**110**	0	13	43	12	0	**68**	0
6:15PM	30	28	6	0	**64**	0	2	73	6	0	**81**	0	18	31	14	0	**63**	0
6:30PM	31	25	7	0	**63**	0	7	61	8	0	**76**	1	16	31	11	0	**58**	0
6:45PM	25	23	5	0	**53**	0	19	80	6	0	**105**	0	19	26	8	0	**53**	0
Hourly Total	121	101	32	0	**254**	0	38	297	37	0	**372**	1	66	131	45	0	**242**	0
7:00PM	25	18	3	0	**46**	0	3	52	7	0	**62**	0	14	25	9	0	**48**	0
7:15PM	20	13	6	0	**39**	0	2	60	9	0	**71**	0	6	15	11	0	**32**	0
7:30PM	10	12	7	0	**29**	0	4	39	5	0	**48**	2	8	16	8	0	**32**	0
7:45PM	18	18	2	0	**38**	0	5	45	6	0	**56**	0	6	8	9	0	**23**	0
Hourly Total	73	61	18	0	**152**	0	14	196	27	0	**237**	2	34	64	37	0	**135**	0
8:00PM	20	10	4	0	**34**	0	3	43	6	0	**52**	0	9	13	8	0	**30**	0
8:15PM	23	18	6	0	**47**	0	2	33	3	0	**38**	2	13	17	5	0	**35**	0
8:30PM	18	11	2	0	**31**	0	2	27	5	0	**34**	0	2	9	4	0	**15**	0
8:45PM	18	14	3	0	**35**	0	2	25	5	0	**32**	0	9	13	7	0	**29**	0
Hourly Total	79	53	15	0	**147**	0	9	128	19	0	**156**	2	33	52	24	0	**109**	0
9:00PM	12	8	2	0	**22**	0	4	27	6	0	**37**	0	14	17	8	0	**39**	0
9:15PM	9	8	1	0	**18**	0	4	32	5	0	**41**	0	11	17	7	0	**35**	0
9:30PM	13	15	3	0	**31**	0	6	34	0	0	**40**	0	7	7	3	0	**17**	0
9:45PM	11	10	5	0	**26**	0	2	20	3	0	**25**	0	5	10	5	0	**20**	0
Hourly Total	45	41	11	0	**97**	0	16	113	14	0	**143**	0	37	51	23	0	**111**	0
10:00PM	10	6	2	0	**18**	0	2	8	4	0	**14**	0	2	7	4	0	**13**	0

Leg	67th Ave NE						SR 531 (172nd St NE)						67th Ave NE					
Direction	Southbound						Westbound						Northbound					
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*
10:15PM	6	3	1	0	**10**	0	0	13	2	0	**15**	0	4	8	3	0	**15**	0
10:30PM	3	7	1	0	**11**	0	1	13	6	0	**20**	0	2	5	2	0	**9**	0
10:45PM	6	5	0	0	**11**	0	2	7	1	0	**10**	0	4	2	1	0	**7**	0
Hourly Total	25	21	4	0	**50**	0	5	41	13	0	**59**	0	12	22	10	0	**44**	0
11:00PM	11	7	0	0	**18**	0	0	16	1	0	**17**	0	0	2	0	0	**2**	0
11:15PM	7	2	2	0	**11**	0	2	7	1	0	**10**	1	1	6	1	0	**8**	1
11:30PM	2	2	1	0	**5**	0	1	3	2	0	**6**	0	3	1	2	0	**6**	0
11:45PM	6	3	1	0	**10**	0	0	2	0	0	**2**	0	3	7	3	0	**13**	0
Hourly Total	26	14	4	0	**44**	0	3	28	4	0	**35**	1	7	16	6	0	**29**	1
Total	2582	1755	649	0	**4986**	0	714	5503	714	0	**6931**	17	736	1868	851	0	**3455**	1
% Approach	51.8%	35.2%	13.0%	0%	**-**	-	10.3%	79.4%	10.3%	0%	**-**	-	21.3%	54.1%	24.6%	0%	**-**	-
% Total	10.6%	7.2%	2.7%	0%	**20.4%**	-	2.9%	22.6%	2.9%	0%	**28.4%**	-	3.0%	7.7%	3.5%	0%	**14.2%**	-
Motorcycles	7	4	0	0	**11**	-	0	6	0	0	**6**	-	0	4	3	0	**7**	-
% Motorcycles	0.3%	0.2%	0%	0%	**0.2%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%	0.2%	0.4%	0%	**0.2%**	-
Lights	2443	1702	579	0	**4724**	-	632	5332	699	0	**6663**	-	719	1808	822	0	**3349**	-
% Lights	94.6%	97.0%	89.2%	0%	**94.7%**	-	88.5%	96.9%	97.9%	0%	**96.1%**	-	97.7%	96.8%	96.6%	0%	**96.9%**	-
Single-Unit Trucks	72	38	56	0	**166**	-	63	109	12	0	**184**	-	14	44	13	0	**71**	-
% Single-Unit Trucks	2.8%	2.2%	8.6%	0%	**3.3%**	-	8.8%	2.0%	1.7%	0%	**2.7%**	-	1.9%	2.4%	1.5%	0%	**2.1%**	-
Articulated Trucks	59	8	12	0	**79**	-	16	47	1	0	**64**	-	1	7	8	0	**16**	-
% Articulated Trucks	2.3%	0.5%	1.8%	0%	**1.6%**	-	2.2%	0.9%	0.1%	0%	**0.9%**	-	0.1%	0.4%	0.9%	0%	**0.5%**	-
Buses	1	3	2	0	**6**	-	3	8	2	0	**13**	-	2	2	5	0	**9**	-
% Buses	0%	0.2%	0.3%	0%	**0.1%**	-	0.4%	0.1%	0.3%	0%	**0.2%**	-	0.3%	0.1%	0.6%	0%	**0.3%**	-
Trains	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-
% Trains	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-
Bicycles on Road	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	3	0	0	**3**	-
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.2%	0%	0%	**0.1%**	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	10	-	-	-	-	-	1
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	58.8%	-	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	7	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	41.2%	-	-	-	-	-	0%

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

SR531mp8.59_67th_Ave_NE_2019-0710 - TMC
Wed Jul 10, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Trains, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 676658, Location: 48.151907, -122.14059, Site Code: 53100859-0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

Leg	Railroad			SR 531 (172nd St NE)						Railroad			
Direction	Northeastbound			Eastbound						Southeastbound			
Time	L	App	Ped*	R	T	L	U	App	Ped*	R	App	Ped*	Int
2019-07-10 12:00AM	0	**0**	-	3	13	9	0	**25**	0	0	**0**	-	**44**
12:15AM	0	**0**	-	0	15	8	0	**23**	0	0	**0**	-	**41**
12:30AM	0	**0**	-	0	13	9	0	**22**	0	0	**0**	-	**32**
12:45AM	0	**0**	-	5	8	4	0	**17**	0	0	**0**	-	**31**
Hourly Total	0	**0**	-	8	49	30	0	**87**	0	0	**0**	-	**148**
1:00AM	0	**0**	-	4	15	3	0	**22**	0	0	**0**	-	**40**
1:15AM	0	**0**	-	0	8	9	0	**17**	0	0	**0**	-	**31**
1:30AM	0	**0**	-	1	3	0	0	**4**	0	0	**0**	-	**11**
1:45AM	0	**0**	-	1	3	4	0	**8**	0	0	**0**	-	**17**
Hourly Total	0	**0**	-	6	29	16	0	**51**	0	0	**0**	-	**99**
2:00AM	0	**0**	-	1	10	7	0	**18**	0	0	**0**	-	**35**
2:15AM	0	**0**	-	1	5	7	0	**13**	0	0	**0**	-	**31**
2:30AM	0	**0**	-	1	0	5	0	**6**	0	0	**0**	-	**19**
2:45AM	0	**0**	-	1	5	5	0	**11**	0	0	**0**	-	**27**
Hourly Total	0	**0**	-	4	20	24	0	**48**	0	0	**0**	-	**112**
3:00AM	0	**0**	-	2	5	5	0	**12**	0	0	**0**	-	**39**
3:15AM	0	**0**	-	2	6	5	0	**13**	0	0	**0**	-	**54**
3:30AM	0	**0**	-	3	6	7	0	**16**	0	0	**0**	-	**45**
3:45AM	0	**0**	-	1	6	4	0	**11**	0	0	**0**	-	**55**
Hourly Total	0	**0**	-	8	23	21	0	**52**	0	0	**0**	-	**193**
4:00AM	0	**0**	-	2	8	3	0	**13**	0	0	**0**	-	**86**
4:15AM	0	**0**	-	0	7	2	0	**9**	0	0	**0**	-	**100**
4:30AM	0	**0**	-	0	4	11	0	**15**	0	0	**0**	-	**127**
4:45AM	0	**0**	-	1	10	12	0	**23**	0	0	**0**	-	**161**
Hourly Total	0	**0**	-	3	29	28	0	**60**	0	0	**0**	-	**474**
5:00AM	0	**0**	-	2	8	5	0	**15**	0	0	**0**	-	**148**
5:15AM	0	**0**	-	3	14	5	0	**22**	0	0	**0**	-	**169**
5:30AM	0	**0**	-	3	16	21	0	**40**	0	0	**0**	-	**220**
5:45AM	0	**0**	-	5	16	35	0	**56**	0	0	**0**	-	**296**
Hourly Total	0	**0**	-	13	54	66	0	**133**	0	0	**0**	-	**833**
6:00AM	0	**0**	-	7	30	29	0	**66**	0	0	**0**	-	**260**
6:15AM	0	**0**	-	7	34	27	0	**68**	0	0	**0**	-	**277**
6:30AM	0	**0**	-	5	54	25	0	**84**	0	0	**0**	-	**316**
6:45AM	0	**0**	-	2	32	32	0	**66**	0	0	**0**	-	**354**
Hourly Total	0	**0**	-	21	150	113	0	**284**	0	0	**0**	-	**1207**
7:00AM	0	**0**	-	3	47	24	0	**74**	0	0	**0**	-	**293**
7:15AM	0	**0**	-	6	46	24	0	**76**	0	0	**0**	-	**331**
7:30AM	0	**0**	-	5	46	32	0	**83**	0	0	**0**	-	**327**
7:45AM	0	**0**	-	8	41	25	0	**74**	0	0	**0**	-	**304**
Hourly Total	0	**0**	-	22	180	105	0	**307**	0	0	**0**	-	**1255**
8:00AM	0	**0**	-	11	45	28	0	**84**	0	0	**0**	-	**272**
8:15AM	0	**0**	-	4	35	24	0	**63**	0	0	**0**	-	**327**
8:30AM	0	**0**	-	4	43	33	0	**80**	0	0	**0**	-	**285**
8:45AM	0	**0**	-	6	54	36	0	**96**	0	0	**0**	-	**326**
Hourly Total	0	**0**	-	25	177	121	0	**323**	0	0	**0**	-	**1210**
9:00AM	0	**0**	-	9	48	31	0	**88**	0	0	**0**	-	**283**
9:15AM	0	**0**	-	12	44	30	0	**86**	0	0	**0**	-	**307**
9:30AM	0	**0**	-	9	48	19	0	**76**	0	0	**0**	-	**295**
9:45AM	0	**0**	-	8	31	34	0	**73**	0	0	**0**	-	**275**
Hourly Total	0	**0**	-	38	171	114	0	**323**	0	0	**0**	-	**1160**
10:00AM	0	**0**	-	10	58	19	0	**87**	0	0	**0**	-	**284**

Leg	Railroad			SR 531 (172nd St NE)						Railroad			
Direction	Northeastbound			Eastbound						Southeastbound			
Time	L	App	Ped*	R	T	L	U	App	Ped*	R	App	Ped*	Int
10:15AM	0	**0**	-	11	65	38	0	**114**	0	0	**0**	-	**337**
10:30AM	0	**0**	-	9	56	44	0	**109**	0	0	**0**	-	**330**
10:45AM	0	**0**	-	6	63	40	0	**109**	0	0	**0**	-	**347**
Hourly Total	0	**0**	-	36	242	141	0	**419**	0	0	**0**	-	**1298**
11:00AM	0	**0**	-	10	83	46	0	**139**	0	0	**0**	-	**360**
11:15AM	0	**0**	-	14	74	48	0	**136**	0	0	**0**	-	**361**
11:30AM	0	**0**	-	14	59	45	0	**118**	0	0	**0**	-	**363**
11:45AM	0	**0**	-	12	80	41	0	**133**	0	0	**0**	-	**379**
Hourly Total	0	**0**	-	50	296	180	0	**526**	0	0	**0**	-	**1463**
12:00PM	0	**0**	-	18	62	44	0	**124**	0	0	**0**	-	**351**
12:15PM	1	**1**	-	16	71	41	0	**128**	0	0	**0**	-	**346**
12:30PM	0	**0**	-	8	83	54	0	**145**	0	0	**0**	-	**392**
12:45PM	0	**0**	-	6	89	47	0	**142**	0	0	**0**	-	**343**
Hourly Total	1	**1**	-	48	305	186	0	**539**	0	0	**0**	-	**1432**
1:00PM	0	**0**	-	16	84	50	0	**150**	0	0	**0**	-	**396**
1:15PM	0	**0**	-	12	86	48	0	**146**	0	0	**0**	-	**378**
1:30PM	0	**0**	-	10	95	53	0	**158**	0	0	**0**	-	**396**
1:45PM	0	**0**	-	14	80	64	0	**158**	0	0	**0**	-	**394**
Hourly Total	0	**0**	-	52	345	215	0	**612**	0	0	**0**	-	**1564**
2:00PM	0	**0**	-	24	94	39	0	**157**	0	0	**0**	-	**400**
2:15PM	0	**0**	-	19	93	70	0	**182**	0	0	**0**	-	**398**
2:30PM	0	**0**	-	26	87	46	0	**159**	0	0	**0**	-	**423**
2:45PM	0	**0**	-	18	106	48	0	**172**	0	0	**0**	-	**406**
Hourly Total	0	**0**	-	87	380	203	0	**670**	0	0	**0**	-	**1627**
3:00PM	0	**0**	-	18	100	46	0	**164**	0	0	**0**	-	**400**
3:15PM	0	**0**	-	23	99	44	0	**166**	0	0	**0**	-	**457**
3:30PM	0	**0**	-	20	131	51	0	**202**	0	0	**0**	-	**482**
3:45PM	0	**0**	-	30	91	48	0	**169**	0	0	**0**	-	**467**
Hourly Total	0	**0**	-	91	421	189	0	**701**	0	0	**0**	-	**1806**
4:00PM	0	**0**	-	27	104	45	0	**176**	0	0	**0**	-	**488**
4:15PM	0	**0**	-	26	107	64	0	**197**	0	0	**0**	-	**460**
4:30PM	0	**0**	-	32	109	46	0	**187**	0	0	**0**	-	**492**
4:45PM	0	**0**	-	29	123	44	0	**196**	0	0	**0**	-	**473**
Hourly Total	0	**0**	-	114	443	199	0	**756**	0	0	**0**	-	**1913**
5:00PM	0	**0**	-	24	103	50	0	**177**	0	1	**1**	-	**477**
5:15PM	0	**0**	-	20	132	67	0	**219**	0	0	**0**	-	**497**
5:30PM	0	**0**	-	14	130	47	0	**191**	0	0	**0**	-	**426**
5:45PM	0	**0**	-	23	114	62	0	**199**	0	0	**0**	-	**441**
Hourly Total	0	**0**	-	81	479	226	0	**786**	0	1	**1**	-	**1841**
6:00PM	0	**0**	-	18	118	42	0	**178**	0	0	**0**	-	**430**
6:15PM	0	**0**	-	17	105	55	0	**177**	0	0	**0**	-	**385**
6:30PM	0	**0**	-	26	98	51	0	**175**	0	0	**0**	-	**372**
6:45PM	0	**0**	-	18	108	55	0	**181**	0	0	**0**	-	**392**
Hourly Total	0	**0**	-	79	429	203	0	**711**	0	0	**0**	-	**1579**
7:00PM	0	**0**	-	14	61	45	0	**120**	0	0	**0**	-	**276**
7:15PM	0	**0**	-	9	91	42	0	**142**	0	0	**0**	-	**284**
7:30PM	0	**0**	-	14	82	37	0	**133**	0	0	**0**	-	**242**
7:45PM	0	**0**	-	12	74	31	0	**117**	0	0	**0**	-	**234**
Hourly Total	0	**0**	-	49	308	155	0	**512**	0	0	**0**	-	**1036**
8:00PM	0	**0**	-	10	81	40	0	**131**	0	0	**0**	-	**247**
8:15PM	0	**0**	-	16	72	33	0	**121**	0	0	**0**	-	**241**
8:30PM	0	**0**	-	17	68	39	0	**124**	0	0	**0**	-	**204**
8:45PM	0	**0**	-	15	54	20	0	**89**	1	0	**0**	-	**185**
Hourly Total	0	**0**	-	58	275	132	0	**465**	1	0	**0**	-	**877**
9:00PM	0	**0**	-	5	61	30	0	**96**	1	0	**0**	-	**194**
9:15PM	0	**0**	-	6	55	28	0	**89**	0	0	**0**	-	**183**
9:30PM	0	**0**	-	7	28	21	0	**56**	0	0	**0**	-	**144**
9:45PM	0	**0**	-	11	36	23	0	**70**	0	0	**0**	-	**141**
Hourly Total	0	**0**	-	29	180	102	0	**311**	1	0	**0**	-	**662**
10:00PM	0	**0**	-	8	40	15	0	**63**	0	0	**0**	-	**108**

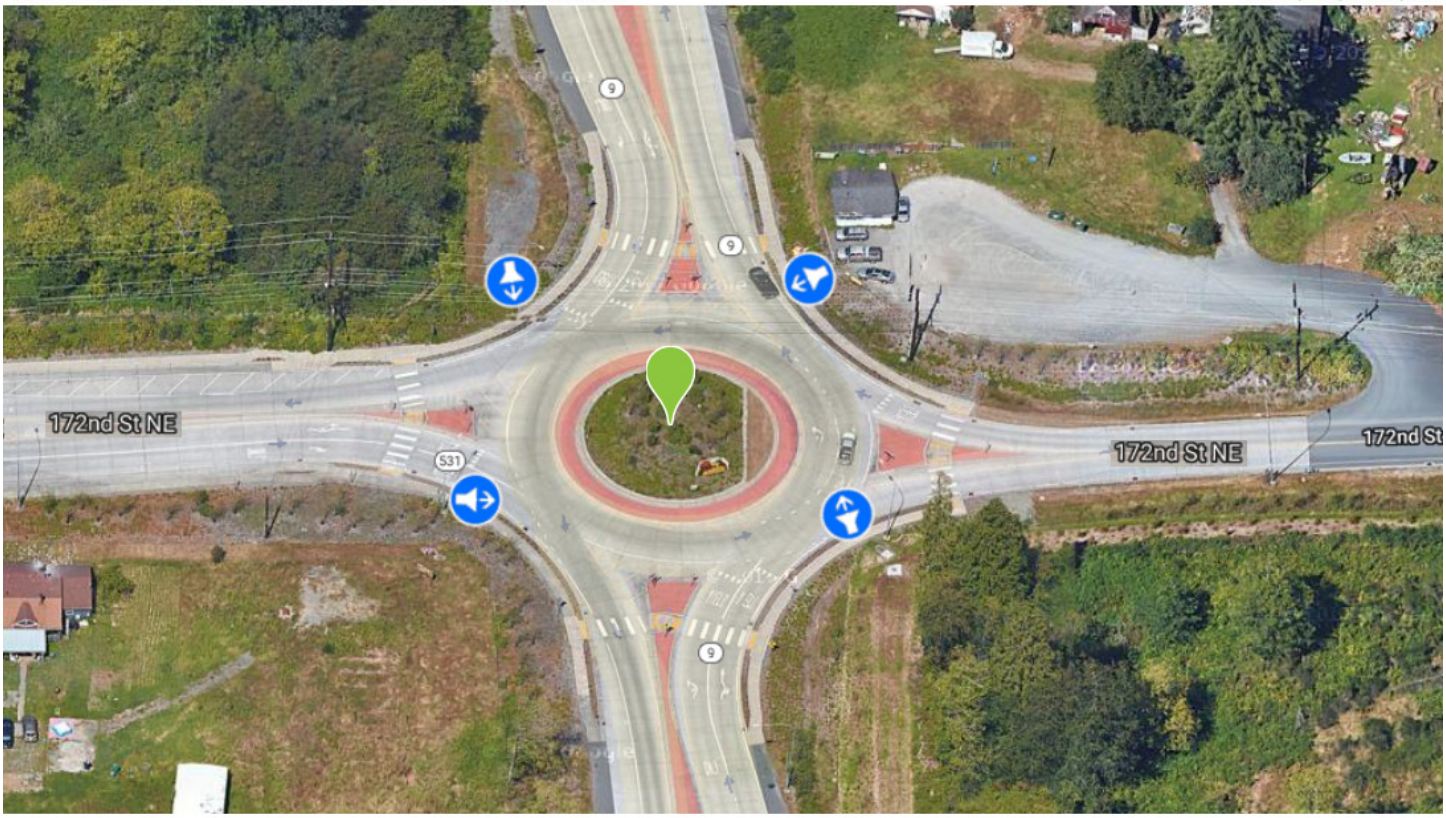
Leg	Railroad			SR 531 (172nd St NE)						Railroad			
Direction	Northeastbound			Eastbound						Southeastbound			
Time	L	**App**	Ped*	R	T	L	U	**App**	Ped*	R	**App**	Ped*	**Int**
10:15PM	0	**0**	-	6	40	20	0	**66**	0	0	**0**	-	**106**
10:30PM	0	**0**	-	1	19	17	0	**37**	0	0	**0**	-	**77**
10:45PM	0	**0**	-	3	32	14	0	**49**	0	0	**0**	-	**77**
Hourly Total	0	**0**	-	18	131	66	0	**215**	0	0	**0**	-	**368**
11:00PM	0	**0**	-	3	27	10	0	**40**	0	0	**0**	-	**77**
11:15PM	0	**0**	-	5	29	11	0	**45**	0	0	**0**	-	**74**
11:30PM	0	**0**	-	4	16	7	0	**27**	0	0	**0**	-	**44**
11:45PM	0	**0**	-	1	11	12	0	**24**	0	0	**0**	-	**49**
Hourly Total	0	**0**	-	13	83	40	0	**136**	0	0	**0**	-	**244**
Total	1	**1**	-	953	5199	2875	0	**9027**	2	1	**1**	-	**24401**
% Approach	100%	**-**	-	10.6%	57.6%	31.8%	0%	**-**	-	100%	**-**	-	**-**
% Total	0%	**0%**	-	3.9%	21.3%	11.8%	0%	**37.0%**	-	0%	**0%**	-	**-**
Motorcycles	0	**0**	-	3	14	4	0	**21**	-	0	**0**	-	45
% Motorcycles	0%	**0%**	-	0.3%	0.3%	0.1%	0%	**0.2%**	-	0%	**0%**	-	0.2%
Lights	0	**0**	-	931	5007	2749	0	**8687**	-	0	**0**	-	23423
% Lights	0%	**0%**	-	97.7%	96.3%	95.6%	0%	**96.2%**	-	0%	**0%**	-	96.0%
Single-Unit Trucks	0	**0**	-	13	107	63	0	**183**	-	0	**0**	-	604
% Single-Unit Trucks	0%	**0%**	-	1.4%	2.1%	2.2%	0%	**2.0%**	-	0%	**0%**	-	2.5%
Articulated Trucks	0	**0**	-	3	63	56	0	**122**	-	0	**0**	-	281
% Articulated Trucks	0%	**0%**	-	0.3%	1.2%	1.9%	0%	**1.4%**	-	0%	**0%**	-	1.2%
Buses	0	**0**	-	2	7	3	0	**12**	-	0	**0**	-	40
% Buses	0%	**0%**	-	0.2%	0.1%	0.1%	0%	**0.1%**	-	0%	**0%**	-	0.2%
Trains	1	**1**	-	0	0	0	0	**0**	-	1	**1**	-	2
% Trains	100%	**100%**	-	0%	0%	0%	0%	**0%**	-	100%	**100%**	-	0%
Bicycles on Road	0	**0**	-	1	1	0	0	**2**	-	0	**0**	-	6
% Bicycles on Road	0%	**0%**	-	0.1%	0%	0%	0%	**0%**	-	0%	**0%**	-	0%
Pedestrians	-	-	0	-	-	-	-	-	2	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	100%	-	-	-	-
Bicycles on Crosswalk	-	-	0	-	-	-	-	-	0	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	0%	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

SR009mp26.05_SR531-172nd_St_NE_RAB_2019-0305 - TMC
Tue Mar 5, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 645135, Location: 48.151649, -122.113259, Site Code: 00902605_0319

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US



Tue Mar 5, 2019
24 h TMC

28°F Clear

Lat: 48.151649 N
Long: 122.113259 W

Peak Hour Factor

Scope	Time	Count	PHF
▶ AM	Tue Mar 5, 2019 7:00 AM	1,437	0.926
▶ Midday	Tue Mar 5, 2019 11:45 AM	1,010	0.932
▶ PM	Tue Mar 5, 2019 3:45 PM	1,722	0.944

SR009mp26.05_SR531-172nd_St_NE_RAB_2019-0305 - TMC
Tue Mar 5, 2019
Full Length (12 AM-12 AM (+1))
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 645135, Location: 48.151649, -122.113259, Site Code: 00902605_0319

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

Leg	SR 9						172nd St NE						SR 9						SR531 (172nd St NE)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2019-03-05 12:00AM	5	5	0	0	**10**	0	0	1	0	0	**1**	0	0	3	0	0	**3**	0	2	2	3	0	**7**	0	**21**
12:15AM	2	2	0	0	**4**	0	0	0	0	0	**0**	0	0	0	1	0	**1**	0	1	2	3	0	**6**	0	**11**
12:30AM	2	1	0	0	**3**	0	1	1	0	0	**2**	0	0	1	0	0	**1**	0	3	6	2	0	**11**	0	**17**
12:45AM	0	3	0	0	**3**	0	0	0	0	0	**0**	0	1	3	2	0	**6**	0	2	1	5	0	**8**	0	**17**
Hourly Total	9	11	0	0	**20**	0	1	2	0	0	**3**	0	1	7	3	0	**11**	0	8	11	13	0	**32**	0	**66**
1:00AM	0	3	1	0	**4**	0	0	0	0	0	**0**	0	0	1	1	0	**2**	0	1	3	2	0	**6**	0	**12**
1:15AM	2	1	0	0	**3**	0	0	2	0	0	**2**	0	0	0	1	0	**1**	0	1	1	3	0	**5**	0	**11**
1:30AM	3	1	0	0	**4**	0	0	0	0	0	**0**	0	0	1	1	0	**2**	0	0	4	0	0	**4**	0	**10**
1:45AM	1	5	0	0	**6**	0	1	0	0	0	**1**	0	0	1	1	0	**2**	0	2	1	1	0	**4**	0	**13**
Hourly Total	6	10	1	0	**17**	0	1	2	0	0	**3**	0	0	3	4	0	**7**	0	4	9	6	0	**19**	0	**46**
2:00AM	0	8	0	0	**8**	0	0	1	0	0	**1**	0	0	1	2	0	**3**	0	0	2	1	0	**3**	0	**15**
2:15AM	1	3	0	0	**4**	0	0	0	0	0	**0**	0	0	1	0	0	**1**	0	2	1	0	0	**3**	0	**8**
2:30AM	2	3	0	0	**5**	0	0	4	0	0	**4**	0	0	2	1	0	**3**	0	3	1	0	0	**4**	0	**16**
2:45AM	2	7	1	0	**10**	0	1	2	0	0	**3**	0	0	2	3	0	**5**	0	2	1	2	0	**5**	0	**23**
Hourly Total	5	21	1	0	**27**	0	1	7	0	0	**8**	0	0	6	6	0	**12**	0	7	5	3	0	**15**	0	**62**
3:00AM	1	8	0	0	**9**	0	0	2	0	0	**2**	0	0	2	1	0	**3**	0	8	2	2	0	**12**	0	**26**
3:15AM	6	12	1	0	**19**	0	0	1	0	0	**1**	0	0	5	1	0	**6**	0	3	0	0	0	**3**	0	**29**
3:30AM	2	3	1	0	**6**	0	0	4	0	0	**4**	0	0	1	6	0	**7**	0	5	0	0	0	**5**	0	**22**
3:45AM	6	8	0	0	**14**	0	0	2	0	0	**2**	0	0	5	7	0	**12**	0	4	0	0	0	**4**	0	**32**
Hourly Total	15	31	2	0	**48**	0	0	9	0	0	**9**	0	0	13	15	0	**28**	0	20	2	2	0	**24**	0	**109**
4:00AM	10	10	0	0	**20**	0	0	6	0	0	**6**	0	0	6	6	0	**12**	0	3	0	1	0	**4**	0	**42**
4:15AM	8	18	1	0	**27**	0	0	12	0	0	**12**	0	0	5	8	0	**13**	0	2	0	1	0	**3**	0	**55**
4:30AM	9	25	0	0	**34**	0	1	15	1	0	**17**	0	0	9	13	0	**22**	0	5	1	2	0	**8**	0	**81**
4:45AM	11	29	0	0	**40**	0	2	15	0	0	**17**	0	0	12	14	0	**26**	0	8	0	3	0	**11**	0	**94**
Hourly Total	38	82	1	0	**121**	0	3	48	1	0	**52**	0	0	32	41	0	**73**	0	18	1	7	0	**26**	0	**272**
5:00AM	13	44	0	0	**57**	0	1	19	1	0	**21**	0	1	12	14	0	**27**	0	13	1	3	0	**17**	0	**122**
5:15AM	9	26	1	0	**36**	0	1	10	0	0	**11**	0	0	14	22	0	**36**	0	13	1	3	0	**17**	0	**100**
5:30AM	14	47	0	0	**61**	0	1	21	2	0	**24**	0	0	28	31	0	**59**	0	20	1	6	0	**27**	0	**171**
5:45AM	15	53	1	0	**69**	0	4	19	1	0	**24**	0	0	53	47	0	**100**	0	20	3	5	0	**28**	0	**221**
Hourly Total	51	170	2	0	**223**	0	7	69	4	0	**80**	0	1	107	114	0	**222**	0	66	6	17	0	**89**	0	**614**
6:00AM	13	57	0	0	**70**	0	1	17	6	0	**24**	0	0	31	31	0	**62**	0	24	1	2	0	**27**	0	**183**
6:15AM	14	82	1	0	**97**	0	3	16	1	0	**20**	0	0	38	49	0	**87**	0	29	3	12	0	**44**	0	**248**
6:30AM	11	74	2	0	**87**	0	5	14	8	0	**27**	0	0	61	72	0	**133**	0	33	2	14	0	**49**	0	**296**
6:45AM	23	66	4	0	**93**	0	14	14	3	0	**31**	0	0	59	59	0	**118**	0	24	8	24	0	**56**	0	**298**
Hourly Total	61	279	7	0	**347**	0	23	61	18	0	**102**	0	0	189	211	0	**400**	0	110	14	52	0	**176**	0	**1025**
7:00AM	22	57	2	0	**81**	0	7	18	7	0	**32**	0	1	65	47	0	**113**	0	36	2	30	0	**68**	0	**294**
7:15AM	30	79	6	0	**115**	0	17	15	4	0	**36**	0	1	82	65	0	**148**	0	42	6	41	0	**89**	0	**388**
7:30AM	35	60	4	0	**99**	0	16	14	7	0	**37**	0	1	74	56	0	**131**	0	44	2	72	0	**118**	0	**385**
7:45AM	43	81	5	0	**129**	0	15	15	1	0	**31**	0	1	68	59	0	**128**	0	31	2	49	0	**82**	0	**370**
Hourly Total	130	277	17	0	**424**	0	55	62	19	0	**136**	0	4	289	227	0	**520**	0	153	12	192	0	**357**	0	**1437**
8:00AM	36	72	5	0	**113**	0	4	11	4	0	**19**	0	0	44	54	0	**98**	0	30	6	10	0	**46**	0	**276**
8:15AM	10	60	3	0	**73**	0	3	16	1	0	**20**	0	0	58	52	0	**110**	0	23	6	14	0	**43**	0	**246**
8:30AM	14	46	3	0	**63**	0	13	15	2	0	**30**	0	1	49	41	0	**91**	0	23	8	32	0	**63**	0	**247**
8:45AM	22	67	1	0	**90**	0	12	16	0	0	**28**	0	0	76	40	0	**116**	0	13	6	47	0	**66**	0	**300**
Hourly Total	82	245	12	0	**339**	0	32	58	7	0	**97**	0	1	227	187	0	**415**	0	89	26	103	0	**218**	0	**1069**
9:00AM	41	85	10	0	**136**	0	7	19	6	0	**32**	0	1	56	43	0	**100**	0	27	8	28	0	**63**	0	**331**
9:15AM	26	56	5	0	**87**	0	2	14	0	0	**16**	0	0	49	39	0	**88**	0	40	10	14	0	**64**	0	**255**
9:30AM	13	37	3	0	**53**	0	5	9	3	0	**17**	0	1	55	50	0	**106**	0	25	11	22	0	**58**	0	**234**
9:45AM	30	33	6	0	**69**	0	7	11	6	0	**24**	0	0	54	43	0	**97**	0	24	7	26	0	**57**	0	**247**
Hourly Total	110	211	24	0	**345**	0	21	53	15	0	**89**	0	2	214	175	0	**391**	0	116	36	90	0	**242**	0	**1067**
10:00AM	20	41	1	0	**62**	0	2	17	1	0	**20**	0	0	50	45	0	**95**	0	31	7	15	0	**53**	0	**230**
10:15AM	27	45	3	0	**75**	0	1	6	2	0	**9**	0	0	45	41	0	**86**	0	38	13	20	0	**71**	0	**241**
10:30AM	21	47	2	0	**70**	0	6	12	1	0	**19**	0	0	38	33	0	**71**	0	19	12	17	0	**48**	0	**208**
10:45AM	19	45	4	0	**68**	0	5	14	2	0	**21**	0	1	41	40	0	**82**	0	30	11	22	0	**63**	0	**234**
Hourly Total	87	178	10	0	**275**	0	14	49	6	0	**69**	0	1	174	159	0	**334**	0	118	43	74	0	**235**	0	**913**
11:00AM	20	40	2	0	**62**	0	4	10	0	0	**14**	0	1	48	41	0	**90**	0	24	8	12	0	**44**	0	**210**
11:15AM	17	46	3	0	**66**	0	7	12	0	0	**19**	0	0	44	33	0	**77**	0	35	16	18	0	**69**	0	**231**
11:30AM	14	48	4	0	**66**	0	4	10	1	0	**15**	0	1	42	33	0	**76**	0	28	9	24	0	**61**	0	**218**
11:45AM	31	42	5	0	**78**	0	4	20	1	0	**25**	0	0	41	39	0	**80**	0	34	16	24	0	**74**	0	**257**
Hourly Total	82	176	14	0	**272**	0	19	52	2	0	**73**	0	2	175	146	0	**323**	0	121	49	78	0	**248**	0	**916**
12:00PM	19	45	7	0	**71**	0	8	11	1	0	**20**	0	2	56	38	0	**96**	0	33	9	18	0	**60**	0	**247**
12:15PM	24	49	6	0	**79**	0	3	12	3	0	**18**	0	3	51	40	0	**94**	0	37	20	23	0	**80**	0	**271**
12:30PM	30	60	6	0	**96**	0	6	12	3	0	**21**	0	1	30	30	0	**61**	0	26	13	18	0	**57**	0	**235**
12:45PM	21	45	3	0	**69**	0	9	10	3	0	**22**	0	0	41	35	0	**76**	0	37	23	22	0	**82**	0	**249**
Hourly Total	94	199	22	0	**315**	0	26	45	10	0	**81**	0	6	178	143	0	**327**	0	133	65	81	0	**279**	0	**1002**
1:00PM	24	53	3	0	**80**	0	4	14	0	0	**18**	0	1	38	34	0	**73**	0	31	11	16	0	**58**	0	**229**
1:15PM	25	47	7	0	**79**	0	3	5	2	0	**10**	0	1	44	40	0	**85**	0	34	16	28	0	**78**	0	**252**
1:30PM	34	49	3	0	**86**	0	4	14	3	0	**21**	0	1	64	30	0	**95**	0	28	14	16	0	**58**	0	**260**
1:45PM	23	59	4	0	**86**	0	5	12	2	0	**19**	0	0	61	37	0	**98**	0	35	13	34	0	**82**	0	**285**
Hourly Total	106	208	17	0	**331**	0	16	45	7	0	**68**	0	3	207	141	0	**351**	0	128	54	94	0	**276**	0	**1026**

Leg	SR 9						172nd St NE						SR 9						SR531 (172nd St NE)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2:00PM	15	64	3	0	**82**	0	4	8	3	0	**15**	0	0	51	45	0	**96**	0	35	13	27	0	**75**	0	**268**
2:15PM	22	69	5	0	**96**	0	7	8	4	0	**19**	0	3	58	44	0	**105**	0	42	10	54	0	**106**	0	**326**
2:30PM	61	81	13	0	**155**	0	3	11	0	0	**14**	0	2	65	49	0	**116**	0	50	20	32	0	**102**	0	**387**
2:45PM	67	85	19	1	**172**	0	9	15	5	0	**29**	0	3	75	45	0	**123**	0	47	17	33	0	**97**	0	**421**
Hourly Total	165	299	40	1	**505**	0	23	42	12	0	**77**	0	8	249	183	0	**440**	0	174	60	146	0	**380**	0	**1402**
3:00PM	31	66	10	0	**107**	0	5	12	2	0	**19**	0	1	81	43	1	**126**	0	53	18	25	0	**96**	0	**348**
3:15PM	24	61	7	0	**92**	0	8	10	4	0	**22**	0	3	81	52	0	**136**	0	46	25	40	0	**111**	0	**361**
3:30PM	31	87	14	0	**132**	0	10	12	0	0	**22**	0	1	86	49	1	**137**	0	64	23	36	0	**123**	0	**414**
3:45PM	47	78	11	0	**136**	0	4	17	1	0	**22**	0	6	116	45	0	**167**	0	46	26	39	0	**111**	0	**436**
Hourly Total	133	292	42	0	**467**	0	27	51	7	0	**85**	0	11	364	189	2	**566**	0	209	92	140	0	**441**	0	**1559**
4:00PM	23	83	15	0	**121**	0	5	17	4	0	**26**	0	1	96	56	0	**153**	0	57	22	31	0	**110**	0	**410**
4:15PM	29	99	6	1	**135**	0	5	13	5	0	**23**	0	1	98	69	1	**169**	0	67	24	38	0	**129**	0	**456**
4:30PM	33	92	4	0	**129**	0	5	16	0	0	**21**	0	2	91	55	0	**148**	0	62	21	39	0	**122**	0	**420**
4:45PM	19	75	10	0	**104**	0	4	14	1	0	**19**	0	4	100	57	0	**161**	0	54	18	35	0	**107**	0	**391**
Hourly Total	104	349	35	1	**489**	0	19	60	10	0	**89**	0	8	385	237	1	**631**	0	240	85	143	0	**468**	0	**1677**
5:00PM	30	86	9	0	**125**	0	5	8	4	0	**17**	0	1	101	42	0	**144**	0	55	21	32	0	**108**	0	**394**
5:15PM	37	95	8	0	**140**	0	5	10	2	0	**17**	0	3	104	53	0	**160**	0	58	21	26	0	**105**	0	**422**
5:30PM	39	85	9	0	**133**	0	6	5	0	0	**11**	0	2	75	61	0	**138**	0	57	21	41	0	**119**	0	**401**
5:45PM	38	69	8	0	**115**	0	3	12	3	0	**18**	0	1	89	55	0	**145**	0	43	29	33	0	**105**	0	**383**
Hourly Total	144	335	34	0	**513**	0	19	35	9	0	**63**	0	7	369	211	0	**587**	0	213	92	132	0	**437**	0	**1600**
6:00PM	27	59	8	0	**94**	0	6	6	1	0	**13**	0	2	96	40	0	**138**	0	35	33	31	0	**99**	0	**344**
6:15PM	37	60	6	0	**103**	0	2	13	3	0	**18**	0	1	61	56	0	**118**	0	31	26	28	0	**85**	0	**324**
6:30PM	33	56	6	0	**95**	0	4	4	4	0	**12**	0	3	55	37	0	**95**	0	30	23	24	0	**77**	0	**279**
6:45PM	24	43	7	0	**74**	0	7	13	0	0	**20**	0	2	45	35	0	**82**	0	28	23	32	0	**83**	0	**259**
Hourly Total	121	218	27	0	**366**	0	19	36	8	0	**63**	0	8	257	168	0	**433**	0	124	105	115	0	**344**	0	**1206**
7:00PM	24	41	5	0	**70**	0	7	8	1	0	**16**	0	2	47	23	0	**72**	0	34	19	27	0	**80**	0	**238**
7:15PM	18	28	3	0	**49**	0	2	6	1	0	**9**	0	2	34	18	0	**54**	0	27	11	27	0	**65**	0	**177**
7:30PM	13	24	10	0	**47**	0	1	3	2	0	**6**	0	2	31	16	0	**49**	0	24	23	15	0	**62**	0	**164**
7:45PM	13	22	2	0	**37**	0	0	9	0	0	**9**	0	0	36	12	0	**48**	0	17	13	25	0	**55**	0	**149**
Hourly Total	68	115	20	0	**203**	0	10	26	4	0	**40**	0	6	148	69	0	**223**	0	102	66	94	0	**262**	0	**728**
8:00PM	15	27	4	0	**46**	0	0	7	2	0	**9**	0	0	24	18	0	**42**	0	23	16	21	0	**60**	0	**157**
8:15PM	18	33	3	0	**54**	0	4	2	2	0	**8**	0	2	18	14	0	**34**	0	22	8	26	0	**56**	0	**152**
8:30PM	8	16	5	0	**29**	0	2	5	0	0	**7**	0	0	24	15	0	**39**	0	18	10	13	0	**41**	0	**116**
8:45PM	9	29	0	0	**38**	0	1	2	0	0	**3**	0	1	26	12	0	**39**	0	14	8	11	0	**33**	0	**113**
Hourly Total	50	105	12	0	**167**	0	7	16	4	0	**27**	0	3	92	59	0	**154**	0	77	42	71	0	**190**	0	**538**
9:00PM	15	20	2	0	**37**	0	0	2	0	0	**2**	0	0	19	4	0	**23**	0	12	13	11	0	**36**	0	**98**
9:15PM	18	21	0	0	**39**	0	1	3	1	0	**5**	0	1	18	9	0	**28**	0	14	14	13	0	**41**	0	**113**
9:30PM	4	12	5	0	**21**	0	0	4	1	0	**5**	0	0	11	1	0	**12**	0	6	9	9	0	**24**	0	**62**
9:45PM	4	9	0	0	**13**	0	1	3	1	0	**5**	0	0	10	4	0	**14**	0	7	9	12	0	**28**	0	**60**
Hourly Total	41	62	7	0	**110**	0	2	12	3	0	**17**	0	1	58	18	0	**77**	0	39	45	45	0	**129**	0	**333**
10:00PM	3	10	1	0	**14**	0	0	0	0	0	**0**	0	0	12	10	0	**22**	0	4	0	4	0	**8**	0	**44**
10:15PM	2	10	0	0	**12**	0	0	3	0	0	**3**	0	0	10	1	0	**11**	0	8	4	5	0	**17**	0	**43**
10:30PM	1	8	0	0	**9**	0	0	0	0	0	**0**	0	0	6	2	0	**8**	0	5	2	5	0	**12**	0	**29**
10:45PM	4	8	1	0	**13**	0	0	1	0	0	**1**	0	0	4	2	0	**6**	0	2	3	2	0	**7**	0	**27**
Hourly Total	10	36	2	0	**48**	0	0	4	0	0	**4**	0	0	32	15	0	**47**	0	19	9	16	0	**44**	0	**143**
11:00PM	0	3	0	0	**3**	0	0	0	0	0	**0**	0	0	9	4	0	**13**	0	8	0	6	0	**14**	0	**30**
11:15PM	0	3	0	0	**3**	0	0	2	0	0	**2**	0	1	5	5	0	**11**	0	4	4	2	0	**10**	0	**26**
11:30PM	0	4	0	0	**4**	0	1	1	0	0	**2**	0	0	7	0	0	**7**	0	2	3	3	0	**8**	0	**21**
11:45PM	4	3	0	0	**7**	0	0	1	0	0	**1**	0	0	2	2	0	**4**	0	0	4	5	0	**9**	0	**21**
Hourly Total	4	13	0	0	**17**	0	1	4	0	0	**5**	0	1	23	11	0	**35**	0	14	11	16	0	**41**	0	**98**
Total	1716	3922	349	2	**5989**	0	346	848	146	0	**1340**	0	74	3798	2732	3	**6607**	0	2302	940	1730	0	**4972**	0	**18908**
% Approach	28.7%	65.5%	5.8%	0%	**-**	-	25.8%	63.3%	10.9%	0%	**-**	-	1.1%	57.5%	41.4%	0%	**-**	-	46.3%	18.9%	34.8%	0%	**-**	-	-
% Total	9.1%	20.7%	1.8%	0%	**31.7%**	-	1.8%	4.5%	0.8%	0%	**7.1%**	-	0.4%	20.1%	14.4%	0%	**34.9%**	-	12.2%	5.0%	9.1%	0%	**26.3%**	-	-
Motorcycles	3	5	2	0	**10**	-	0	3	0	0	**3**	-	1	5	3	0	**9**	-	0	1	3	0	**4**	-	26
% Motorcycles	0.2%	0.1%	0.6%	0%	**0.2%**	-	0%	0.4%	0%	0%	**0.2%**	-	1.4%	0.1%	0.1%	0%	**0.1%**	-	0%	0.1%	0.2%	0%	**0.1%**	-	0.1%
Lights	1665	3749	338	0	**5752**	-	336	827	142	0	**1305**	-	69	3602	2571	0	**6242**	-	2132	919	1664	0	**4715**	-	18014
% Lights	97.0%	95.6%	96.8%	0%	**96.0%**	-	97.1%	97.5%	97.3%	0%	**97.4%**	-	93.2%	94.8%	94.1%	0%	**94.5%**	-	92.6%	97.8%	96.2%	0%	**94.8%**	-	95.3%
Single-Unit Trucks	18	104	4	0	**126**	-	8	11	2	0	**21**	-	1	96	102	2	**201**	-	109	17	16	0	**142**	-	490
% Single-Unit Trucks	1.0%	2.7%	1.1%	0%	**2.1%**	-	2.3%	1.3%	1.4%	0%	**1.6%**	-	1.4%	2.5%	3.7%	66.7%	**3.0%**	-	4.7%	1.8%	0.9%	0%	**2.9%**	-	2.6%
Articulated Trucks	1	43	1	0	**45**	-	0	4	0	0	**4**	-	1	76	40	0	**117**	-	44	1	7	0	**52**	-	218
% Articulated Trucks	0.1%	1.1%	0.3%	0%	**0.8%**	-	0%	0.5%	0%	0%	**0.3%**	-	1.4%	2.0%	1.5%	0%	**1.8%**	-	1.9%	0.1%	0.4%	0%	**1.0%**	-	1.2%
Buses	29	21	4	2	**56**	-	2	3	2	0	**7**	-	2	19	16	1	**38**	-	17	2	40	0	**59**	-	160
% Buses	1.7%	0.5%	1.1%	100%	**0.9%**	-	0.6%	0.4%	1.4%	0%	**0.5%**	-	2.7%	0.5%	0.6%	33.3%	**0.6%**	-	0.7%	0.2%	2.3%	0%	**1.2%**	-	0.8%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

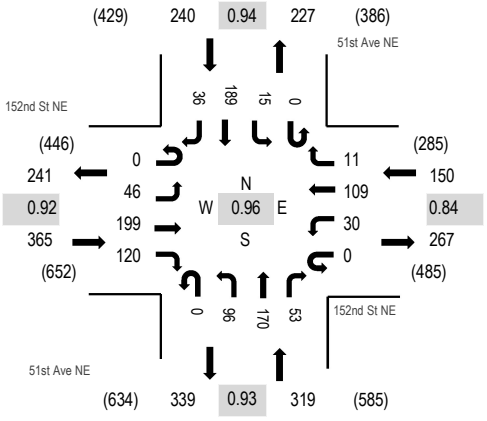
*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 51st Ave NE & 152nd St NE PM
Date: Thursday, January 6, 2022
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour

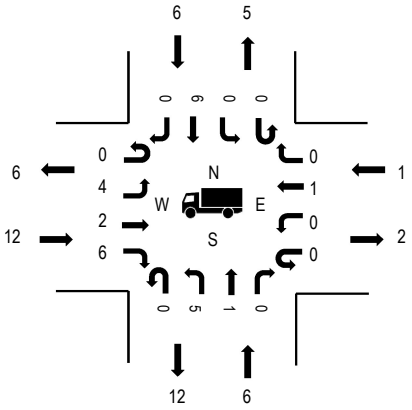
Motorized Vehicles



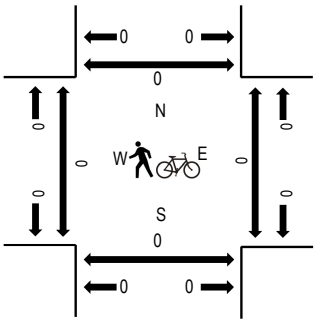
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.3%	0.92
WB	0.7%	0.84
NB	1.9%	0.93
SB	2.5%	0.94
All	2.3%	0.96

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	152nd St NE Eastbound				152nd St NE Westbound				51st Ave NE Northbound				51st Ave NE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	4	52	42	0	16	35	0	0	23	33	11	0	2	40	7	265	1,070
4:15 PM	0	9	54	37	0	8	24	3	0	34	40	12	0	4	46	9	280	1,074
4:30 PM	0	15	44	35	0	7	30	2	0	21	48	11	0	4	51	5	273	1,025
4:45 PM	0	9	40	26	0	11	32	4	0	22	37	14	0	4	43	10	252	963
5:00 PM	0	13	61	22	0	4	23	2	0	19	45	16	0	3	49	12	269	881
5:15 PM	0	8	41	24	0	8	28	2	0	18	46	14	0	5	36	1	231	
5:30 PM	0	6	42	22	0	5	19	0	0	25	26	16	0	2	40	8	211	
5:45 PM	0	5	24	17	0	1	21	0	0	19	29	6	0	3	44	1	170	
Count Total	0	69	358	225	0	60	212	13	0	181	304	100	0	27	349	53	1,951	
Peak Hour	0	46	199	120	0	30	109	11	0	96	170	53	0	15	189	36	1,074	

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

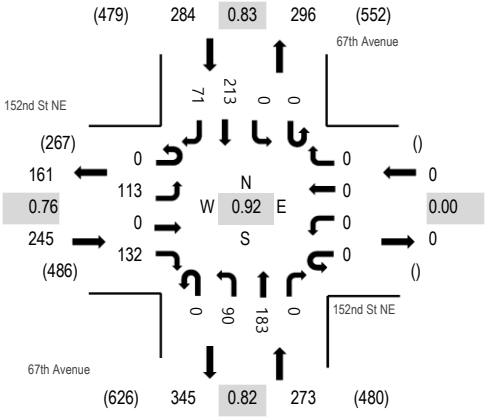
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	3	2	0	5	10	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	3	4	0	3	10	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	4	2	1	2	9	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	2	0	0	0	2	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	3	0	0	1	4	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	2	1	0	1	4	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	0	1	0	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	2	0	0	0	2	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	19	10	1	12	42	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	12	6	1	6	25	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 67th Avenue & 152nd St NE PM
Date: Thursday, January 6, 2022
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour

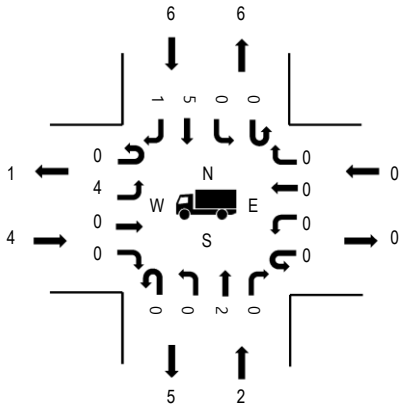
Motorized Vehicles



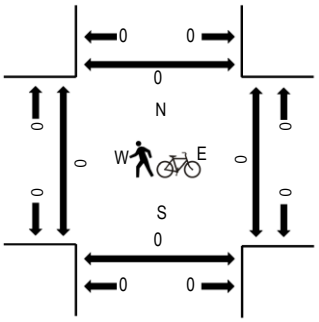
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.6%	0.76
WB	0.0%	0.00
NB	0.7%	0.82
SB	2.1%	0.83
All	1.5%	0.92

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	152nd St NE Eastbound				152nd St NE Westbound				67th Avenue Northbound				67th Avenue 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	33	0	29	0	0	0	0	0	16	45	0	0	0	63	23	209	802
4:15 PM	0	35	0	36	0	0	0	0	0	18	37	0	0	0	44	15	185	789
4:30 PM	0	28	0	35	0	0	0	0	0	20	64	0	0	0	54	17	218	787
4:45 PM	0	17	0	32	0	0	0	0	0	36	37	0	0	0	52	16	190	722
5:00 PM	0	37	0	52	0	0	0	0	0	14	36	0	0	0	46	11	196	643
5:15 PM	0	22	0	33	0	0	0	0	0	20	48	0	0	0	42	18	183	
5:30 PM	0	32	0	29	0	0	0	0	0	16	30	0	0	0	37	9	153	
5:45 PM	0	22	0	14	0	0	0	0	0	14	29	0	0	0	28	4	111	
Count Total	0	226	0	260	0	0	0	0	0	154	326	0	0	0	366	113	1,445	
Peak Hour	0	113	0	132	0	0	0	0	0	90	183	0	0	0	213	71	802	

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

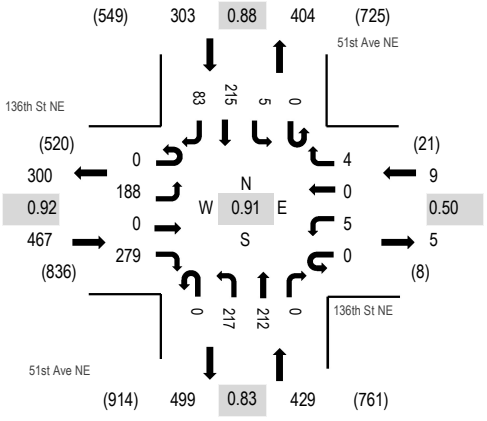
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	1	0	2	4	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	1	0	0	0	1	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	1	1	0	2	4	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	1	0	0	2	3	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	0	2	0	0	2	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	1	1	0	0	2	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	0	2	0	0	2	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	1	2	0	1	4	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	6	9	0	7	22	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	4	2	0	6	12	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 4 51st Ave NE & 136th St NE PM
Date: Thursday, January 6, 2022
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour

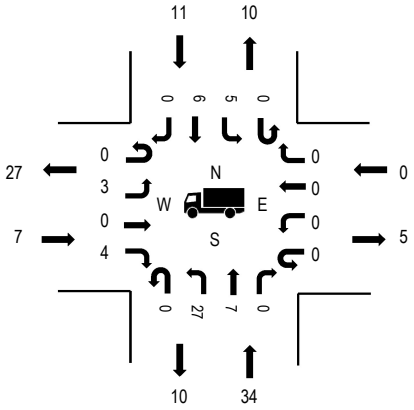
Motorized Vehicles



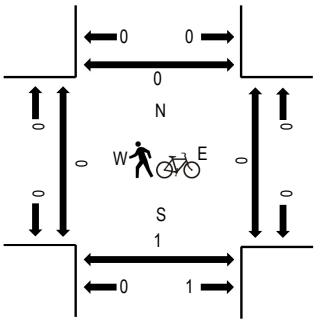
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.5%	0.92
WB	0.0%	0.50
NB	7.9%	0.83
SB	3.6%	0.88
All	4.3%	0.91

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	136th St NE Eastbound				136th St NE Westbound				51st Ave NE Northbound				51st Ave NE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	33	0	50	0	2	3	3	0	38	52	0	0	3	52	14	250	1,154
4:15 PM	0	41	0	70	0	4	0	2	0	71	59	0	0	2	61	23	333	1,208
4:30 PM	0	47	0	62	0	1	0	0	0	57	54	0	0	2	56	25	304	1,130
4:45 PM	0	47	0	73	0	0	0	1	0	44	43	0	0	1	41	17	267	1,068
5:00 PM	0	53	0	74	0	0	0	1	0	45	56	0	0	0	57	18	304	1,013
5:15 PM	0	35	0	66	0	0	1	0	0	37	55	0	0	0	46	15	255	
5:30 PM	0	35	0	66	0	2	0	0	0	36	40	0	0	0	38	25	242	
5:45 PM	0	29	0	55	0	1	0	0	0	35	39	0	0	0	37	16	212	
Count Total	0	320	0	516	0	10	4	7	0	363	398	0	0	8	388	153	2,167	
Peak Hour	0	188	0	279	0	5	0	4	0	217	212	0	0	5	215	83	1,208	

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

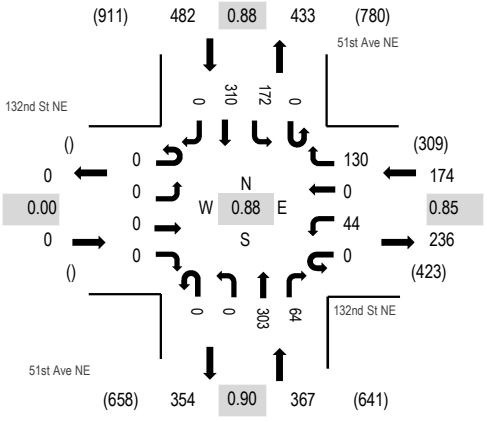
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	9	0	6	15	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	3	13	0	4	20	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	0	10	0	3	13	4:30 PM	0	0	0	0	0	4:30 PM	0	1	0	0	1
4:45 PM	3	7	0	3	13	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	1	4	0	1	6	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	1	3	0	3	7	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	2	3	0	0	5	5:30 PM	0	0	0	0	0	5:30 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
Count Total	10	49	0	21	80	Count Total	0	0	0	0	0	Count Total	0	1	0	0	1
Peak Hour	7	34	0	11	52	Peak Hour	0	0	0	0	0	Peak Hour	0	1	0	0	1

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 5 51st Ave NE & 132nd St NE PM
Date: Thursday, January 6, 2022
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour

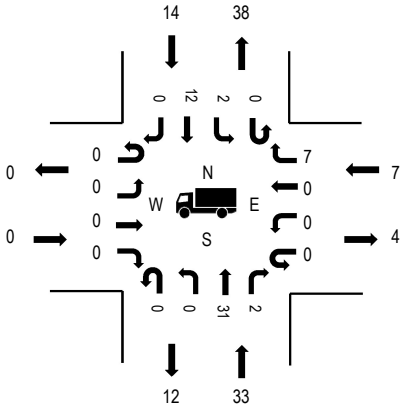
Motorized Vehicles



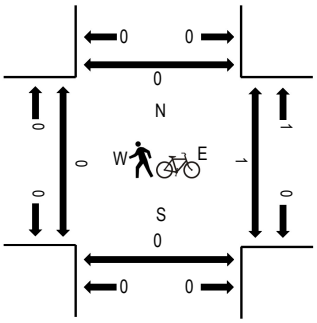
Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	4.0%	0.85
NB	9.0%	0.90
SB	2.9%	0.88
All	5.3%	0.88

Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	132nd St NE Eastbound				132nd St NE Westbound				51st Ave NE Northbound				51st Ave NE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	0	0	0	0	10	0	28	0	0	71	23	0	52	70	0	254	1,023
4:15 PM	0	0	0	0	0	11	0	40	0	0	89	13	0	43	94	0	290	999
4:30 PM	0	0	0	0	0	14	0	31	0	0	84	14	0	44	70	0	257	937
4:45 PM	0	0	0	0	0	9	0	31	0	0	59	14	0	33	76	0	222	882
5:00 PM	0	0	0	0	0	2	0	31	0	0	73	7	0	35	82	0	230	838
5:15 PM	0	0	0	0	0	7	0	30	0	0	67	15	0	36	73	0	228	
5:30 PM	0	0	0	0	0	10	0	26	0	0	50	10	0	36	70	0	202	
5:45 PM	0	0	0	0	0	4	0	25	0	0	45	7	0	41	56	0	178	
Count Total	0	0	0	0	0	67	0	242	0	0	538	103	0	320	591	0	1,861	
Peak Hour	0	0	0	0	0	44	0	130	0	0	303	64	0	172	310	0	1,023	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in 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	6	1	4	11	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	0	12	3	4	19	4:15 PM	0	0	0	0	0	4:15 PM	0	0	1	0	1
4:30 PM	0	11	1	1	13	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	0	4	2	5	11	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	0	3	1	2	6	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	0	1	2	2	5	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	0	5	0	1	6	5:30 PM	0	0	0	0	0	5:30 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
Count Total	0	42	10	20	72	Count Total	0	0	0	0	0	Count Total	0	0	1	0	1
Peak Hour	0	33	7	14	54	Peak Hour	0	0	0	0	0	Peak Hour	0	0	1	0	1

Appendix B: LOS Definitions

Highway Capacity Manual 2010/6th Edition

Signalized intersection level of service (LOS) is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control as well as provides a surrogate measure for driver discomfort and fuel consumption. Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday PM peak hour). Control delay is a complex measure based on many variables, including signal phasing and coordination (i.e., progression of movements through the intersection and along the corridor), signal cycle length, and traffic volumes with respect to intersection capacity and resulting queues. Table 1 summarizes the LOS criteria for signalized intersections, as described in the *Highway Capacity Manual 2010* and 6th Edition (Transportation Research Board, 2010 and 2016, respectively).

Table 1. Level of Service Criteria for Signalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤10	Free Flow
B	>10 – 20	Stable Flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F[1]	>80	Forced flow (congested and queues fail to clear)

Source: *Highway Capacity Manual 2010 and 6th Edition*, Transportation Research Board, 2010 and 2016, respectively.

1. If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0 LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

Unsignalized intersection LOS criteria can be further reduced into two intersection types: all-way stop and two-way stop control. All-way stop control intersection LOS is expressed in terms of the weighted average control delay of the overall intersection or by approach. Two-way stop-controlled intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns. This approach is because major-street through vehicles are assumed to experience zero delay, a weighted average of all movements results in very low overall average delay, and this calculated low delay could mask deficiencies of minor movements. Table 2 shows LOS criteria for unsignalized intersections.

Table 2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)
A	0 – 10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F[1]	>50

Source: *Highway Capacity Manual 2010 and 6th Edition*, Transportation Research Board, 2010 and 2016, respectively.

1. If the volume-to-capacity (v/c) ratio exceeds 1.0, LOS F is assigned an individual lane group for all unsignalized intersections, or minor street approach at two-way stop-controlled intersections. Overall intersection LOS is determined solely by control delay.

Highway Capacity Manual, 2000

Signalized intersection level of service (LOS) is defined in terms of the average total vehicle delay of all movements through an intersection. Vehicle delay is a method of quantifying several intangible factors, including driver discomfort, frustration, and lost travel time. Specifically, LOS criteria are stated in terms of average delay per vehicle during a specified time period (for example, the PM peak hour). Vehicle delay is a complex measure based on many variables, including signal phasing (i.e., progression of movements through the intersection), signal cycle length, and traffic volumes with respect to intersection capacity. Table 1 shows LOS criteria for signalized intersections, as described in the *Highway Capacity Manual* (Transportation Research Board, Special Report 209, 2000).

Table 1. Level of Service Criteria for Signalized Intersections

Level of Service	Average Control Delay (sec/veh)	General Description (Signalized Intersections)
A	≤10	Free Flow
B	>10 - 20	Stable Flow (slight delays)
C	>20 - 35	Stable flow (acceptable delays)
D	>35 - 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 - 80	Unstable flow (intolerable delay)
F	>80	Forced flow (jammed)

Source: *Highway Capacity Manual*, Transportation Research Board, Special Report 209, 2000.

Unsignalized intersection LOS criteria can be further reduced into two intersection types: all-way stop-controlled and two-way stop-controlled. All-way, stop-controlled intersection LOS is expressed in terms of the average vehicle delay of all of the movements, much like that of a signalized intersection. Two-way, stop-controlled intersection LOS is defined in terms of the average vehicle delay of an individual movement(s). This is because the performance of a two-way, stop-controlled intersection is more closely reflected in terms of its individual movements, rather than its performance overall. For this reason, LOS for a two-way, stop-controlled intersection is defined in terms of its individual movements. With this in mind, total average vehicle delay (i.e., average delay of all movements) for a two-way, stop-controlled intersection should be viewed with discretion. Table 2 shows LOS criteria for unsignalized intersections (both all-way and two-way, stop-controlled).

Table 2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (sec/veh)
A	0 - 10
B	>10 - 15
C	>15 - 25
D	>25 - 35
E	>35 - 50
F	>50

Source: *Highway Capacity Manual*, Transportation Research Board, Special Report 209, 2000.

Appendix C: LOS Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations											
Traffic Volume (veh/h)	0	1035	475	0	1510	555	315	0	315	0	0
Future Volume (veh/h)	0	1035	475	0	1510	555	315	0	315	0	0
Initial Q (Qb), veh	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		
Parking Bus, Adj	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			
Adj Sat Flow, veh/h/ln	0	1673	1673	0	1550	1550	1826	1826	1826		
Adj Flow Rate, veh/h	0	1078	0	0	1573	0	328	328	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	2	2	0	4	4	5	5	5		
Cap, veh/h	0	2500		0	2270		425	425			
Arrive On Green	0.00	0.79	0.00	0.00	1.00	0.00	0.12	0.12	0.00		
Sat Flow, veh/h	0	3263	1418	0	3023	1314	3478	3478	1547		
Grp Volume(v), veh/h	0	1078	0	0	1573	0	328	328	0		
Grp Sat Flow(s),veh/h/ln	0	1590	1418	0	1473	1314	1739	1739	1547		
Q Serve(g_s), s	0.0	14.3	0.0	0.0	0.0	0.0	11.9	11.9	0.0		
Cycle Q Clear(g_c), s	0.0	14.3	0.0	0.0	0.0	0.0	11.9	11.9	0.0		
Prop In Lane	0.00		1.00	0.00		1.00	1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	0	2500		0	2270		425	425			
V/C Ratio(X)	0.00	0.43		0.00	0.69		0.77	0.77			
Avail Cap(c_a), veh/h	0	2500		0	2270		915	915			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	0.54	0.00	0.00	0.09	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	0.0	4.5	0.0	0.0	0.0	0.0	55.3	55.3	0.0		
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.2	0.0	5.0	5.0	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		
%ile BackOfQ(50%),veh/ln	0.0	3.9	0.0	0.0	0.1	0.0	5.4	5.4	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	0.0	4.8	0.0	0.0	0.2	0.0	60.3	60.3	0.0		
LnGrp LOS	A	A		A	A		E	E			
Approach Vol, veh/h		1078	A		1573	A	328	328	A		
Approach Delay, s/veh		4.8			0.2		60.3	60.3			
Approach LOS		A			A		E	E			

Timer - Assigned Phs		2		4		6					
Phs Duration (G+Y+Rc), s		108.3		21.7		108.3					
Change Period (Y+Rc), s		* 6.1		* 5.8		6.1					
Max Green Setting (Gmax), s		* 84		* 34		83.9					
Max Q Clear Time (g_c+I1), s		16.3		13.9		2.0					
Green Ext Time (p_c), s		15.7		2.0		32.9					

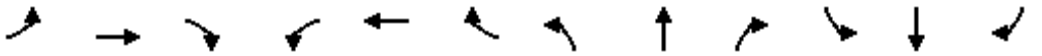
Intersection Summary											
HCM 6th Ctrl Delay			8.5								
HCM 6th LOS			A								

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

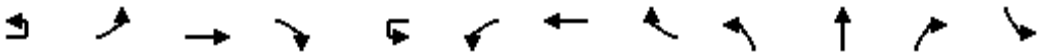
Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	350	1045	0	0	1530	640	705	0	1020	0	0	0
Future Volume (vph)	350	1045	0	0	1530	640	705	0	1020	0	0	0
Ideal Flow (vphpl)	1700	1700	1700	1600	1600	1600	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	7.1			7.8	6.0	5.8	5.8	4.0			
Lane Util. Factor	1.00	0.95			0.91	1.00	0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	0.99			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1568	3136			4200	1280	1633	1633	1517			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1568	3136			4200	1280	1633	1633	1517			
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)	365	1089	0	0	1594	667	734	0	1062	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	365	1089	0	0	1594	667	367	367	1063	0	0	0
Confl. Peds. (#/hr)	3		9	9		3			5	5		
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	5%	5%	5%	0%	0%	0%
Turn Type	Prot	NA			NA	Free	Split	NA	Free			
Protected Phases	5	2			6		8	8				
Permitted Phases						Free			Free			
Actuated Green, G (s)	33.0	84.7			46.4	130.0	33.4	33.4	130.0			
Effective Green, g (s)	32.0	83.7			44.4	130.0	33.4	33.4	130.0			
Actuated g/C Ratio	0.25	0.64			0.34	1.00	0.26	0.26	1.00			
Clearance Time (s)	5.6	6.1			5.8		5.8	5.8				
Vehicle Extension (s)	3.0	4.0			4.0		4.5	4.5				
Lane Grp Cap (vph)	385	2019			1434	1280	419	419	1517			
v/s Ratio Prot	c0.23	0.35			c0.38		c0.22	0.22				
v/s Ratio Perm						0.52			0.70			
v/c Ratio	0.95	0.54			1.11	0.52	0.88	0.88	0.70			
Uniform Delay, d1	48.2	12.6			42.8	0.0	46.3	46.3	0.0			
Progression Factor	0.98	0.73			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	31.2	1.0			60.6	1.5	19.1	19.1	2.7			
Delay (s)	78.2	10.2			103.4	1.5	65.4	65.4	2.7			
Level of Service	E	B			F	A	E	E	A			
Approach Delay (s)		27.3			73.3			28.3			0.0	
Approach LOS		C			E			C			A	

Intersection Summary			
HCM 2000 Control Delay	46.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



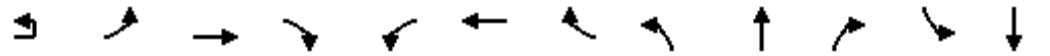
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	60	400	805	325	5	180	915	110	610	450	240	160
Future Volume (vph)	60	400	805	325	5	180	915	110	610	450	240	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	6.5	6.5		8.5	9.5	9.5	5.5	5.9	5.9	5.5
Lane Util. Factor		1.00	0.95	1.00		1.00	0.91	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes		1.00	1.00	0.94		1.00	1.00	0.96	1.00	1.00	0.91	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	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		1703	3406	1432		1687	4848	1450	3303	3406	1390	1736
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		1703	3406	1432		1687	4848	1450	3303	3406	1390	1736
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)	62	417	839	339	5	188	953	115	635	469	250	167
RTOR Reduction (vph)	0	0	0	173	0	0	0	91	0	0	162	0
Lane Group Flow (vph)	0	480	839	166	0	193	953	24	635	469	88	167
Confl. Peds. (#/hr)		4		7		7		4	9		11	11
Heavy Vehicles (%)	6%	6%	6%	6%	7%	7%	7%	7%	6%	6%	6%	4%
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA	Perm	Prot
Protected Phases	5 15	5 15	2		1	1	6		3	8		7
Permitted Phases				2				6			8	
Actuated Green, G (s)		49.8	68.1	68.1		23.3	37.1	37.1	30.5	31.3	31.3	18.3
Effective Green, g (s)		49.8	68.1	68.1		20.3	34.1	34.1	30.5	31.3	31.3	18.3
Actuated g/C Ratio		0.30	0.41	0.41		0.12	0.21	0.21	0.19	0.19	0.19	0.11
Clearance Time (s)			6.5	6.5		5.5	6.5	6.5	5.5	5.9	5.9	5.5
Vehicle Extension (s)			3.0	3.0		2.5	3.0	3.0	2.5	3.0	3.0	2.5
Lane Grp Cap (vph)		515	1410	593		208	1005	300	612	648	264	193
v/s Ratio Prot		c0.28	0.25			0.11	c0.20		c0.19	c0.14		0.10
v/s Ratio Perm				0.12				0.02			0.06	
v/c Ratio		0.93	0.60	0.28		0.93	0.95	0.08	1.04	0.72	0.33	0.87
Uniform Delay, d1		55.7	37.4	31.9		71.3	64.3	52.5	67.0	62.5	57.5	71.8
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		23.9	0.7	0.3		42.2	17.1	0.1	46.5	4.0	0.7	30.6
Delay (s)		79.6	38.1	32.2		113.5	81.4	52.6	113.4	66.5	58.3	102.4
Level of Service		E	D	C		F	F	D	F	E	E	F
Approach Delay (s)			48.9				83.7			87.0		
Approach LOS			D				F			F		

Intersection Summary			
HCM 2000 Control Delay	71.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	164.4	Sum of lost time (s)	30.9
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	245	335
Future Volume (vph)	245	335
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.9	5.9
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.93
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3471	1438
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3471	1438
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	255	349
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	255	349
Confl. Peds. (#/hr)		9
Heavy Vehicles (%)	4%	4%
Turn Type	NA	custom
Protected Phases	4	
Permitted Phases		4 6
Actuated Green, G (s)	19.1	56.2
Effective Green, g (s)	19.1	56.2
Actuated g/C Ratio	0.12	0.34
Clearance Time (s)	5.9	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	403	491
v/s Ratio Prot	0.07	
v/s Ratio Perm		0.24
v/c Ratio	0.63	0.71
Uniform Delay, d1	69.3	47.0
Progression Factor	1.00	1.00
Incremental Delay, d2	3.2	4.8
Delay (s)	72.5	51.8
Level of Service	E	D
Approach Delay (s)	69.6	
Approach LOS	E	

Intersection Summary



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	20	20	790	30	140	950	20	255	10	205	10	5
Future Volume (veh/h)	20	20	790	30	140	950	20	255	10	205	10	5
Initial Q (Qb), veh		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	
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
Work Zone On Approach			No			No			No			No
Adj Sat Flow, veh/h/ln		1430	1430	1430	1525	1525	1525	1673	1673	1673	1700	1700
Adj Flow Rate, veh/h		21	840	32	149	1011	21	271	11	218	11	5
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
Percent Heavy Veh, %		6	6	6	6	6	6	2	2	2	0	0
Cap, veh/h		7	793	670	150	1895	39	315	12	237	12	28
Arrive On Green		0.01	0.55	0.55	0.03	0.22	0.22	0.10	0.17	0.17	0.01	0.08
Sat Flow, veh/h		1362	1430	1208	1452	2903	60	3092	68	1356	1619	355
Grp Volume(v), veh/h		21	840	32	149	505	527	271	0	229	11	0
Grp Sat Flow(s),veh/h/ln		1362	1430	1208	1452	1449	1514	1546	0	1425	1619	0
Q Serve(g_s), s		0.8	88.8	1.9	16.4	49.4	49.4	13.8	0.0	25.3	1.1	0.0
Cycle Q Clear(g_c), s		0.8	88.8	1.9	16.4	49.4	49.4	13.8	0.0	25.3	1.1	0.0
Prop In Lane		1.00		1.00	1.00		0.04	1.00		0.95	1.00	
Lane Grp Cap(c), veh/h		7	793	670	150	946	988	315	0	249	12	0
V/C Ratio(X)		3.01	1.06	0.05	0.99	0.53	0.53	0.86	0.00	0.92	0.91	0.00
Avail Cap(c_a), veh/h		200	793	670	195	946	988	481	0	293	252	0
HCM Platoon Ratio		1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	0.19	0.19	0.19	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		79.6	35.6	16.3	77.2	41.2	41.2	70.7	0.0	64.9	79.3	0.0
Incr Delay (d2), s/veh		961.8	48.8	0.1	23.6	0.4	0.4	8.3	0.0	29.9	80.4	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
%ile BackOfQ(50%),veh/ln		2.2	40.5	0.6	7.4	19.4	20.3	5.9	0.0	11.3	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		1041.4	84.4	16.4	100.9	41.6	41.6	79.0	0.0	94.9	159.8	0.0
LnGrp LOS		F	F	B	F	D	D	E	A	F	F	A
Approach Vol, veh/h			893			1181			500			32
Approach Delay, s/veh			104.5			49.1			86.3			100.4
Approach LOS			F			D			F			F

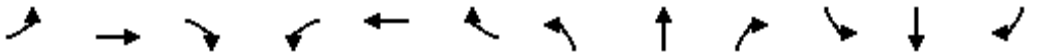
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	95.7	21.4	17.9	7.3	113.3	6.3	33.0
Change Period (Y+Rc), s	5.5	5.9	5.1	5.1	5.5	5.9	5.1	5.1
Max Green Setting (Gmax), s	24.5	56.1	24.9	32.9	24.5	56.1	24.9	32.9
Max Q Clear Time (g_c+I1), s	19.4	90.8	15.8	4.1	2.8	52.4	3.1	27.3
Green Ext Time (p_c), s	0.1	0.0	0.5	0.1	0.0	2.1	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	75.8
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	15
Future Volume (veh/h)	15
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1700
Adj Flow Rate, veh/h	16
Peak Hour Factor	0.94
Percent Heavy Veh, %	0
Cap, veh/h	91
Arrive On Green	0.08
Sat Flow, veh/h	1136
Grp Volume(v), veh/h	21
Grp Sat Flow(s),veh/h/ln	1491
Q Serve(g_s), s	2.1
Cycle Q Clear(g_c), s	2.1
Prop In Lane	0.76
Lane Grp Cap(c), veh/h	120
V/C Ratio(X)	0.18
Avail Cap(c_a), veh/h	306
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	68.6
Incr Delay (d2), s/veh	0.7
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.8
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	69.3
LnGrp LOS	E
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	



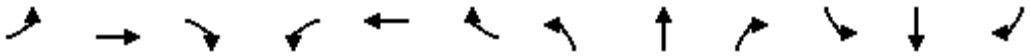
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	795	175	80	885	30	155	60	80	50	55	80
Future Volume (veh/h)	35	795	175	80	885	30	155	60	80	50	55	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		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	1442	1442	1442	1525	1525	1525	1620	1620	1620	1634	1634	1634
Adj Flow Rate, veh/h	36	828	182	83	922	31	161	62	83	52	57	83
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, %	5	5	5	6	6	6	6	6	6	5	5	5
Cap, veh/h	60	714	157	78	925	31	202	344	290	264	127	185
Arrive On Green	0.01	1.00	1.00	0.02	0.63	0.65	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1373	1144	252	1452	1467	49	1207	1620	1367	1210	599	873
Grp Volume(v), veh/h	36	0	1010	83	0	953	161	62	83	52	0	140
Grp Sat Flow(s),veh/h/ln	1373	0	1396	1452	0	1516	1207	1620	1367	1210	0	1472
Q Serve(g_s), s	1.0	0.0	95.1	2.8	0.0	100.0	20.8	5.0	8.1	5.9	0.0	13.2
Cycle Q Clear(g_c), s	1.0	0.0	95.1	2.8	0.0	100.0	34.0	5.0	8.1	10.9	0.0	13.2
Prop In Lane	1.00		0.18	1.00		0.03	1.00		1.00	1.00		0.59
Lane Grp Cap(c), veh/h	60	0	871	78	0	956	202	344	290	264	0	313
V/C Ratio(X)	0.60	0.00	1.16	1.07	0.00	1.00	0.80	0.18	0.29	0.20	0.00	0.45
Avail Cap(c_a), veh/h	194	0	871	211	0	956	202	344	290	264	0	313
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)	0.09	0.00	0.09	0.58	0.00	0.58	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.3	0.0	0.0	46.3	0.0	29.3	69.9	51.6	52.8	56.0	0.0	54.8
Incr Delay (d2), s/veh	0.7	0.0	73.1	51.8	0.0	21.4	19.9	0.2	0.5	0.4	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	1.1	0.0	17.7	3.2	0.0	39.8	7.7	2.1	2.9	1.8	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.9	0.0	73.1	98.1	0.0	50.7	89.8	51.8	53.4	56.4	0.0	55.8
LnGrp LOS	E	A	F	F	A	D	F	D	D	E	A	E
Approach Vol, veh/h		1046			1036			306			192	
Approach Delay, s/veh		72.5			54.5			72.2			56.0	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.3	108.8		39.9	10.3	109.8		39.9				
Change Period (Y+Rc), s	5.5	5.9		* 5.9	6.3	* 5.9		5.9				
Max Green Setting (Gmax), s	20.5	89.1		* 34	19.7	* 90		33.1				
Max Q Clear Time (g_c+I1), s	5.8	98.1		36.0	4.0	102.0		15.2				
Green Ext Time (p_c), s	0.1	0.0		0.0	0.0	0.0		0.8				

Intersection Summary	
HCM 6th Ctrl Delay	64.0
HCM 6th LOS	E

Notes

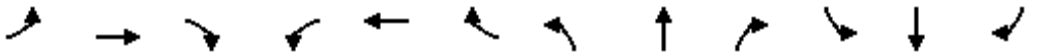
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	715	15	10	545	30	35	5	15	90	5	460
Future Volume (veh/h)	190	715	15	10	545	30	35	5	15	90	5	460
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		0.97
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	1475	1475	1475	1599	1599	1599	1541	1541	1541	1567	1567	1567
Adj Flow Rate, veh/h	207	777	16	11	592	33	38	5	16	98	5	500
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, %	10	10	10	4	4	4	12	12	12	10	10	10
Cap, veh/h	216	836	17	12	651	36	46	65	210	89	3	298
Arrive On Green	0.31	1.00	1.00	0.01	0.43	0.43	0.03	0.20	0.20	0.06	0.23	0.23
Sat Flow, veh/h	1405	1439	30	1522	1498	83	1468	321	1028	1493	13	1283
Grp Volume(v), veh/h	207	0	793	11	0	625	38	0	21	98	0	505
Grp Sat Flow(s),veh/h/ln	1405	0	1469	1522	0	1581	1468	0	1350	1493	0	1296
Q Serve(g_s), s	23.2	0.0	0.0	1.2	0.0	59.1	4.1	0.0	2.0	9.5	0.0	37.1
Cycle Q Clear(g_c), s	23.2	0.0	0.0	1.2	0.0	59.1	4.1	0.0	2.0	9.5	0.0	37.1
Prop In Lane	1.00		0.02	1.00		0.05	1.00		0.76	1.00		0.99
Lane Grp Cap(c), veh/h	216	0	853	12	0	687	46	0	275	89	0	301
V/C Ratio(X)	0.96	0.00	0.93	0.95	0.00	0.91	0.83	0.00	0.08	1.11	0.00	1.68
Avail Cap(c_a), veh/h	294	0	853	138	0	687	87	0	313	89	0	301
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)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.0	0.0	0.0	79.4	0.0	42.3	77.1	0.0	51.5	75.3	0.0	61.5
Incr Delay (d2), s/veh	7.0	0.0	2.3	107.8	0.0	18.2	29.6	0.0	0.2	127.1	0.0	320.2
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	7.6	0.0	0.6	0.8	0.0	26.2	1.9	0.0	0.7	6.8	0.0	38.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	0.0	2.3	187.2	0.0	60.5	106.7	0.0	51.7	202.3	0.0	381.7
LnGrp LOS	E	A	A	F	A	E	F	A	D	F	A	F
Approach Vol, veh/h		1000			636			59			603	
Approach Delay, s/veh		14.7			62.6			87.1			352.5	
Approach LOS		B			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	99.8	10.5	43.0	31.0	75.5	15.0	38.5
Change Period (Y+Rc), s	5.5	5.9	5.5	5.9	5.5	5.9	5.5	5.9
Max Green Setting (Gmax), s	14.5	76.1	9.5	37.1	34.5	56.1	9.5	37.1
Max Q Clear Time (g_c+I1), s	3.2	2.0	6.1	39.1	25.2	61.1	11.5	4.0
Green Ext Time (p_c), s	0.0	11.3	0.0	0.0	0.4	0.0	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	118.5
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	510	115	50	345	50	55	195	85	105	225	155
Future Volume (veh/h)	225	510	115	50	345	50	55	195	85	105	225	155
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		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	1647	1647	1647	1647	1647	1647	1660	1660	1660	1634	1634	1634
Adj Flow Rate, veh/h	230	520	117	51	352	51	56	199	87	107	230	158
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	3	3	3	5	5	5
Cap, veh/h	521	945	801	382	730	106	105	214	94	166	202	139
Arrive On Green	0.08	0.57	0.57	0.03	0.52	0.52	0.04	0.20	0.20	0.07	0.22	0.22
Sat Flow, veh/h	1569	1647	1396	1569	1406	204	1581	1094	478	1556	901	619
Grp Volume(v), veh/h	230	520	117	51	0	403	56	0	286	107	0	388
Grp Sat Flow(s),veh/h/ln	1569	1647	1396	1569	0	1610	1581	0	1573	1556	0	1521
Q Serve(g_s), s	10.6	31.5	6.2	2.4	0.0	25.7	4.5	0.0	28.6	8.6	0.0	35.9
Cycle Q Clear(g_c), s	10.6	31.5	6.2	2.4	0.0	25.7	4.5	0.0	28.6	8.6	0.0	35.9
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.30	1.00		0.41
Lane Grp Cap(c), veh/h	521	945	801	382	0	836	105	0	307	166	0	341
V/C Ratio(X)	0.44	0.55	0.15	0.13	0.00	0.48	0.54	0.00	0.93	0.64	0.00	1.14
Avail Cap(c_a), veh/h	686	945	801	633	0	836	243	0	335	257	0	341
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	1.00
Uniform Delay (d), s/veh	17.1	21.3	15.9	18.7	0.0	24.7	51.8	0.0	63.3	48.7	0.0	62.0
Incr Delay (d2), s/veh	0.6	2.3	0.4	0.2	0.0	2.0	4.2	0.0	31.2	4.1	0.0	91.2
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	3.9	12.7	2.1	0.9	0.0	10.3	1.9	0.0	14.1	3.5	0.0	22.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	23.6	16.3	18.8	0.0	26.7	56.0	0.0	94.5	52.8	0.0	153.3
LnGrp LOS	B	C	B	B	A	C	E	A	F	D	A	F
Approach Vol, veh/h		867			454			342			495	
Approach Delay, s/veh		21.0			25.8			88.2			131.5	
Approach LOS		C			C			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	97.7	11.0	41.8	18.2	89.0	15.7	37.2
Change Period (Y+Rc), s	5.0	5.9	5.0	5.9	5.0	5.9	5.0	5.9
Max Green Setting (Gmax), s	30.0	54.1	20.0	34.1	30.0	54.1	20.0	34.1
Max Q Clear Time (g_c+I1), s	4.4	33.5	6.5	37.9	12.6	27.7	10.6	30.6
Green Ext Time (p_c), s	0.1	5.2	0.1	0.0	0.6	3.7	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	58.0
HCM 6th LOS	E

MOVEMENT SUMMARY

Site: 8 [Existing Weekday PM Peak Hour (Site Folder: General)]

SR 9/SR 531 (172nd St NE)
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: SR 9														
3u	U	5	5.4	5	5.4	0.294	13.9	LOS B	1.8	48.0	0.58	0.72	0.58	33.9
3	L2	260	5.4	283	5.4	0.294	11.6	LOS B	1.8	48.0	0.58	0.72	0.58	33.2
8	T1	420	5.4	457	5.4	0.383	5.7	LOS A	2.7	71.6	0.60	0.57	0.60	35.6
18	R2	10	5.4	11	5.4	0.383	5.9	LOS A	2.7	71.6	0.60	0.57	0.60	34.5
Approach		695	5.4	755	5.4	0.383	7.9	LOS A	2.7	71.6	0.59	0.63	0.59	34.7
East: SR 531 (172nd St NE)														
1	L2	10	2.4	11	2.4	0.152	12.7	LOS B	0.6	16.5	0.63	0.76	0.63	35.2
6	T1	65	2.4	71	2.4	0.152	7.4	LOS A	0.6	16.5	0.63	0.76	0.63	35.2
16	R2	20	2.4	22	2.4	0.152	7.2	LOS A	0.6	16.5	0.63	0.76	0.63	34.3
Approach		95	2.4	103	2.4	0.152	7.9	LOS A	0.6	16.5	0.63	0.76	0.63	35.0
North: SR 9														
7u	U	5	3.8	5	3.8	0.438	13.8	LOS B	2.7	70.2	0.59	0.63	0.59	36.0
7	L2	40	3.8	43	3.8	0.438	11.5	LOS B	2.7	70.2	0.59	0.63	0.59	35.2
4	T1	380	3.8	413	3.8	0.438	6.2	LOS A	2.7	70.2	0.59	0.63	0.59	35.3
14	R2	115	3.8	125	3.8	0.189	7.2	LOS A	0.8	21.9	0.53	0.69	0.53	34.6
Approach		540	3.8	587	3.8	0.438	6.9	LOS A	2.7	70.2	0.58	0.64	0.58	35.1
West: SR 531 (172nd St NE)														
5	L2	155	5.1	168	5.1	0.303	12.5	LOS B	2.0	51.1	0.68	0.76	0.68	33.9
2	T1	95	5.1	103	5.1	0.303	6.9	LOS A	2.0	51.1	0.68	0.76	0.68	34.0
12	R2	260	5.1	283	5.1	0.257	6.5	LOS A	1.7	45.2	0.65	0.68	0.65	34.7
Approach		510	5.1	554	5.1	0.303	8.4	LOS A	2.0	51.1	0.67	0.72	0.67	34.3
All Vehicles		1840	4.7	2000	4.7	0.438	7.8	LOS A	2.7	71.6	0.61	0.66	0.61	34.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	5	255	15	5	35	195	695	5	10	660	45
Future Volume (veh/h)	35	5	255	15	5	35	195	695	5	10	660	45
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		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	1900	1900	1900	1900	1900	1900	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	36	5	266	16	5	36	203	724	5	10	688	47
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, %	0	0	0	0	0	0	1	1	1	2	2	2
Cap, veh/h	431	378	321	369	35	250	432	1502	10	349	1060	72
Arrive On Green	0.05	0.20	0.20	0.03	0.17	0.17	0.12	0.41	0.41	0.02	0.31	0.31
Sat Flow, veh/h	1810	1900	1610	1810	200	1441	1795	3646	25	1781	3375	230
Grp Volume(v), veh/h	36	5	266	16	0	41	203	356	373	10	362	373
Grp Sat Flow(s),veh/h/ln	1810	1900	1610	1810	0	1641	1795	1791	1881	1781	1777	1829
Q Serve(g_s), s	0.9	0.1	9.2	0.4	0.0	1.2	4.0	8.5	8.5	0.2	10.2	10.2
Cycle Q Clear(g_c), s	0.9	0.1	9.2	0.4	0.0	1.2	4.0	8.5	8.5	0.2	10.2	10.2
Prop In Lane	1.00		1.00	1.00		0.88	1.00		0.01	1.00		0.13
Lane Grp Cap(c), veh/h	431	378	321	369	0	285	432	738	774	349	558	574
V/C Ratio(X)	0.08	0.01	0.83	0.04	0.00	0.14	0.47	0.48	0.48	0.03	0.65	0.65
Avail Cap(c_a), veh/h	957	816	692	941	0	564	687	1385	1454	776	1374	1414
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	18.7	22.4	18.7	0.0	20.4	11.2	12.6	12.6	13.1	17.2	17.2
Incr Delay (d2), s/veh	0.0	0.0	2.1	0.0	0.0	0.1	0.3	0.6	0.6	0.0	1.5	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	0.1	3.4	0.2	0.0	0.4	1.3	3.0	3.1	0.1	3.9	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.8	18.7	24.5	18.8	0.0	20.5	11.5	13.2	13.1	13.1	18.7	18.7
LnGrp LOS	B	B	C	B	A	C	B	B	B	B	B	B
Approach Vol, veh/h		307			57			932			745	
Approach Delay, s/veh		23.6			20.0			12.8			18.6	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	29.0	6.6	16.6	11.7	23.3	8.1	15.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	45.0	20.0	25.0	15.0	45.0	20.0	20.0
Max Q Clear Time (g_c+I1), s	2.2	10.5	2.4	11.2	6.0	12.2	2.9	3.2
Green Ext Time (p_c), s	0.0	6.0	0.0	0.4	0.2	6.0	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Notes

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

Intersection	
Intersection Delay, s/veh	16.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	200	120	30	110	10	95	170	55	15	190	35
Future Vol, veh/h	45	200	120	30	110	10	95	170	55	15	190	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
Heavy Vehicles, %	3	3	3	1	1	1	2	2	2	3	3	3
Mvmt Flow	47	208	125	31	115	10	99	177	57	16	198	36
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	18.6	12.3	17	14.2
HCM LOS	C	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	12%	20%	6%
Vol Thru, %	53%	55%	73%	79%
Vol Right, %	17%	33%	7%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	320	365	150	240
LT Vol	95	45	30	15
Through Vol	170	200	110	190
RT Vol	55	120	10	35
Lane Flow Rate	333	380	156	250
Geometry Grp	1	1	1	1
Degree of Util (X)	0.567	0.629	0.287	0.437
Departure Headway (Hd)	6.124	5.958	6.601	6.287
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	587	605	542	573
Service Time	4.175	4.006	4.663	4.343
HCM Lane V/C Ratio	0.567	0.628	0.288	0.436
HCM Control Delay	17	18.6	12.3	14.2
HCM Lane LOS	C	C	B	B
HCM 95th-tile Q	3.5	4.4	1.2	2.2

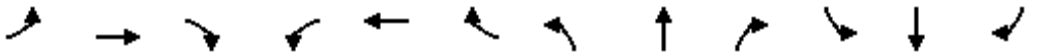
Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	115	130	90	185	215	70
Future Vol, veh/h	115	130	90	185	215	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	1	2	2
Mvmt Flow	125	141	98	201	234	76

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	669	272	310	0	-	0
Stage 1	272	-	-	-	-	-
Stage 2	397	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	423	767	1256	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	679	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	386	767	1256	-	-	-
Mov Cap-2 Maneuver	386	-	-	-	-	-
Stage 1	706	-	-	-	-	-
Stage 2	679	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.8	2.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1256	-	524	-	-
HCM Lane V/C Ratio	0.078	-	0.508	-	-
HCM Control Delay (s)	8.1	0	18.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.3	-	2.8	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	0	280	5	0	5	215	210	0	5	215	85
Future Volume (veh/h)	190	0	280	5	0	5	215	210	0	5	215	85
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		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	1870	1870	1870	1900	1900	1900	1781	1781	1781	1841	1841	1841
Adj Flow Rate, veh/h	209	0	308	5	0	5	236	231	0	5	236	93
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	0	0	0	8	8	8	4	4	4
Cap, veh/h	139	0	842	139	0	620	442	751	0	73	326	279
Arrive On Green	0.39	0.00	0.39	0.39	0.00	0.39	0.15	0.42	0.00	0.18	0.18	0.18
Sat Flow, veh/h	0	0	1583	0	0	1608	1697	1781	0	13	1820	1560
Grp Volume(v), veh/h	209	0	308	5	0	5	236	231	0	241	0	93
Grp Sat Flow(s),veh/h/ln	0	0	1583	0	0	1608	1697	1781	0	1833	0	1560
Q Serve(g_s), s	0.0	0.0	5.9	0.0	0.0	0.1	5.7	4.5	0.0	0.3	0.0	2.7
Cycle Q Clear(g_c), s	20.0	0.0	5.9	20.0	0.0	0.1	5.7	4.5	0.0	6.4	0.0	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	0.02		1.00
Lane Grp Cap(c), veh/h	139	0	842	139	0	620	442	751	0	399	0	279
V/C Ratio(X)	1.51	0.00	0.37	0.04	0.00	0.01	0.53	0.31	0.00	0.60	0.00	0.33
Avail Cap(c_a), veh/h	139	0	842	349	0	930	685	1030	0	774	0	601
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	7.1	25.9	0.0	9.8	14.2	10.0	0.0	20.1	0.0	18.6
Incr Delay (d2), s/veh	261.3	0.0	0.1	0.1	0.0	0.0	0.4	0.1	0.0	0.6	0.0	0.3
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	11.6	0.0	1.4	0.1	0.0	0.0	1.8	1.4	0.0	2.5	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	287.3	0.0	7.2	26.0	0.0	9.8	14.6	10.1	0.0	20.7	0.0	18.9
LnGrp LOS	F	A	A	C	A	A	B	B	A	C	A	B
Approach Vol, veh/h		517			10			467			334	
Approach Delay, s/veh		120.4			17.9			12.4			20.2	
Approach LOS		F			B			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		26.9		25.0	12.6	14.3		25.0				
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s		30.0		20.0	15.0	20.0		30.0				
Max Q Clear Time (g_c+I1), s		6.5		22.0	7.7	8.4		22.0				
Green Ext Time (p_c), s		0.8		0.0	0.2	0.8		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	56.4	
HCM 6th LOS	E	

Notes
User approved pedestrian interval to be less than phase max green.
User approved changes to right turn type.

Intersection	
Intersection Delay, s/veh	27.8
Intersection LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	150	350	75	200	360
Future Vol, veh/h	50	150	350	75	200	360
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	163	380	82	217	391
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	12.8	19.8	39.3
HCM LOS	B	C	E

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	25%	36%
Vol Thru, %	82%	0%	64%
Vol Right, %	18%	75%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	425	200	560
LT Vol	0	50	200
Through Vol	350	0	360
RT Vol	75	150	0
Lane Flow Rate	462	217	609
Geometry Grp	1	1	1
Degree of Util (X)	0.693	0.371	0.909
Departure Headway (Hd)	5.403	6.152	5.376
Convergence, Y/N	Yes	Yes	Yes
Cap	665	583	676
Service Time	3.459	4.223	3.425
HCM Lane V/C Ratio	0.695	0.372	0.901
HCM Control Delay	19.8	12.8	39.3
HCM Lane LOS	C	B	E
HCM 95th-tile Q	5.6	1.7	11.7

Intersection	
Int Delay, s/veh	3.7

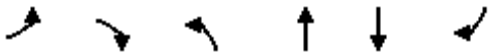
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1025	75	0	1135	0	105	0	30	0	0	0
Future Vol, veh/h	0	1025	75	0	1135	0	105	0	30	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1114	82	0	1234	0	114	0	33	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	1772	-	598	-	-	617
Stage 1	-	-	-	-	-	-	1155	-	-	-	-	-
Stage 2	-	-	-	-	-	-	617	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	7.54	-	6.94	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	3.52	-	3.32	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	-	-	~ 53	0	445	0	0	433
Stage 1	0	-	-	0	-	-	209	0	-	0	0	-
Stage 2	0	-	-	0	-	-	444	0	-	0	0	-
Platoon blocked,												
Mov Cap-1 Maneuver	-	-	-	-	-	-	~ 53	-	445	-	-	433
Mov Cap-2 Maneuver	-	-	-	-	-	-	150	-	-	-	-	-
Stage 1	-	-	-	-	-	-	209	-	-	-	-	-
Stage 2	-	-	-	-	-	-	444	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	65.7	0
HCM LOS			F	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	150	445	-	-	-	-	-
HCM Lane V/C Ratio	0.761	0.073	-	-	-	-	-
HCM Control Delay (s)	80.6	13.7	-	-	-	-	0
HCM Lane LOS	F	B	-	-	-	-	A
HCM 95th %tile Q(veh)	4.7	0.2	-	-	-	-	-

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	95	75	365	320	20
Future Volume (veh/h)	20	95	75	365	320	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	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	1900	1900	1781	1781	1841	1841
Adj Flow Rate, veh/h	21	101	80	388	340	21
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	8	8	4	4
Cap, veh/h	31	149	545	1001	541	33
Arrive On Green	0.11	0.11	0.08	0.56	0.32	0.32
Sat Flow, veh/h	281	1349	1697	1781	1716	106
Grp Volume(v), veh/h	123	0	80	388	0	361
Grp Sat Flow(s),veh/h/ln	1643	0	1697	1781	0	1822
Q Serve(g_s), s	2.0	0.0	0.8	3.4	0.0	4.7
Cycle Q Clear(g_c), s	2.0	0.0	0.8	3.4	0.0	4.7
Prop In Lane	0.17	0.82	1.00			0.06
Lane Grp Cap(c), veh/h	182	0	545	1001	0	574
V/C Ratio(X)	0.68	0.00	0.15	0.39	0.00	0.63
Avail Cap(c_a), veh/h	1523	0	1051	1652	0	1689
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	5.7	3.4	0.0	8.0
Incr Delay (d2), s/veh	3.2	0.0	0.0	0.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.1	0.2	0.0	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.0	0.0	5.7	3.6	0.0	9.2
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	123			468	361	
Approach Delay, s/veh	15.0			4.0	9.2	
Approach LOS	B			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		20.0		7.5	6.8	13.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		25.5		25.5	10.5	25.5
Max Q Clear Time (g_c+I1), s		5.4		4.0	2.8	6.7
Green Ext Time (p_c), s		2.2		0.2	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	7.4
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations											
Traffic Volume (veh/h)	0	1100	505	0	1605	645	425	5	335	0	0
Future Volume (veh/h)	0	1100	505	0	1605	645	425	5	335	0	0
Initial Q (Qb), veh	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		
Parking Bus, Adj	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			
Adj Sat Flow, veh/h/ln	0	1673	1673	0	1550	1550	1826	1826	1826		
Adj Flow Rate, veh/h	0	1146	0	0	1672	0	447	447	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	2	2	0	4	4	5	5	5		
Cap, veh/h	0	2381		0	2160		555	555			
Arrive On Green	0.00	0.75	0.00	0.00	1.00	0.00	0.16	0.16	0.00		
Sat Flow, veh/h	0	3263	1418	0	3023	1314	3478	3478	1547		
Grp Volume(v), veh/h	0	1146	0	0	1672	0	447	447	0		
Grp Sat Flow(s),veh/h/ln	0	1590	1418	0	1473	1314	1739	1739	1547		
Q Serve(g_s), s	0.0	18.4	0.0	0.0	0.0	0.0	16.1	16.1	0.0		
Cycle Q Clear(g_c), s	0.0	18.4	0.0	0.0	0.0	0.0	16.1	16.1	0.0		
Prop In Lane	0.00		1.00	0.00		1.00	1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	0	2381		0	2160		555	555			
V/C Ratio(X)	0.00	0.48		0.00	0.77		0.81	0.81			
Avail Cap(c_a), veh/h	0	2381		0	2160		915	915			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	0.47	0.00	0.00	0.09	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	0.0	6.4	0.0	0.0	0.0	0.0	52.7	52.7	0.0		
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.0	4.7	4.7	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		
%ile BackOfQ(50%),veh/ln	0.0	5.5	0.0	0.0	0.1	0.0	7.2	7.2	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	0.0	6.7	0.0	0.0	0.3	0.0	57.4	57.4	0.0		
LnGrp LOS	A	A		A	A		E	E			
Approach Vol, veh/h		1146			1672		447	447			
Approach Delay, s/veh		6.7			0.3		57.4	57.4			
Approach LOS		A			A		E	E			

Timer - Assigned Phs		2		4		6					
Phs Duration (G+Y+Rc), s		103.5		26.5		103.5					
Change Period (Y+Rc), s		* 6.1		* 5.8		6.1					
Max Green Setting (Gmax), s		* 84		* 34		83.9					
Max Q Clear Time (g_c+I1), s		20.4		18.1		2.0					
Green Ext Time (p_c), s		17.3		2.6		37.2					

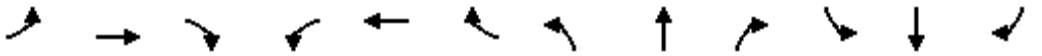
Intersection Summary		
HCM 6th Ctrl Delay		10.4
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	1205	0	0	1685	735	750	0	1175	0	0	0
Future Volume (veh/h)	370	1205	0	0	1685	735	750	0	1175	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	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				
Adj Sat Flow, veh/h/ln	1660	1660	0	0	1550	1550	1826	1826	1826			
Adj Flow Rate, veh/h	385	1255	0	0	1755	0	781	0	0			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	3	3	0	0	4	4	5	5	5			
Cap, veh/h	392	2048	0	0	1450		874	0				
Arrive On Green	0.50	1.00	0.00	0.00	0.34	0.00	0.25	0.00	0.00			
Sat Flow, veh/h	1581	3237	0	0	4371	1314	3478	0	1547			
Grp Volume(v), veh/h	385	1255	0	0	1755	0	781	0	0			
Grp Sat Flow(s),veh/h/ln	1581	1577	0	0	1411	1314	1739	0	1547			
Q Serve(g_s), s	31.1	0.0	0.0	0.0	44.6	0.0	28.2	0.0	0.0			
Cycle Q Clear(g_c), s	31.1	0.0	0.0	0.0	44.6	0.0	28.2	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	392	2048	0	0	1450		874	0				
V/C Ratio(X)	0.98	0.61	0.00	0.00	1.21		0.89	0.00				
Avail Cap(c_a), veh/h	406	2048	0	0	1450		942	0				
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.82	0.82	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	32.4	0.0	0.0	0.0	42.7	0.0	47.0	0.0	0.0			
Incr Delay (d2), s/veh	35.0	1.1	0.0	0.0	101.2	0.0	11.0	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			
%ile BackOfQ(50%),veh/ln	12.8	0.3	0.0	0.0	28.8	0.0	13.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	1.1	0.0	0.0	143.9	0.0	58.0	0.0	0.0			
LnGrp LOS	E	A	A	A	F		E	A				
Approach Vol, veh/h		1640			1755			781				
Approach Delay, s/veh		16.7			143.9			58.0				
Approach LOS		B			F			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		91.5			38.9	52.7		38.5				
Change Period (Y+Rc), s		6.1			5.6	* 6.1		5.8				
Max Green Setting (Gmax), s		82.9			34.4	* 43		35.2				
Max Q Clear Time (g_c+I1), s		2.0			33.1	46.6		30.2				
Green Ext Time (p_c), s		21.1			0.2	0.0		2.3				

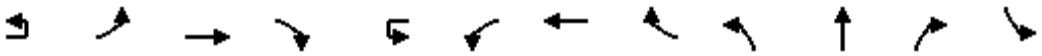
Intersection Summary	
HCM 6th Ctrl Delay	77.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	65	425	1040	345	5	215	1085	140	650	480	295	205
Future Volume (vph)	65	425	1040	345	5	215	1085	140	650	480	295	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	6.5	6.5		8.5	9.5	9.5	5.5	5.9	5.9	5.5
Lane Util. Factor		1.00	0.95	1.00		1.00	0.91	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes		1.00	1.00	0.94		1.00	1.00	0.96	1.00	1.00	0.91	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	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		1703	3406	1431		1687	4848	1449	3303	3406	1389	1736
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		1703	3406	1431		1687	4848	1449	3303	3406	1389	1736
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)	68	443	1083	359	5	224	1130	146	677	500	307	214
RTOR Reduction (vph)	0	0	0	147	0	0	0	115	0	0	189	0
Lane Group Flow (vph)	0	511	1083	212	0	229	1130	31	677	500	118	214
Confl. Peds. (#/hr)		4		7		7		4	9		11	11
Heavy Vehicles (%)	6%	6%	6%	6%	7%	7%	7%	7%	6%	6%	6%	4%
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA	Perm	Prot
Protected Phases	5 15	5 15	2		1	1	6		3	8		7
Permitted Phases				2				6			8	
Actuated Green, G (s)		50.0	65.5	65.5		26.5	37.5	37.5	30.5	30.1	30.1	19.5
Effective Green, g (s)		50.0	65.5	65.5		23.5	34.5	34.5	30.5	30.1	30.1	19.5
Actuated g/C Ratio		0.30	0.40	0.40		0.14	0.21	0.21	0.18	0.18	0.18	0.12
Clearance Time (s)			6.5	6.5		5.5	6.5	6.5	5.5	5.9	5.9	5.5
Vehicle Extension (s)			3.0	3.0		2.5	3.0	3.0	2.5	3.0	3.0	2.5
Lane Grp Cap (vph)		516	1352	568		240	1013	302	610	621	253	205
v/s Ratio Prot		c0.30	0.32			0.14	c0.23		c0.20	c0.15		0.12
v/s Ratio Perm				0.15				0.02			0.09	
v/c Ratio		0.99	0.80	0.37		0.95	1.12	0.10	1.11	0.81	0.47	1.04
Uniform Delay, d1		57.3	44.0	35.2		70.2	65.2	52.7	67.2	64.6	60.3	72.8
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		37.0	3.5	0.4		45.1	65.6	0.1	70.4	7.5	1.4	74.9
Delay (s)		94.3	47.5	35.6		115.3	130.8	52.9	137.6	72.1	61.6	147.6
Level of Service		F	D	D		F	F	D	F	E	E	F
Approach Delay (s)			57.6				120.9			99.8		
Approach LOS			E				F			F		

Intersection Summary			
HCM 2000 Control Delay	88.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	30.9
Intersection Capacity Utilization	111.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	260	355
Future Volume (vph)	260	355
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.9	5.9
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.93
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3471	1437
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3471	1437
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	271	370
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	271	370
Confl. Peds. (#/hr)		9
Heavy Vehicles (%)	4%	4%
Turn Type	NA	custom
Protected Phases	4	
Permitted Phases		4 6
Actuated Green, G (s)	19.1	56.6
Effective Green, g (s)	19.1	56.6
Actuated g/C Ratio	0.12	0.34
Clearance Time (s)	5.9	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	401	492
v/s Ratio Prot	0.08	
v/s Ratio Perm		0.26
v/c Ratio	0.68	0.75
Uniform Delay, d1	70.0	48.0
Progression Factor	1.00	1.00
Incremental Delay, d2	4.5	6.4
Delay (s)	74.4	54.4
Level of Service	E	D
Approach Delay (s)	84.1	
Approach LOS	F	

Intersection Summary

MOVEMENT SUMMARY

Site: 4 [4. 172nd Street NE/43rd Avenue NE (Site Folder: General)]

Baseline 2025
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 43rd Ave NE														
3	L2	380	2.0	400	2.0	0.627	15.6	LOS B	4.2	106.3	0.83	1.03	1.09	31.8
8	T1	10	2.0	11	2.0	0.627	10.2	LOS B	4.2	106.3	0.83	1.03	1.09	31.7
18	R2	220	2.0	232	2.0	0.450	9.7	LOS A	2.3	58.4	0.77	0.92	0.90	33.5
Approach		610	2.0	642	2.0	0.627	13.4	LOS B	4.2	106.3	0.81	0.99	1.02	32.4
East: 172nd St NE														
1	L2	200	6.0	211	6.0	0.861	21.0	LOS D	12.9	338.3	1.00	1.20	1.54	30.5
6	T1	1055	6.0	1111	6.0	0.861	15.8	LOS D	12.9	338.3	1.00	1.20	1.54	31.1
16	R2	20	6.0	21	6.0	0.861	16.5	LOS D	12.9	338.3	1.00	1.20	1.54	30.3
Approach		1275	6.0	1342	6.0	0.861	16.6	LOS B	12.9	338.3	1.00	1.20	1.54	31.0
North: 43rd Ave NE														
7	L2	10	0.0	11	0.0	0.108	17.4	LOS B	0.5	12.6	0.82	0.92	0.82	32.5
4	T1	5	0.0	5	0.0	0.108	12.0	LOS B	0.5	12.6	0.82	0.92	0.82	32.4
14	R2	15	0.0	16	0.0	0.108	11.8	LOS B	0.5	12.6	0.82	0.92	0.82	31.8
Approach		30	0.0	32	0.0	0.108	13.7	LOS B	0.5	12.6	0.82	0.92	0.82	32.1
West: 172nd St NE														
5u	U	20	6.0	22	6.0	0.659	14.5	LOS B	6.1	160.3	0.70	0.71	0.75	35.5
5	L2	20	6.0	21	6.0	0.659	12.1	LOS B	6.1	160.3	0.70	0.71	0.75	34.7
2	T1	970	6.0	1021	6.0	0.659	6.9	LOS A	6.1	160.3	0.70	0.71	0.75	35.1
12	R2	160	6.0	168	6.0	0.659	7.5	LOS A	6.1	160.3	0.70	0.71	0.75	33.9
Approach		1170	6.0	1232	6.0	0.659	7.2	LOS A	6.1	160.3	0.70	0.71	0.75	34.9
All Vehicles		3085	5.2	3248	5.2	0.861	12.4	LOS B	12.9	338.3	0.85	0.97	1.13	32.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 5 [5. 172nd Street NE/51st Avenue NE - WSDOT (Site Folder: General)]

Baseline 2025
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 51st Ave NE														
3	L2	210	6.0	221	6.0	0.499	14.7	LOS B	2.7	71.9	0.77	0.97	0.93	31.9
8	T1	65	6.0	68	6.0	0.499	10.2	LOS B	2.7	71.9	0.77	0.97	0.93	32.0
18	R2	100	6.0	105	6.0	0.279	11.2	LOS B	1.1	29.0	0.71	0.88	0.73	32.2
Approach		375	6.0	395	6.0	0.499	13.0	LOS B	2.7	71.9	0.75	0.95	0.88	32.0
East: 172nd St NE														
1	L2	120	6.0	126	6.0	0.633	13.6	LOS B	6.2	162.4	0.79	0.84	0.91	33.5
6	T1	980	6.0	1032	6.0	0.633	8.8	LOS A	6.3	164.3	0.79	0.82	0.90	34.1
16	R2	30	6.0	32	6.0	0.633	8.8	LOS A	6.3	164.3	0.79	0.80	0.89	33.4
Approach		1130	6.0	1189	6.0	0.633	9.3	LOS A	6.3	164.3	0.79	0.82	0.90	34.0
North: 51st Ave NE														
7	L2	55	5.0	57	5.0	0.630	20.8	LOS C	3.5	91.3	0.87	1.04	1.21	30.2
4	T1	65	5.0	68	5.0	0.630	16.2	LOS B	3.5	91.3	0.87	1.04	1.21	30.4
14	R2	95	5.0	99	5.0	0.630	16.1	LOS B	3.5	91.3	0.87	1.04	1.21	29.8
Approach		215	5.0	224	5.0	0.630	17.3	LOS B	3.5	91.3	0.87	1.04	1.21	30.0
West: 172nd St NE														
5	L2	50	5.0	53	5.0	0.559	11.3	LOS B	4.3	113.0	0.65	0.67	0.65	34.4
2	T1	880	5.0	926	5.0	0.559	6.7	LOS A	4.4	113.7	0.64	0.66	0.64	34.8
12	R2	190	5.0	200	5.0	0.559	6.8	LOS A	4.4	113.7	0.64	0.66	0.64	34.0
Approach		1120	5.0	1179	5.0	0.559	6.9	LOS A	4.4	113.7	0.64	0.66	0.64	34.6
All Vehicles		2840	5.5	2987	5.5	0.633	9.4	LOS A	6.3	164.3	0.73	0.79	0.82	33.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [6. 172nd Street NE/59th Avenue NE - WSDOT (Site Folder: General)]

Baseline 2025
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 59th Ave NE														
3	L2	35	12.0	38	12.0	0.146	14.9	LOS B	0.5	14.6	0.68	0.88	0.68	31.8
8	T1	5	12.0	5	12.0	0.146	10.4	LOS B	0.5	14.6	0.68	0.88	0.68	32.1
18	R2	15	12.0	16	12.0	0.146	10.3	LOS B	0.5	14.6	0.68	0.88	0.68	31.4
Approach		55	12.0	60	12.0	0.146	13.2	LOS B	0.5	14.6	0.68	0.88	0.68	31.7
East: 172nd St NE														
1	L2	10	4.0	11	4.0	0.348	10.8	LOS B	2.1	55.2	0.53	0.61	0.53	34.9
6	T1	655	4.0	689	4.0	0.348	6.2	LOS A	2.2	56.0	0.53	0.61	0.53	35.2
16	R2	30	4.0	32	4.0	0.348	6.4	LOS A	2.2	56.0	0.53	0.60	0.53	34.3
Approach		695	4.0	732	4.0	0.348	6.3	LOS A	2.2	56.0	0.53	0.61	0.53	35.1
North: 59th Ave NE														
7	L2	95	10.0	100	10.0	0.305	16.6	LOS B	1.1	31.0	0.67	0.90	0.71	30.6
4	T1	5	10.0	5	10.0	0.305	12.1	LOS B	1.1	31.0	0.67	0.90	0.71	30.8
14	R2	490	10.0	516	10.0	0.756	12.6	LOS B	6.0	162.3	0.83	1.06	1.23	31.4
Approach		590	10.0	621	10.0	0.756	13.3	LOS B	6.0	162.3	0.80	1.03	1.14	31.3
West: 172nd St NE														
5	L2	205	10.0	216	10.0	0.483	10.2	LOS B	3.8	101.7	0.47	0.59	0.47	34.2
2	T1	810	10.0	853	10.0	0.483	5.6	LOS A	3.8	102.4	0.46	0.54	0.46	34.9
12	R2	15	10.0	16	10.0	0.483	5.8	LOS A	3.8	102.4	0.46	0.52	0.46	34.2
Approach		1030	10.0	1084	10.0	0.483	6.5	LOS A	3.8	102.4	0.46	0.55	0.46	34.8
All Vehicles		2370	8.3	2497	8.3	0.756	8.3	LOS A	6.0	162.3	0.57	0.70	0.66	33.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7 [7 172nd Street NE/67th Avenue NE - WSDOT (Site Folder: General)]

Baseline 2025
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 67th Ave NE														
3	L2	75	3.0	79	3.0	0.557	16.9	LOS B	3.9	99.8	0.87	1.02	1.10	31.9
8	T1	205	3.0	216	3.0	0.557	12.4	LOS B	3.9	99.8	0.87	1.02	1.10	32.1
18	R2	90	3.0	95	3.0	0.289	14.1	LOS B	1.3	33.8	0.77	0.90	0.78	31.6
Approach		370	3.0	389	3.0	0.557	13.7	LOS B	3.9	99.8	0.85	0.99	1.02	31.9
East: 172nd St NE														
1	L2	55	4.0	58	4.0	0.336	12.9	LOS B	2.1	53.9	0.72	0.80	0.72	33.9
6	T1	405	4.0	426	4.0	0.336	8.2	LOS A	2.2	56.0	0.72	0.78	0.72	34.4
16	R2	55	4.0	58	4.0	0.336	8.2	LOS A	2.2	56.0	0.72	0.76	0.72	33.7
Approach		515	4.0	542	4.0	0.336	8.7	LOS A	2.2	56.0	0.72	0.78	0.72	34.2
North: 67th Ave NE														
7	L2	110	5.0	112	5.0	0.846	20.2	LOS C	8.9	231.1	0.91	1.16	1.48	30.5
4	T1	240	5.0	245	5.0	0.846	15.6	LOS B	8.9	231.1	0.91	1.16	1.48	30.7
14	R2	185	5.0	189	5.0	0.846	15.5	LOS B	8.9	231.1	0.91	1.16	1.48	30.1
Approach		535	5.0	546	5.0	0.846	16.5	LOS B	8.9	231.1	0.91	1.16	1.48	30.5
West: 172nd St NE														
5	L2	250	4.0	263	4.0	0.819	18.6	LOS B	13.0	335.2	1.00	1.08	1.41	31.0
2	T1	570	4.0	600	4.0	0.819	13.4	LOS B	13.0	335.2	0.95	1.03	1.29	31.7
12	R2	135	4.0	142	4.0	0.396	8.9	LOS A	2.5	63.4	0.72	0.81	0.72	33.4
Approach		955	4.0	1005	4.0	0.819	14.1	LOS B	13.0	335.2	0.93	1.01	1.24	31.7
All Vehicles		2375	4.1	2483	4.1	0.846	13.4	LOS B	13.0	335.2	0.87	0.99	1.14	32.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

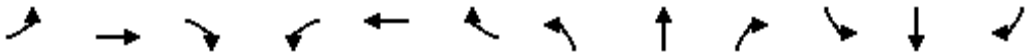
Site: 8 [SR 9/SR 531 (172nd St NE) (Site Folder: General)]

SR 9/SR 531 (172nd St NE)
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: SR 9														
3u	U	5	5.0	5	5.0	0.340	14.2	LOS B	2.2	58.1	0.63	0.75	0.63	33.8
3	L2	295	5.0	321	5.0	0.340	11.8	LOS B	2.2	58.1	0.63	0.75	0.63	33.1
8	T1	445	5.0	484	5.0	0.416	5.9	LOS A	3.1	80.6	0.64	0.59	0.64	35.5
18	R2	10	5.0	11	5.0	0.416	6.1	LOS A	3.1	80.6	0.64	0.59	0.64	34.4
Approach		755	5.0	821	5.0	0.416	8.3	LOS A	3.1	80.6	0.64	0.65	0.64	34.5
East: SR 531 (172nd St NE)														
1	L2	10	2.0	11	2.0	0.169	13.0	LOS B	0.7	18.9	0.66	0.79	0.66	35.1
6	T1	70	2.0	76	2.0	0.169	7.7	LOS A	0.7	18.9	0.66	0.79	0.66	35.1
16	R2	20	2.0	22	2.0	0.169	7.5	LOS A	0.7	18.9	0.66	0.79	0.66	34.2
Approach		100	2.0	109	2.0	0.169	8.2	LOS A	0.7	18.9	0.66	0.79	0.66	34.9
North: SR 9														
7u	U	5	4.0	5	4.0	0.482	14.3	LOS B	3.2	82.9	0.65	0.67	0.66	35.8
7	L2	40	4.0	43	4.0	0.482	12.0	LOS B	3.2	82.9	0.65	0.67	0.66	35.1
4	T1	405	4.0	440	4.0	0.482	6.6	LOS A	3.2	82.9	0.65	0.67	0.66	35.1
14	R2	140	4.0	152	4.0	0.224	7.3	LOS A	1.1	27.5	0.56	0.71	0.56	34.5
Approach		590	4.0	641	4.0	0.482	7.2	LOS A	3.2	82.9	0.63	0.68	0.64	35.0
West: SR 531 (172nd St NE)														
5	L2	180	5.0	196	5.0	0.351	12.8	LOS B	2.4	62.1	0.73	0.79	0.73	33.7
2	T1	100	5.0	109	5.0	0.351	7.2	LOS A	2.4	62.1	0.73	0.79	0.73	33.8
12	R2	290	5.0	315	5.0	0.296	6.8	LOS A	2.1	54.4	0.69	0.71	0.69	34.6
Approach		570	5.0	620	5.0	0.351	8.8	LOS A	2.4	62.1	0.71	0.75	0.71	34.2
All Vehicles		2015	4.6	2190	4.6	0.482	8.1	LOS A	3.2	82.9	0.66	0.69	0.66	34.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	5	270	15	5	35	205	780	5	10	725	50
Future Volume (veh/h)	35	5	270	15	5	35	205	780	5	10	725	50
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		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	1900	1900	1900	1900	1900	1900	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	36	5	281	16	5	36	214	812	5	10	755	52
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, %	0	0	0	0	0	0	1	1	1	2	2	2
Cap, veh/h	694	760	644	602	80	576	314	1460	9	288	1349	93
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Sat Flow, veh/h	1388	1900	1610	1110	200	1441	681	3650	22	669	3373	232
Grp Volume(v), veh/h	36	5	281	16	0	41	214	398	419	10	398	409
Grp Sat Flow(s),veh/h/ln	1388	1900	1610	1110	0	1641	681	1791	1881	669	1777	1829
Q Serve(g_s), s	0.7	0.1	5.7	0.4	0.0	0.7	10.2	9.4	9.4	0.6	7.8	7.8
Cycle Q Clear(g_c), s	1.4	0.1	5.7	0.5	0.0	0.7	18.0	9.4	9.4	9.9	7.8	7.8
Prop In Lane	1.00		1.00	1.00		0.88	1.00		0.01	1.00		0.13
Lane Grp Cap(c), veh/h	694	760	644	602	0	656	314	716	752	288	711	731
V/C Ratio(X)	0.05	0.01	0.44	0.03	0.00	0.06	0.68	0.56	0.56	0.03	0.56	0.56
Avail Cap(c_a), veh/h	694	760	644	602	0	656	314	716	752	288	711	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.7	8.1	9.8	8.3	0.0	8.3	24.8	15.8	15.8	14.9	10.4	10.4
Incr Delay (d2), s/veh	0.1	0.0	2.1	0.1	0.0	0.2	11.3	3.1	3.0	0.2	3.2	3.1
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	0.0	2.0	0.1	0.0	0.2	3.5	4.5	4.7	0.1	3.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	8.1	12.0	8.3	0.0	8.5	36.2	18.9	18.7	15.2	13.6	13.5
LnGrp LOS	A	A	B	A	A	A	D	B	B	B	B	B
Approach Vol, veh/h		322			57			1031			817	
Approach Delay, s/veh		11.6			8.4			22.4			13.6	
Approach LOS		B			A			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		20.0		7.7		11.9		2.7				
Green Ext Time (p_c), s		0.0		0.8		2.6		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			17.2									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	24.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	210	125	30	115	10	100	225	60	20	250	40
Future Vol, veh/h	50	210	125	30	115	10	100	225	60	20	250	40
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	3	1	1	1	2	2	2	3	3	3
Mvmt Flow	52	219	130	31	120	10	104	234	63	21	260	42
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	27.6	14.7	27.9	21
HCM LOS	D	B	D	C

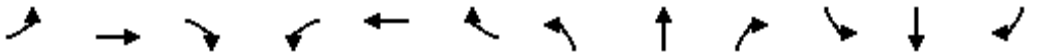
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	13%	19%	6%
Vol Thru, %	58%	55%	74%	81%
Vol Right, %	16%	32%	6%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	385	385	155	310
LT Vol	100	50	30	20
Through Vol	225	210	115	250
RT Vol	60	125	10	40
Lane Flow Rate	401	401	161	323
Geometry Grp	1	1	1	1
Degree of Util (X)	0.755	0.752	0.343	0.625
Departure Headway (Hd)	6.777	6.751	7.642	6.968
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	533	533	470	517
Service Time	4.834	4.805	5.715	5.03
HCM Lane V/C Ratio	0.752	0.752	0.343	0.625
HCM Control Delay	27.9	27.6	14.7	21
HCM Lane LOS	D	D	B	C
HCM 95th-tile Q	6.6	6.5	1.5	4.2

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	120	140	95	215	240	75
Future Vol, veh/h	120	140	95	215	240	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	1	1	2	2
Mvmt Flow	130	152	103	234	261	82
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	12.4	13.4	12.9
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	31%	46%	0%
Vol Thru, %	69%	0%	76%
Vol Right, %	0%	54%	24%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	310	260	315
LT Vol	95	120	0
Through Vol	215	0	240
RT Vol	0	140	75
Lane Flow Rate	337	283	342
Geometry Grp	1	1	1
Degree of Util (X)	0.494	0.425	0.485
Departure Headway (Hd)	5.276	5.413	5.096
Convergence, Y/N	Yes	Yes	Yes
Cap	684	664	705
Service Time	3.309	3.449	3.129
HCM Lane V/C Ratio	0.493	0.426	0.485
HCM Control Delay	13.4	12.4	12.9
HCM Lane LOS	B	B	B
HCM 95th-tile Q	2.8	2.1	2.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	0	295	5	0	5	230	270	0	5	275	90
Future Volume (vph)	200	0	295	5	0	5	230	270	0	5	275	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5		4.5	4.5	4.5	4.5			4.5	4.5
Lane Util. Factor	1.00		1.00		1.00	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00		0.98		1.00	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		0.85		1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00		0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1770		1550		1803	1615	1671	1759			1825	1553
Flt Permitted	0.75		1.00		0.95	1.00	0.54	1.00			0.99	1.00
Satd. Flow (perm)	1405		1550		1803	1615	950	1759			1817	1553
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	220	0	324	5	0	5	253	297	0	5	302	99
RTOR Reduction (vph)	0	0	194	0	0	3	0	0	0	0	0	59
Lane Group Flow (vph)	220	0	130	0	5	2	253	297	0	0	307	40
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	8%	8%	8%	4%	4%	4%
Turn Type	Perm		Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases					8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	18.0		18.0		18.0	18.0	18.0	18.0			18.0	18.0
Effective Green, g (s)	18.0		18.0		18.0	18.0	18.0	18.0			18.0	18.0
Actuated g/C Ratio	0.40		0.40		0.40	0.40	0.40	0.40			0.40	0.40
Clearance Time (s)	4.5		4.5		4.5	4.5	4.5	4.5			4.5	4.5
Lane Grp Cap (vph)	562		620		721	646	380	703			726	621
v/s Ratio Prot								0.17				
v/s Ratio Perm	c0.16		0.08		0.00	0.00	c0.27				0.17	0.03
v/c Ratio	0.39		0.21		0.01	0.00	0.67	0.42			0.42	0.06
Uniform Delay, d1	9.6		8.8		8.1	8.1	11.0	9.7			9.7	8.3
Progression Factor	1.00		1.00		1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	2.0		0.8		0.0	0.0	8.9	1.9			1.8	0.2
Delay (s)	11.6		9.6		8.1	8.1	19.9	11.6			11.6	8.5
Level of Service	B		A		A	A	B	B			B	A
Approach Delay (s)		10.4			8.1			15.4			10.8	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

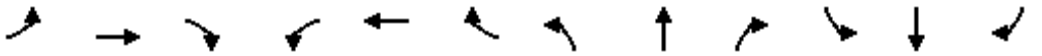
c Critical Lane Group

Intersection	
Intersection Delay, s/veh	53.8
Intersection LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	160	415	80	215	425
Future Vol, veh/h	55	160	415	80	215	425
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	174	451	87	234	462
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	14.3	31	84.7
HCM LOS	B	D	F

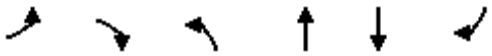
Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	26%	34%
Vol Thru, %	84%	0%	66%
Vol Right, %	16%	74%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	495	215	640
LT Vol	0	55	215
Through Vol	415	0	425
RT Vol	80	160	0
Lane Flow Rate	538	234	696
Geometry Grp	1	1	1
Degree of Util (X)	0.834	0.417	1.088
Departure Headway (Hd)	5.758	6.661	5.631
Convergence, Y/N	Yes	Yes	Yes
Cap	635	545	647
Service Time	3.758	4.661	3.668
HCM Lane V/C Ratio	0.847	0.429	1.076
HCM Control Delay	31	14.3	84.7
HCM Lane LOS	D	B	F
HCM 95th-tile Q	8.9	2	20



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1350	80	0	1365	20	110	10	30	15	10	10
Future Volume (veh/h)	10	1350	80	0	1365	20	110	10	30	15	10	10
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		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	1796	1796	1796	1870	1870	1870	1900	1900	1900
Adj Flow Rate, veh/h	10	1350	80	0	1365	20	110	10	30	15	10	10
Peak Hour 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
Percent Heavy Veh, %	8	8	8	7	7	7	2	2	2	0	0	0
Cap, veh/h	166	1843	109	173	1745	26	504	524	444	434	204	204
Arrive On Green	0.01	0.57	0.57	0.00	0.51	0.51	0.06	0.28	0.28	0.02	0.23	0.23
Sat Flow, veh/h	1697	3247	192	1711	3443	50	1781	1870	1585	1810	872	872
Grp Volume(v), veh/h	10	702	728	0	676	709	110	10	30	15	0	20
Grp Sat Flow(s),veh/h/ln	1697	1692	1747	1711	1706	1787	1781	1870	1585	1810	0	1743
Q Serve(g_s), s	0.3	28.4	28.6	0.0	30.0	30.1	4.2	0.4	1.3	0.6	0.0	0.8
Cycle Q Clear(g_c), s	0.3	28.4	28.6	0.0	30.0	30.1	4.2	0.4	1.3	0.6	0.0	0.8
Prop In Lane	1.00		0.11	1.00		0.03	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	166	961	992	173	865	906	504	524	444	434	0	407
V/C Ratio(X)	0.06	0.73	0.73	0.00	0.78	0.78	0.22	0.02	0.07	0.03	0.00	0.05
Avail Cap(c_a), veh/h	246	1761	1817	263	1766	1850	631	524	444	510	0	407
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	14.8	14.9	0.0	18.7	18.7	23.1	24.2	24.5	26.2	0.0	27.5
Incr Delay (d2), s/veh	0.1	1.1	1.1	0.0	1.6	1.5	0.2	0.1	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	0.1	10.2	10.6	0.0	11.4	11.9	1.8	0.2	0.5	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	15.9	15.9	0.0	20.3	20.2	23.3	24.2	24.8	26.3	0.0	27.6
LnGrp LOS	B	B	B	A	C	C	C	C	C	C	A	C
Approach Vol, veh/h		1440			1385			150			35	
Approach Delay, s/veh		15.9			20.2			23.7			27.0	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	30.0	0.0	56.7	10.4	25.7	5.6	51.0
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	5.5	26.0	5.0	96.5	12.5	19.0	5.5	96.0
Max Q Clear Time (g_c+I1), s	2.6	3.3	0.0	30.6	6.2	2.8	2.3	32.1
Green Ext Time (p_c), s	0.0	0.1	0.0	16.2	0.1	0.0	0.0	15.0

Intersection Summary	
HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	100	80	435	385	20
Future Volume (veh/h)	20	100	80	435	385	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	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	1900	1900	1781	1781	1841	1841
Adj Flow Rate, veh/h	21	106	85	463	410	21
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	8	8	4	4
Cap, veh/h	30	149	525	1049	613	31
Arrive On Green	0.11	0.11	0.08	0.59	0.35	0.35
Sat Flow, veh/h	269	1360	1697	1781	1736	89
Grp Volume(v), veh/h	128	0	85	463	0	431
Grp Sat Flow(s),veh/h/ln	1642	0	1697	1781	0	1825
Q Serve(g_s), s	2.2	0.0	0.9	4.3	0.0	6.0
Cycle Q Clear(g_c), s	2.2	0.0	0.9	4.3	0.0	6.0
Prop In Lane	0.16	0.83	1.00			0.05
Lane Grp Cap(c), veh/h	180	0	525	1049	0	645
V/C Ratio(X)	0.71	0.00	0.16	0.44	0.00	0.67
Avail Cap(c_a), veh/h	1403	0	978	1522	0	1559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.8	0.0	5.6	3.4	0.0	8.2
Incr Delay (d2), s/veh	3.8	0.0	0.1	0.3	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.2	0.4	0.0	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.7	0.0	5.7	3.7	0.0	9.4
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	128			548	431	
Approach Delay, s/veh	16.7			4.0	9.4	
Approach LOS	B			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		22.1		7.8	7.0	15.0
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		25.5		25.5	10.5	25.5
Max Q Clear Time (g_c+I1), s		6.3		4.2	2.9	8.0
Green Ext Time (p_c), s		2.9		0.3	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations											
Traffic Volume (veh/h)	0	1105	505	0	1619	656	433	5	335	0	0
Future Volume (veh/h)	0	1105	505	0	1619	656	433	5	335	0	0
Initial Q (Qb), veh	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		
Parking Bus, Adj	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			
Adj Sat Flow, veh/h/ln	0	1673	1673	0	1550	1550	1826	1826	1826		
Adj Flow Rate, veh/h	0	1151	0	0	1686	0	455	455	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	2	2	0	4	4	5	5	5		
Cap, veh/h	0	2373		0	2153		563	563			
Arrive On Green	0.00	0.75	0.00	0.00	1.00	0.00	0.16	0.16	0.00		
Sat Flow, veh/h	0	3263	1418	0	3023	1314	3478	3478	1547		
Grp Volume(v), veh/h	0	1151	0	0	1686	0	455	455	0		
Grp Sat Flow(s),veh/h/ln	0	1590	1418	0	1473	1314	1739	1739	1547		
Q Serve(g_s), s	0.0	18.7	0.0	0.0	0.0	0.0	16.4	16.4	0.0		
Cycle Q Clear(g_c), s	0.0	18.7	0.0	0.0	0.0	0.0	16.4	16.4	0.0		
Prop In Lane	0.00		1.00	0.00		1.00	1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	0	2373		0	2153		563	563			
V/C Ratio(X)	0.00	0.48		0.00	0.78		0.81	0.81			
Avail Cap(c_a), veh/h	0	2373		0	2153		915	915			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	0.47	0.00	0.00	0.09	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	0.0	6.5	0.0	0.0	0.0	0.0	52.5	52.5	0.0		
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.0	4.7	4.7	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		
%ile BackOfQ(50%),veh/ln	0.0	5.6	0.0	0.0	0.1	0.0	7.4	7.4	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	0.0	6.9	0.0	0.0	0.3	0.0	57.2	57.2	0.0		
LnGrp LOS	A	A		A	A		E	E			
Approach Vol, veh/h		1151			1686		455	455			
Approach Delay, s/veh		6.9			0.3		57.2	57.2			
Approach LOS		A			A		E	E			

Timer - Assigned Phs		2		4		6					
Phs Duration (G+Y+Rc), s		103.1		26.9		103.1					
Change Period (Y+Rc), s		* 6.1		* 5.8		6.1					
Max Green Setting (Gmax), s		* 84		* 34		83.9					
Max Q Clear Time (g_c+I1), s		20.7		18.4		2.0					
Green Ext Time (p_c), s		17.4		2.7		37.8					

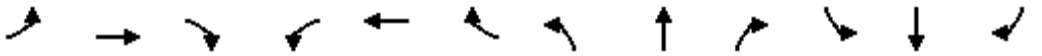
Intersection Summary		
HCM 6th Ctrl Delay		10.5
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	1218	0	0	1710	758	750	0	1178	0	0	0
Future Volume (veh/h)	370	1218	0	0	1710	758	750	0	1178	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	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				
Adj Sat Flow, veh/h/ln	1660	1660	0	0	1550	1550	1826	1826	1826			
Adj Flow Rate, veh/h	385	1269	0	0	1781	0	781	0	0			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	3	3	0	0	4	4	5	5	5			
Cap, veh/h	392	2048	0	0	1450		874	0				
Arrive On Green	0.50	1.00	0.00	0.00	0.34	0.00	0.25	0.00	0.00			
Sat Flow, veh/h	1581	3237	0	0	4371	1314	3478	0	1547			
Grp Volume(v), veh/h	385	1269	0	0	1781	0	781	0	0			
Grp Sat Flow(s),veh/h/ln	1581	1577	0	0	1411	1314	1739	0	1547			
Q Serve(g_s), s	31.1	0.0	0.0	0.0	44.6	0.0	28.2	0.0	0.0			
Cycle Q Clear(g_c), s	31.1	0.0	0.0	0.0	44.6	0.0	28.2	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	392	2048	0	0	1450		874	0				
V/C Ratio(X)	0.98	0.62	0.00	0.00	1.23		0.89	0.00				
Avail Cap(c_a), veh/h	406	2048	0	0	1450		942	0				
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.82	0.82	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	32.4	0.0	0.0	0.0	42.7	0.0	47.0	0.0	0.0			
Incr Delay (d2), s/veh	35.0	1.2	0.0	0.0	108.9	0.0	11.0	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			
%ile BackOfQ(50%),veh/ln	12.8	0.3	0.0	0.0	29.8	0.0	13.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	1.2	0.0	0.0	151.6	0.0	58.0	0.0	0.0			
LnGrp LOS	E	A	A	A	F		E	A				
Approach Vol, veh/h		1654			1781			781				
Approach Delay, s/veh		16.6			151.6			58.0				
Approach LOS		B			F			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		91.5			38.9	52.7		38.5				
Change Period (Y+Rc), s		6.1			5.6	* 6.1		5.8				
Max Green Setting (Gmax), s		82.9			34.4	* 43		35.2				
Max Q Clear Time (g_c+I1), s		2.0			33.1	46.6		30.2				
Green Ext Time (p_c), s		21.5			0.2	0.0		2.3				

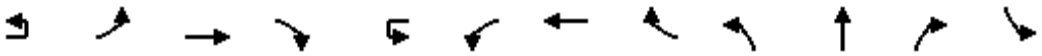
Intersection Summary	
HCM 6th Ctrl Delay	81.3
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	65	425	1040	361	5	215	1085	140	698	484	302	205
Future Volume (vph)	65	425	1040	361	5	215	1085	140	698	484	302	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	6.5	6.5		8.5	9.5	9.5	5.5	5.9	5.9	5.5
Lane Util. Factor		1.00	0.95	1.00		1.00	0.91	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes		1.00	1.00	0.94		1.00	1.00	0.96	1.00	1.00	0.91	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	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		1703	3406	1431		1687	4848	1449	3303	3406	1389	1736
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		1703	3406	1431		1687	4848	1449	3303	3406	1389	1736
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)	68	443	1083	376	5	224	1130	146	727	504	315	214
RTOR Reduction (vph)	0	0	0	154	0	0	0	115	0	0	192	0
Lane Group Flow (vph)	0	511	1083	222	0	229	1130	31	727	504	123	214
Confl. Peds. (#/hr)		4		7		7		4	9		11	11
Heavy Vehicles (%)	6%	6%	6%	6%	7%	7%	7%	7%	6%	6%	6%	4%
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA	Perm	Prot
Protected Phases	5 15	5 15	2		1	1	6		3	8		7
Permitted Phases				2				6			8	
Actuated Green, G (s)		50.0	65.5	65.5		26.5	37.5	37.5	30.5	30.1	30.1	19.5
Effective Green, g (s)		50.0	65.5	65.5		23.5	34.5	34.5	30.5	30.1	30.1	19.5
Actuated g/C Ratio		0.30	0.40	0.40		0.14	0.21	0.21	0.18	0.18	0.18	0.12
Clearance Time (s)			6.5	6.5		5.5	6.5	6.5	5.5	5.9	5.9	5.5
Vehicle Extension (s)			3.0	3.0		2.5	3.0	3.0	2.5	3.0	3.0	2.5
Lane Grp Cap (vph)		516	1352	568		240	1013	302	610	621	253	205
v/s Ratio Prot		c0.30	0.32			0.14	c0.23		c0.22	c0.15		0.12
v/s Ratio Perm				0.16				0.02			0.09	
v/c Ratio		0.99	0.80	0.39		0.95	1.12	0.10	1.19	0.81	0.49	1.04
Uniform Delay, d1		57.3	44.0	35.5		70.2	65.2	52.7	67.2	64.7	60.5	72.8
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		37.0	3.5	0.4		45.1	65.6	0.1	101.8	7.9	1.5	74.9
Delay (s)		94.3	47.5	36.0		115.3	130.8	52.9	169.1	72.7	62.0	147.6
Level of Service		F	D	D		F	F	D	F	E	E	F
Approach Delay (s)			57.4				120.9			115.8		
Approach LOS			E				F			F		

Intersection Summary			
HCM 2000 Control Delay	92.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	30.9
Intersection Capacity Utilization	112.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	261	355
Future Volume (vph)	261	355
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.9	5.9
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.93
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3471	1437
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3471	1437
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	272	370
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	272	370
Confl. Peds. (#/hr)		9
Heavy Vehicles (%)	4%	4%
Turn Type	NA	custom
Protected Phases	4	
Permitted Phases		4 6
Actuated Green, G (s)	19.1	56.6
Effective Green, g (s)	19.1	56.6
Actuated g/C Ratio	0.12	0.34
Clearance Time (s)	5.9	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	401	492
v/s Ratio Prot	0.08	
v/s Ratio Perm		0.26
v/c Ratio	0.68	0.75
Uniform Delay, d1	70.0	48.0
Progression Factor	1.00	1.00
Incremental Delay, d2	4.5	6.4
Delay (s)	74.5	54.4
Level of Service	E	D
Approach Delay (s)	84.1	
Approach LOS	F	

Intersection Summary

MOVEMENT SUMMARY

Site: 4 [4. 172nd Street NE/43rd Avenue NE (Site Folder: General)]

With-Project 2025
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 43rd Ave NE														
3	L2	380	2.0	400	2.0	0.636	15.8	LOS B	4.3	108.9	0.84	1.03	1.11	31.8
8	T1	13	2.0	14	2.0	0.636	10.3	LOS B	4.3	108.9	0.84	1.03	1.11	31.7
18	R2	220	2.0	232	2.0	0.454	9.8	LOS A	2.3	59.1	0.77	0.92	0.90	33.5
Approach		613	2.0	645	2.0	0.636	13.5	LOS B	4.3	108.9	0.81	0.99	1.03	32.3
East: 172nd St NE														
1	L2	200	6.0	211	6.0	0.865	21.4	LOS D	13.1	343.7	1.00	1.21	1.56	30.4
6	T1	1055	6.0	1111	6.0	0.865	16.1	LOS D	13.1	343.7	1.00	1.21	1.56	31.0
16	R2	20	6.0	21	6.0	0.865	16.8	LOS D	13.1	343.7	1.00	1.21	1.56	30.2
Approach		1275	6.0	1342	6.0	0.865	17.0	LOS B	13.1	343.7	1.00	1.21	1.56	30.8
North: 43rd Ave NE														
7	L2	10	0.0	11	0.0	0.111	17.5	LOS B	0.5	13.0	0.82	0.92	0.82	32.5
4	T1	6	0.0	6	0.0	0.111	12.0	LOS B	0.5	13.0	0.82	0.92	0.82	32.4
14	R2	15	0.0	16	0.0	0.111	11.8	LOS B	0.5	13.0	0.82	0.92	0.82	31.8
Approach		31	0.0	33	0.0	0.111	13.7	LOS B	0.5	13.0	0.82	0.92	0.82	32.2
West: 172nd St NE														
5u	U	20	6.0	22	6.0	0.664	14.5	LOS B	6.2	163.0	0.71	0.71	0.76	35.5
5	L2	21	6.0	22	6.0	0.664	12.2	LOS B	6.2	163.0	0.71	0.71	0.76	34.6
2	T1	976	6.0	1027	6.0	0.664	6.9	LOS A	6.2	163.0	0.71	0.71	0.76	35.1
12	R2	160	6.0	168	6.0	0.664	7.6	LOS A	6.2	163.0	0.71	0.72	0.76	33.8
Approach		1177	6.0	1240	6.0	0.664	7.2	LOS A	6.2	163.0	0.71	0.71	0.76	34.9
All Vehicles		3096	5.1	3260	5.1	0.865	12.5	LOS B	13.1	343.7	0.85	0.97	1.14	32.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 5 [5. 172nd Street NE/51st Avenue NE - WSDOT (Site Folder: General)]

With-Project 2025
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 51st Ave NE														
3	L2	210	6.0	221	6.0	0.502	14.8	LOS B	2.8	72.5	0.77	0.97	0.94	31.8
8	T1	65	6.0	68	6.0	0.502	10.2	LOS B	2.8	72.5	0.77	0.97	0.94	32.0
18	R2	101	6.0	106	6.0	0.282	11.2	LOS B	1.1	29.5	0.71	0.88	0.74	32.2
Approach		376	6.0	396	6.0	0.502	13.0	LOS B	2.8	72.5	0.76	0.95	0.88	32.0
East: 172nd St NE														
1	L2	122	6.0	128	6.0	0.634	13.6	LOS B	6.2	163.2	0.80	0.84	0.91	33.5
6	T1	980	6.0	1032	6.0	0.634	8.8	LOS A	6.3	165.1	0.79	0.82	0.90	34.1
16	R2	30	6.0	32	6.0	0.634	8.8	LOS A	6.3	165.1	0.79	0.81	0.89	33.4
Approach		1132	6.0	1192	6.0	0.634	9.4	LOS A	6.3	165.1	0.79	0.82	0.90	34.0
North: 51st Ave NE														
7	L2	55	5.0	57	5.0	0.632	20.8	LOS C	3.5	91.6	0.88	1.04	1.21	30.2
4	T1	65	5.0	68	5.0	0.632	16.3	LOS B	3.5	91.6	0.88	1.04	1.21	30.3
14	R2	95	5.0	99	5.0	0.632	16.2	LOS B	3.5	91.6	0.88	1.04	1.21	29.7
Approach		215	5.0	224	5.0	0.632	17.4	LOS B	3.5	91.6	0.88	1.04	1.21	30.0
West: 172nd St NE														
5	L2	50	5.0	53	5.0	0.563	11.4	LOS B	4.4	115.1	0.65	0.67	0.66	34.4
2	T1	886	5.0	933	5.0	0.563	6.7	LOS A	4.4	115.1	0.65	0.67	0.65	34.8
12	R2	190	5.0	200	5.0	0.563	6.8	LOS A	4.4	114.9	0.64	0.66	0.64	34.0
Approach		1126	5.0	1185	5.0	0.563	6.9	LOS A	4.4	115.1	0.65	0.67	0.65	34.6
All Vehicles		2849	5.5	2997	5.5	0.634	9.5	LOS A	6.3	165.1	0.74	0.79	0.82	33.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [6. 172nd Street NE/59th Avenue NE - WSDOT (Site Folder: General)]

With-Project 2025
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 59th Ave NE														
3	L2	35	12.0	38	12.0	0.147	14.9	LOS B	0.5	14.7	0.68	0.88	0.68	31.8
8	T1	5	12.0	5	12.0	0.147	10.4	LOS B	0.5	14.7	0.68	0.88	0.68	32.1
18	R2	15	12.0	16	12.0	0.147	10.3	LOS B	0.5	14.7	0.68	0.88	0.68	31.4
Approach		55	12.0	60	12.0	0.147	13.3	LOS B	0.5	14.7	0.68	0.88	0.68	31.7
East: 172nd St NE														
1	L2	10	4.0	11	4.0	0.350	10.9	LOS B	2.2	55.6	0.54	0.62	0.54	34.9
6	T1	655	4.0	689	4.0	0.350	6.3	LOS A	2.2	56.4	0.54	0.61	0.54	35.1
16	R2	30	4.0	32	4.0	0.350	6.4	LOS A	2.2	56.4	0.53	0.61	0.53	34.2
Approach		695	4.0	732	4.0	0.350	6.3	LOS A	2.2	56.4	0.54	0.61	0.54	35.1
North: 59th Ave NE														
7	L2	95	10.0	100	10.0	0.306	16.6	LOS B	1.2	31.1	0.67	0.90	0.71	30.6
4	T1	5	10.0	5	10.0	0.306	12.1	LOS B	1.2	31.1	0.67	0.90	0.71	30.8
14	R2	492	10.0	518	10.0	0.760	12.7	LOS B	6.1	164.6	0.83	1.07	1.24	31.4
Approach		592	10.0	623	10.0	0.760	13.4	LOS B	6.1	164.6	0.80	1.04	1.15	31.2
West: 172nd St NE														
5	L2	211	10.0	222	10.0	0.486	10.2	LOS B	3.8	102.8	0.47	0.59	0.47	34.2
2	T1	811	10.0	854	10.0	0.486	5.6	LOS A	3.8	103.6	0.46	0.55	0.46	34.9
12	R2	15	10.0	16	10.0	0.486	5.8	LOS A	3.8	103.6	0.46	0.52	0.46	34.2
Approach		1037	10.0	1092	10.0	0.486	6.5	LOS A	3.8	103.6	0.46	0.55	0.46	34.8
All Vehicles		2379	8.3	2506	8.3	0.760	8.3	LOS A	6.1	164.6	0.58	0.70	0.66	33.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7 [7 172nd Street NE/67th Avenue NE - WSDOT (Site Folder: General)]

With-Project 2025
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 67th Ave NE														
3	L2	306	3.0	322	3.0	0.887	19.8	LOS D	15.4	394.6	1.00	1.12	1.49	30.4
8	T1	445	3.0	468	3.0	0.887	15.3	LOS D	15.4	394.6	1.00	1.12	1.49	30.5
18	R2	10	3.0	11	3.0	0.021	8.1	LOS A	0.1	2.1	0.49	0.64	0.49	33.9
Approach		761	3.0	801	3.0	0.887	17.0	LOS B	15.4	394.6	0.99	1.12	1.48	30.5
East: 172nd St NE														
1	L2	10	4.0	11	4.0	0.129	17.6	LOS B	0.9	21.9	0.90	0.88	0.90	31.7
6	T1	72	4.0	76	4.0	0.129	12.5	LOS B	0.9	23.8	0.91	0.87	0.91	32.3
16	R2	20	4.0	21	4.0	0.129	12.1	LOS B	0.9	23.8	0.92	0.85	0.92	31.9
Approach		102	4.0	107	4.0	0.129	12.9	LOS B	0.9	23.8	0.92	0.87	0.92	32.2
North: 67th Ave NE														
7	L2	45	5.0	46	5.0	0.862	20.3	LOS D	11.5	298.5	0.98	1.19	1.48	30.7
4	T1	405	5.0	413	5.0	0.862	15.8	LOS D	11.5	298.5	0.98	1.19	1.48	30.9
14	R2	140	5.0	143	5.0	0.862	15.7	LOS D	11.5	298.5	0.98	1.19	1.48	30.2
Approach		590	5.0	602	5.0	0.862	16.1	LOS B	11.5	298.5	0.98	1.19	1.48	30.7
West: 172nd St NE														
5	L2	182	4.0	192	4.0	0.389	12.3	LOS B	2.7	69.8	0.76	0.82	0.76	33.2
2	T1	106	4.0	112	4.0	0.389	7.8	LOS A	2.7	69.8	0.76	0.82	0.76	33.4
12	R2	307	4.0	323	4.0	0.379	7.6	LOS A	2.7	69.9	0.75	0.78	0.75	34.0
Approach		595	4.0	626	4.0	0.389	9.1	LOS A	2.7	69.9	0.75	0.80	0.75	33.6
All Vehicles		2048	3.9	2137	3.9	0.887	14.2	LOS B	15.4	394.6	0.91	1.03	1.24	31.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

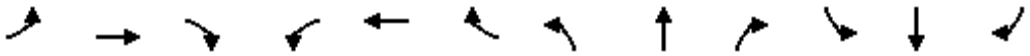
Site: 8 [WP 2025 (Site Folder: General)]

SR 9/SR 531 (172nd St NE)
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: SR 9														
3u	U	5	5.0	5	5.0	0.349	14.2	LOS B	2.3	60.2	0.64	0.75	0.64	33.8
3	L2	301	5.0	327	5.0	0.349	11.9	LOS B	2.3	60.2	0.64	0.75	0.64	33.1
8	T1	445	5.0	484	5.0	0.419	6.0	LOS A	3.1	81.6	0.65	0.60	0.65	35.5
18	R2	10	5.0	11	5.0	0.419	6.2	LOS A	3.1	81.6	0.65	0.60	0.65	34.4
Approach		761	5.0	827	5.0	0.419	8.4	LOS A	3.1	81.6	0.65	0.66	0.65	34.5
East: SR 531 (172nd St NE)														
1	L2	10	2.0	11	2.0	0.174	13.0	LOS B	0.8	19.5	0.67	0.79	0.67	35.1
6	T1	72	2.0	78	2.0	0.174	7.7	LOS A	0.8	19.5	0.67	0.79	0.67	35.1
16	R2	20	2.0	22	2.0	0.174	7.6	LOS A	0.8	19.5	0.67	0.79	0.67	34.2
Approach		102	2.0	111	2.0	0.174	8.2	LOS A	0.8	19.5	0.67	0.79	0.67	34.9
North: SR 9														
7u	U	5	4.0	5	4.0	0.486	14.4	LOS B	3.3	84.8	0.66	0.68	0.67	35.8
7	L2	40	4.0	43	4.0	0.486	12.1	LOS B	3.3	84.8	0.66	0.68	0.67	35.0
4	T1	405	4.0	440	4.0	0.486	6.7	LOS A	3.3	84.8	0.66	0.68	0.67	35.1
14	R2	140	4.0	152	4.0	0.226	7.4	LOS A	1.1	27.9	0.57	0.72	0.57	34.5
Approach		590	4.0	641	4.0	0.486	7.3	LOS A	3.3	84.8	0.64	0.69	0.65	34.9
West: SR 531 (172nd St NE)														
5	L2	182	5.0	198	5.0	0.363	12.8	LOS B	2.5	64.6	0.73	0.79	0.73	33.7
2	T1	106	5.0	115	5.0	0.363	7.3	LOS A	2.5	64.6	0.73	0.79	0.73	33.8
12	R2	307	5.0	334	5.0	0.313	6.8	LOS A	2.2	58.4	0.70	0.71	0.70	34.6
Approach		595	5.0	647	5.0	0.363	8.7	LOS A	2.5	64.6	0.72	0.75	0.72	34.2
All Vehicles		2048	4.6	2226	4.6	0.486	8.2	LOS A	3.3	84.8	0.67	0.70	0.67	34.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	5	270	27	5	113	205	780	8	33	725	50
Future Volume (veh/h)	35	5	270	27	5	113	205	780	8	33	725	50
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		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	1900	1900	1900	1900	1900	1900	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	36	5	281	28	5	118	214	812	8	34	755	52
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, %	0	0	0	0	0	0	1	1	1	2	2	2
Cap, veh/h	612	760	644	602	26	622	314	1454	14	287	1349	93
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Sat Flow, veh/h	1288	1900	1610	1110	66	1554	681	3634	36	667	3373	232
Grp Volume(v), veh/h	36	5	281	28	0	123	214	400	420	34	398	409
Grp Sat Flow(s),veh/h/ln	1288	1900	1610	1110	0	1620	681	1791	1879	667	1777	1829
Q Serve(g_s), s	0.8	0.1	5.7	0.7	0.0	2.2	10.2	9.4	9.4	2.0	7.8	7.8
Cycle Q Clear(g_c), s	3.1	0.1	5.7	0.8	0.0	2.2	18.0	9.4	9.4	11.4	7.8	7.8
Prop In Lane	1.00		1.00	1.00		0.96	1.00		0.02	1.00		0.13
Lane Grp Cap(c), veh/h	612	760	644	602	0	648	314	716	751	287	711	731
V/C Ratio(X)	0.06	0.01	0.44	0.05	0.00	0.19	0.68	0.56	0.56	0.12	0.56	0.56
Avail Cap(c_a), veh/h	612	760	644	602	0	648	314	716	751	287	711	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.8	8.1	9.8	8.4	0.0	8.8	24.8	15.8	15.8	15.5	10.4	10.4
Incr Delay (d2), s/veh	0.2	0.0	2.1	0.1	0.0	0.6	11.3	3.1	3.0	0.8	3.2	3.1
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	0.0	2.0	0.2	0.0	0.7	3.5	4.6	4.8	0.3	3.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.9	8.1	12.0	8.5	0.0	9.4	36.2	18.9	18.8	16.4	13.6	13.5
LnGrp LOS	A	A	B	A	A	A	D	B	B	B	B	B
Approach Vol, veh/h		322			151			1034			841	
Approach Delay, s/veh		11.7			9.2			22.4			13.7	
Approach LOS		B			A			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		20.0		7.7		13.4		4.2				
Green Ext Time (p_c), s		0.0		0.8		2.2		0.6				

Intersection Summary												
HCM 6th Ctrl Delay			17.0									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	48.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	269	165	30	132	10	109	225	60	20	250	42
Future Vol, veh/h	51	269	165	30	132	10	109	225	60	20	250	42
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	3	1	1	1	2	2	2	3	3	3
Mvmt Flow	53	280	172	31	138	10	114	234	63	21	260	44
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	75.8	18.1	43.9	28.7
HCM LOS	F	C	E	D

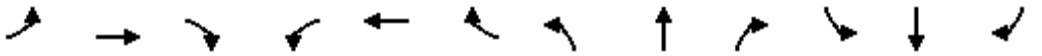
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	11%	17%	6%
Vol Thru, %	57%	55%	77%	80%
Vol Right, %	15%	34%	6%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	394	485	172	312
LT Vol	109	51	30	20
Through Vol	225	269	132	250
RT Vol	60	165	10	42
Lane Flow Rate	410	505	179	325
Geometry Grp	1	1	1	1
Degree of Util (X)	0.869	1.03	0.426	0.712
Departure Headway (Hd)	7.793	7.336	8.767	8.074
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	468	500	414	452
Service Time	5.793	5.336	6.767	6.074
HCM Lane V/C Ratio	0.876	1.01	0.432	0.719
HCM Control Delay	43.9	75.8	18.1	28.7
HCM Lane LOS	E	F	C	D
HCM 95th-tile Q	9.1	14.7	2.1	5.5

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	163	156	98	215	240	89
Future Vol, veh/h	163	156	98	215	240	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	1	1	2	2
Mvmt Flow	177	170	107	234	261	97
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	14.9	14.6	14.3
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	31%	51%	0%
Vol Thru, %	69%	0%	73%
Vol Right, %	0%	49%	27%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	313	319	329
LT Vol	98	163	0
Through Vol	215	0	240
RT Vol	0	156	89
Lane Flow Rate	340	347	358
Geometry Grp	1	1	1
Degree of Util (X)	0.524	0.535	0.53
Departure Headway (Hd)	5.548	5.559	5.332
Convergence, Y/N	Yes	Yes	Yes
Cap	650	648	676
Service Time	3.598	3.609	3.381
HCM Lane V/C Ratio	0.523	0.535	0.53
HCM Control Delay	14.6	14.9	14.3
HCM Lane LOS	B	B	B
HCM 95th-tile Q	3.1	3.2	3.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	0	295	5	0	5	230	275	0	5	299	92
Future Volume (vph)	200	0	295	5	0	5	230	275	0	5	299	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5		4.5	4.5	4.5	4.5			4.5	4.5
Lane Util. Factor	1.00		1.00		1.00	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00		0.98		1.00	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		0.85		1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00		0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1770		1550		1803	1615	1671	1759			1826	1553
Flt Permitted	0.75		1.00		0.95	1.00	0.51	1.00			0.99	1.00
Satd. Flow (perm)	1405		1550		1803	1615	894	1759			1818	1553
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	220	0	324	5	0	5	253	302	0	5	329	101
RTOR Reduction (vph)	0	0	194	0	0	3	0	0	0	0	0	61
Lane Group Flow (vph)	220	0	130	0	5	2	253	302	0	0	334	40
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	8%	8%	8%	4%	4%	4%
Turn Type	Perm		Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases					8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	18.0		18.0		18.0	18.0	18.0	18.0			18.0	18.0
Effective Green, g (s)	18.0		18.0		18.0	18.0	18.0	18.0			18.0	18.0
Actuated g/C Ratio	0.40		0.40		0.40	0.40	0.40	0.40			0.40	0.40
Clearance Time (s)	4.5		4.5		4.5	4.5	4.5	4.5			4.5	4.5
Lane Grp Cap (vph)	562		620		721	646	357	703			727	621
v/s Ratio Prot								0.17				
v/s Ratio Perm	c0.16		0.08		0.00	0.00	c0.28				0.18	0.03
v/c Ratio	0.39		0.21		0.01	0.00	0.71	0.43			0.46	0.07
Uniform Delay, d1	9.6		8.8		8.1	8.1	11.3	9.8			9.9	8.3
Progression Factor	1.00		1.00		1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	2.0		0.8		0.0	0.0	11.3	1.9			2.1	0.2
Delay (s)	11.6		9.6		8.1	8.1	22.6	11.7			12.0	8.5
Level of Service	B		A		A	A	C	B			B	A
Approach Delay (s)		10.4			8.1			16.7			11.2	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

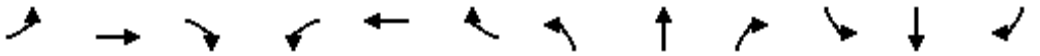
c Critical Lane Group

Intersection	
Intersection Delay, s/veh	61.7
Intersection LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	161	419	80	219	445
Future Vol, veh/h	55	161	419	80	219	445
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	175	455	87	238	484
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	14.4	30.8	100.4
HCM LOS	B	D	F

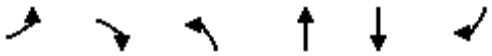
Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	25%	33%
Vol Thru, %	84%	0%	67%
Vol Right, %	16%	75%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	499	216	664
LT Vol	0	55	219
Through Vol	419	0	445
RT Vol	80	161	0
Lane Flow Rate	542	235	722
Geometry Grp	1	1	1
Degree of Util (X)	0.83	0.415	1.134
Departure Headway (Hd)	5.8	6.719	5.658
Convergence, Y/N	Yes	Yes	Yes
Cap	629	540	650
Service Time	3.8	4.719	3.658
HCM Lane V/C Ratio	0.862	0.435	1.111
HCM Control Delay	30.8	14.4	100.4
HCM Lane LOS	D	B	F
HCM 95th-tile Q	8.8	2	22.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1356	80	0	1365	20	110	10	30	15	10	10
Future Volume (veh/h)	10	1356	80	0	1365	20	110	10	30	15	10	10
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		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	1796	1796	1796	1870	1870	1870	1900	1900	1900
Adj Flow Rate, veh/h	10	1356	80	0	1365	20	110	10	30	15	10	10
Peak Hour 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
Percent Heavy Veh, %	8	8	8	7	7	7	2	2	2	0	0	0
Cap, veh/h	166	1844	109	171	1745	26	504	524	444	434	204	204
Arrive On Green	0.01	0.57	0.57	0.00	0.51	0.51	0.06	0.28	0.28	0.02	0.23	0.23
Sat Flow, veh/h	1697	3248	191	1711	3443	50	1781	1870	1585	1810	872	872
Grp Volume(v), veh/h	10	705	731	0	676	709	110	10	30	15	0	20
Grp Sat Flow(s),veh/h/ln	1697	1692	1747	1711	1706	1787	1781	1870	1585	1810	0	1743
Q Serve(g_s), s	0.3	28.6	28.9	0.0	30.0	30.1	4.2	0.4	1.3	0.6	0.0	0.8
Cycle Q Clear(g_c), s	0.3	28.6	28.9	0.0	30.0	30.1	4.2	0.4	1.3	0.6	0.0	0.8
Prop In Lane	1.00		0.11	1.00		0.03	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	166	961	992	171	865	906	504	524	444	434	0	407
V/C Ratio(X)	0.06	0.73	0.74	0.00	0.78	0.78	0.22	0.02	0.07	0.03	0.00	0.05
Avail Cap(c_a), veh/h	246	1761	1817	262	1766	1850	631	524	444	510	0	407
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	14.9	14.9	0.0	18.7	18.7	23.1	24.2	24.5	26.2	0.0	27.5
Incr Delay (d2), s/veh	0.1	1.1	1.1	0.0	1.6	1.5	0.2	0.1	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	0.1	10.3	10.7	0.0	11.4	11.9	1.8	0.2	0.5	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	16.0	16.0	0.0	20.3	20.2	23.3	24.2	24.8	26.3	0.0	27.6
LnGrp LOS	B	B	B	A	C	C	C	C	C	C	A	C
Approach Vol, veh/h		1446			1385			150			35	
Approach Delay, s/veh		16.0			20.2			23.7			27.0	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	30.0	0.0	56.7	10.4	25.7	5.6	51.0
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	5.5	26.0	5.0	96.5	12.5	19.0	5.5	96.0
Max Q Clear Time (g_c+I1), s	2.6	3.3	0.0	30.9	6.2	2.8	2.3	32.1
Green Ext Time (p_c), s	0.0	0.1	0.0	16.3	0.1	0.0	0.0	15.0

Intersection Summary	
HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	100	80	439	403	22
Future Volume (veh/h)	20	100	80	439	403	22
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	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	1900	1900	1781	1781	1841	1841
Adj Flow Rate, veh/h	21	106	85	467	429	23
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	8	8	4	4
Cap, veh/h	29	148	517	1062	630	34
Arrive On Green	0.11	0.11	0.08	0.60	0.36	0.36
Sat Flow, veh/h	269	1360	1697	1781	1731	93
Grp Volume(v), veh/h	128	0	85	467	0	452
Grp Sat Flow(s),veh/h/ln	1642	0	1697	1781	0	1824
Q Serve(g_s), s	2.3	0.0	0.9	4.4	0.0	6.4
Cycle Q Clear(g_c), s	2.3	0.0	0.9	4.4	0.0	6.4
Prop In Lane	0.16	0.83	1.00			0.05
Lane Grp Cap(c), veh/h	178	0	517	1062	0	664
V/C Ratio(X)	0.72	0.00	0.16	0.44	0.00	0.68
Avail Cap(c_a), veh/h	1375	0	959	1491	0	1527
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	5.6	3.4	0.0	8.2
Incr Delay (d2), s/veh	4.0	0.0	0.1	0.3	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.2	0.4	0.0	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.1	0.0	5.7	3.7	0.0	9.4
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	128			552	452	
Approach Delay, s/veh	17.1			4.0	9.4	
Approach LOS	B			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		22.7		7.8	7.1	15.6
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		25.5		25.5	10.5	25.5
Max Q Clear Time (g_c+I1), s		6.4		4.3	2.9	8.4
Green Ext Time (p_c), s		2.9		0.3	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations											
Traffic Volume (veh/h)	0	1235	570	0	1805	715	470	5	375	0	0
Future Volume (veh/h)	0	1235	570	0	1805	715	470	5	375	0	0
Initial Q (Qb), veh	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		
Parking Bus, Adj	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			
Adj Sat Flow, veh/h/ln	0	1673	1673	0	1550	1550	1826	1826	1826		
Adj Flow Rate, veh/h	0	1286	0	0	1880	0	494	494	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	2	2	0	4	4	5	5	5		
Cap, veh/h	0	2338		0	2120		602	602			
Arrive On Green	0.00	0.74	0.00	0.00	1.00	0.00	0.17	0.17	0.00		
Sat Flow, veh/h	0	3263	1418	0	3023	1314	3478	3478	1547		
Grp Volume(v), veh/h	0	1286	0	0	1880	0	494	494	0		
Grp Sat Flow(s),veh/h/ln	0	1590	1418	0	1473	1314	1739	1739	1547		
Q Serve(g_s), s	0.0	23.4	0.0	0.0	0.0	0.0	17.8	17.8	0.0		
Cycle Q Clear(g_c), s	0.0	23.4	0.0	0.0	0.0	0.0	17.8	17.8	0.0		
Prop In Lane	0.00		1.00	0.00		1.00	1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	0	2338		0	2120		602	602			
V/C Ratio(X)	0.00	0.55		0.00	0.89		0.82	0.82			
Avail Cap(c_a), veh/h	0	2338		0	2120		888	888			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	0.53	0.00	0.00	0.09	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	0.0	7.6	0.0	0.0	0.0	0.0	51.8	51.8	0.0		
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.6	0.0	5.6	5.6	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		
%ile BackOfQ(50%),veh/ln	0.0	7.1	0.0	0.0	0.2	0.0	8.0	8.0	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	0.0	8.1	0.0	0.0	0.6	0.0	57.4	57.4	0.0		
LnGrp LOS	A	A		A	A		E	E			
Approach Vol, veh/h		1286			1880		494	494			
Approach Delay, s/veh		8.1			0.6		57.4	57.4			
Approach LOS		A			A		E	E			

Timer - Assigned Phs		2		4		6					
Phs Duration (G+Y+Rc), s		101.7		28.3		101.7					
Change Period (Y+Rc), s		* 6.1		* 5.8		6.1					
Max Green Setting (Gmax), s		* 85		* 33		84.9					
Max Q Clear Time (g_c+I1), s		25.4		19.8		2.0					
Green Ext Time (p_c), s		20.7		2.7		46.8					

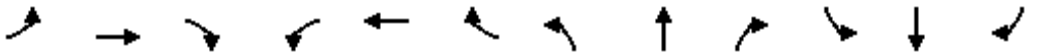
Intersection Summary											
HCM 6th Ctrl Delay			10.9								
HCM 6th LOS			B								

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	420	1340	0	0	1880	825	845	0	1310	0	0	0
Future Volume (veh/h)	420	1340	0	0	1880	825	845	0	1310	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	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				
Adj Sat Flow, veh/h/ln	1660	1660	0	0	1550	1550	1826	1826	1826			
Adj Flow Rate, veh/h	438	1396	0	0	1958	0	880	0	0			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	3	3	0	0	4	4	5	5	5			
Cap, veh/h	321	2023	0	0	1608		929	0				
Arrive On Green	0.41	1.00	0.00	0.00	0.38	0.00	0.27	0.00	0.00			
Sat Flow, veh/h	1581	3237	0	0	4371	1314	3478	0	1547			
Grp Volume(v), veh/h	438	1396	0	0	1958	0	880	0	0			
Grp Sat Flow(s),veh/h/ln	1581	1577	0	0	1411	1314	1739	0	1547			
Q Serve(g_s), s	26.4	0.0	0.0	0.0	49.4	0.0	32.3	0.0	0.0			
Cycle Q Clear(g_c), s	26.4	0.0	0.0	0.0	49.4	0.0	32.3	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	321	2023	0	0	1608		929	0				
V/C Ratio(X)	1.36	0.69	0.00	0.00	1.22		0.95	0.00				
Avail Cap(c_a), veh/h	321	2023	0	0	1608		936	0				
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.75	0.75	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	38.6	0.0	0.0	0.0	40.3	0.0	46.7	0.0	0.0			
Incr Delay (d2), s/veh	178.3	1.5	0.0	0.0	104.0	0.0	18.2	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	24.1	0.4	0.0	0.0	32.1	0.0	15.7	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	216.9	1.5	0.0	0.0	144.3	0.0	64.9	0.0	0.0			
LnGrp LOS	F	A	A	A	F		E	A				
Approach Vol, veh/h		1834			1958			880				
Approach Delay, s/veh		52.9			144.3			64.9				
Approach LOS		D			F			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		90.5			33.0	57.5		40.5				
Change Period (Y+Rc), s		6.1			5.6	* 6.1		5.8				
Max Green Setting (Gmax), s		83.1			27.4	* 50		35.0				
Max Q Clear Time (g_c+I1), s		2.0			28.4	51.4		34.3				
Green Ext Time (p_c), s		25.9			0.0	0.0		0.4				

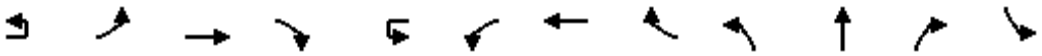
Intersection Summary	
HCM 6th Ctrl Delay	93.5
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	70	480	1145	390	5	235	1205	155	730	540	325	230
Future Volume (vph)	70	480	1145	390	5	235	1205	155	730	540	325	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	6.5	6.5		8.5	9.5	9.5	5.5	5.9	5.9	5.5
Lane Util. Factor		1.00	0.95	1.00		1.00	0.91	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes		1.00	1.00	0.94		1.00	1.00	0.96	1.00	1.00	0.91	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	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		1703	3406	1431		1687	4848	1449	3303	3406	1389	1736
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		1703	3406	1431		1687	4848	1449	3303	3406	1389	1736
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)	73	500	1193	406	5	245	1255	161	760	562	339	240
RTOR Reduction (vph)	0	0	0	147	0	0	0	122	0	0	185	0
Lane Group Flow (vph)	0	573	1193	259	0	250	1255	39	760	563	154	240
Confl. Peds. (#/hr)		4		7		7		4	9		11	11
Heavy Vehicles (%)	6%	6%	6%	6%	7%	7%	7%	7%	6%	6%	6%	4%
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA	Perm	Prot
Protected Phases	5 15	5 15	2		1	1	6		3	8		7
Permitted Phases				2				6			8	
Actuated Green, G (s)		50.5	69.2	69.2		28.8	43.0	43.0	26.5	28.9	28.9	14.7
Effective Green, g (s)		50.5	69.2	69.2		25.8	40.0	40.0	26.5	28.9	28.9	14.7
Actuated g/C Ratio		0.31	0.42	0.42		0.16	0.24	0.24	0.16	0.18	0.18	0.09
Clearance Time (s)			6.5	6.5		5.5	6.5	6.5	5.5	5.9	5.9	5.5
Vehicle Extension (s)			3.0	3.0		2.5	3.0	3.0	2.5	3.0	3.0	2.5
Lane Grp Cap (vph)		521	1428	600		263	1175	351	530	596	243	154
v/s Ratio Prot		c0.34	0.35			0.15	c0.26		c0.23	c0.17		0.14
v/s Ratio Perm				0.18				0.03			0.11	
v/c Ratio		1.10	0.84	0.43		0.95	1.07	0.11	1.43	0.94	0.63	1.56
Uniform Delay, d1		57.2	42.8	33.9		69.0	62.5	48.7	69.2	67.3	63.2	75.2
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		69.5	4.4	0.5		42.0	46.5	0.1	205.9	23.8	5.3	280.5
Delay (s)		126.8	47.2	34.4		110.9	109.0	48.8	275.2	91.1	68.5	355.7
Level of Service		F	D	C		F	F	D	F	F	E	F
Approach Delay (s)			65.8				103.5			170.7		
Approach LOS			E				F			F		

Intersection Summary			
HCM 2000 Control Delay	113.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	30.9
Intersection Capacity Utilization	122.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	295	400
Future Volume (vph)	295	400
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.9	5.9
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.93
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3471	1437
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3471	1437
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	307	417
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	307	417
Confl. Peds. (#/hr)		9
Heavy Vehicles (%)	4%	4%
Turn Type	NA	custom
Protected Phases	4	
Permitted Phases		4 6
Actuated Green, G (s)	17.1	60.1
Effective Green, g (s)	17.1	60.1
Actuated g/C Ratio	0.10	0.36
Clearance Time (s)	5.9	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	359	523
v/s Ratio Prot	0.09	
v/s Ratio Perm		0.29
v/c Ratio	0.86	0.80
Uniform Delay, d1	72.7	47.0
Progression Factor	1.00	1.00
Incremental Delay, d2	17.7	8.3
Delay (s)	90.4	55.3
Level of Service	F	E
Approach Delay (s)	141.3	
Approach LOS	F	

Intersection Summary

MOVEMENT SUMMARY

Site: 4 [4. 172nd Street NE/43rd Avenue NE (Site Folder: General)]

Baseline 2031
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 43rd Ave NE														
3	L2	415	2.0	437	2.0	0.622	15.1	LOS B	4.4	110.6	0.86	1.04	1.10	32.0
8	T1	10	2.0	11	2.0	0.622	9.7	LOS A	4.4	110.6	0.86	1.04	1.10	32.0
18	R2	245	2.0	258	2.0	0.475	9.7	LOS A	2.6	65.4	0.80	0.94	0.94	33.5
Approach		670	2.0	705	2.0	0.622	13.0	LOS B	4.4	110.6	0.83	1.00	1.05	32.5
East: 172nd St NE														
1	L2	215	6.0	226	6.0	0.907	24.7	LOS D	16.4	428.5	1.00	1.30	1.78	29.1
6	T1	1180	6.0	1242	6.0	0.907	19.1	LOS D	16.8	440.5	1.00	1.29	1.77	29.8
16	R2	25	6.0	26	6.0	0.907	19.4	LOS D	16.8	440.5	1.00	1.29	1.77	29.1
Approach		1420	6.0	1495	6.0	0.907	19.9	LOS B	16.8	440.5	1.00	1.29	1.77	29.6
North: 43rd Ave NE														
7	L2	10	0.0	11	0.0	0.119	18.0	LOS B	0.6	15.3	0.87	0.94	0.87	32.4
4	T1	5	0.0	5	0.0	0.119	12.5	LOS B	0.6	15.3	0.87	0.94	0.87	32.3
14	R2	20	0.0	21	0.0	0.119	12.3	LOS B	0.6	15.3	0.87	0.94	0.87	31.7
Approach		35	0.0	37	0.0	0.119	13.9	LOS B	0.6	15.3	0.87	0.94	0.87	32.0
West: 172nd St NE														
5u	U	25	6.0	27	6.0	0.665	14.3	LOS B	6.3	166.3	0.71	0.71	0.76	35.4
5	L2	25	6.0	26	6.0	0.665	12.0	LOS B	6.3	166.3	0.71	0.71	0.76	34.6
2	T1	1075	6.0	1132	6.0	0.665	6.7	LOS A	6.4	166.7	0.71	0.71	0.76	35.0
12	R2	165	6.0	174	6.0	0.665	7.2	LOS A	6.4	166.7	0.71	0.70	0.76	33.8
Approach		1290	6.0	1359	6.0	0.665	7.0	LOS A	6.4	166.7	0.71	0.71	0.76	34.9
All Vehicles		3415	5.2	3596	5.2	0.907	13.6	LOS B	16.8	440.5	0.86	1.01	1.24	32.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 5 [5. 172nd Street NE/51st Avenue NE - WSDOT (Site Folder: General)]

Baseline 2031
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 51st Ave NE														
3	L2	230	6.0	242	6.0	0.498	14.2	LOS B	2.9	75.2	0.79	0.98	0.95	32.1
8	T1	70	6.0	74	6.0	0.498	9.6	LOS A	2.9	75.2	0.79	0.98	0.95	32.3
18	R2	110	6.0	116	6.0	0.271	10.1	LOS B	1.1	29.5	0.72	0.88	0.72	32.7
Approach		410	6.0	432	6.0	0.498	12.3	LOS B	2.9	75.2	0.77	0.95	0.89	32.3
East: 172nd St NE														
1	L2	130	6.0	137	6.0	0.666	14.3	LOS B	7.1	186.2	0.84	0.88	0.99	33.2
6	T1	1100	6.0	1158	6.0	0.666	9.2	LOS A	7.3	191.5	0.83	0.85	0.97	33.9
16	R2	35	6.0	37	6.0	0.666	9.0	LOS A	7.3	191.5	0.82	0.82	0.95	33.4
Approach		1265	6.0	1332	6.0	0.666	9.7	LOS A	7.3	191.5	0.83	0.85	0.97	33.8
North: 51st Ave NE														
7	L2	60	5.0	63	5.0	0.653	20.6	LOS C	3.9	101.8	0.89	1.06	1.25	30.3
4	T1	75	5.0	78	5.0	0.653	16.1	LOS B	3.9	101.8	0.89	1.06	1.25	30.4
14	R2	105	5.0	109	5.0	0.653	16.0	LOS B	3.9	101.8	0.89	1.06	1.25	29.8
Approach		240	5.0	250	5.0	0.653	17.2	LOS B	3.9	101.8	0.89	1.06	1.25	30.1
West: 172nd St NE														
5	L2	55	5.0	58	5.0	0.585	11.7	LOS B	4.9	128.6	0.68	0.70	0.71	34.3
2	T1	985	5.0	1037	5.0	0.585	6.9	LOS A	4.9	128.6	0.67	0.68	0.69	34.7
12	R2	210	5.0	221	5.0	0.585	6.7	LOS A	4.9	127.3	0.66	0.66	0.67	33.9
Approach		1250	5.0	1316	5.0	0.585	7.1	LOS A	4.9	128.6	0.67	0.68	0.69	34.5
All Vehicles		3165	5.5	3329	5.5	0.666	9.6	LOS A	7.3	191.5	0.76	0.81	0.87	33.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [6. 172nd Street NE/59th Avenue NE - WSDOT_NBR Improvement (Site Folder: General)]

Baseline 2031 - NBR Improvement
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 59th Ave NE														
3	L2	40	12.0	43	12.0	0.083	12.9	LOS B	0.3	9.2	0.67	0.89	0.67	32.3
8	T1	5	12.0	5	12.0	0.083	8.4	LOS A	0.3	9.2	0.67	0.89	0.67	32.5
18	R2	20	12.0	22	12.0	0.053	10.2	LOS B	0.2	5.3	0.68	0.86	0.68	32.5
Approach		65	12.0	71	12.0	0.083	11.7	LOS B	0.3	9.2	0.67	0.88	0.67	32.3
East: 172nd St NE														
1	L2	10	4.0	11	4.0	0.361	10.9	LOS B	2.3	59.0	0.56	0.63	0.56	34.8
6	T1	725	4.0	763	4.0	0.361	6.2	LOS A	2.4	60.9	0.55	0.62	0.55	35.1
16	R2	35	4.0	37	4.0	0.361	6.3	LOS A	2.4	60.9	0.54	0.61	0.54	34.2
Approach		770	4.0	811	4.0	0.361	6.3	LOS A	2.4	60.9	0.55	0.62	0.55	35.1
North: 59th Ave NE														
7	L2	110	10.0	116	10.0	0.288	14.8	LOS B	1.1	29.5	0.65	0.89	0.67	31.4
4	T1	5	10.0	5	10.0	0.288	10.2	LOS B	1.1	29.5	0.65	0.89	0.67	31.6
14	R2	550	10.0	579	10.0	0.759	11.8	LOS B	6.2	166.6	0.84	1.06	1.22	31.8
Approach		665	10.0	700	10.0	0.759	12.2	LOS B	6.2	166.6	0.80	1.03	1.13	31.7
West: 172nd St NE														
5	L2	225	10.0	237	10.0	0.506	10.3	LOS B	4.1	109.4	0.50	0.60	0.50	34.1
2	T1	905	10.0	953	10.0	0.506	5.6	LOS A	4.1	111.6	0.49	0.55	0.49	34.9
12	R2	20	10.0	21	10.0	0.506	5.8	LOS A	4.1	111.6	0.48	0.53	0.48	34.2
Approach		1150	10.0	1211	10.0	0.506	6.5	LOS A	4.1	111.6	0.49	0.56	0.49	34.7
All Vehicles		2650	8.3	2792	8.3	0.759	8.0	LOS A	6.2	166.6	0.59	0.70	0.67	34.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7 [7. 172nd Street NE/67th Avenue NE - WSDOT (Site Folder: General)]

Baseline 2031
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 67th Ave NE														
3	L2	85	3.0	89	3.0	0.609	18.2	LOS B	4.9	124.5	0.93	1.07	1.22	31.3
8	T1	235	3.0	247	3.0	0.609	13.7	LOS B	4.9	124.5	0.93	1.07	1.22	31.5
18	R2	100	3.0	105	3.0	0.296	14.0	LOS B	1.5	37.5	0.80	0.92	0.82	31.8
Approach		420	3.0	442	3.0	0.609	14.7	LOS B	4.9	124.5	0.90	1.03	1.13	31.5
East: 172nd St NE														
1	L2	60	4.0	63	4.0	0.362	13.4	LOS B	2.4	61.0	0.77	0.83	0.77	33.6
6	T1	450	4.0	474	4.0	0.362	8.4	LOS A	2.6	65.8	0.77	0.80	0.77	34.2
16	R2	60	4.0	63	4.0	0.362	8.3	LOS A	2.6	65.8	0.77	0.78	0.77	33.6
Approach		570	4.0	600	4.0	0.362	8.9	LOS A	2.6	65.8	0.77	0.80	0.77	34.1
North: 67th Ave NE														
7	L2	125	5.0	128	5.0	0.860	19.6	LOS D	9.5	247.0	0.93	1.18	1.53	30.8
4	T1	270	5.0	276	5.0	0.860	15.1	LOS D	9.5	247.0	0.93	1.18	1.53	30.9
14	R2	205	5.0	209	5.0	0.860	15.0	LOS D	9.5	247.0	0.93	1.18	1.53	30.3
Approach		600	5.0	612	5.0	0.860	16.0	LOS B	9.5	247.0	0.93	1.18	1.53	30.7
West: 172nd St NE														
5	L2	280	4.0	295	4.0	0.836	19.1	LOS B	14.5	373.1	1.00	1.10	1.48	30.8
2	T1	635	4.0	668	4.0	0.836	13.8	LOS B	14.5	373.1	0.95	1.05	1.34	31.5
12	R2	150	4.0	158	4.0	0.404	8.6	LOS A	2.7	68.4	0.75	0.81	0.75	33.6
Approach		1065	4.0	1121	4.0	0.836	14.4	LOS B	14.5	373.1	0.94	1.03	1.29	31.6
All Vehicles		2655	4.1	2775	4.1	0.860	13.6	LOS B	14.5	373.1	0.89	1.01	1.20	31.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

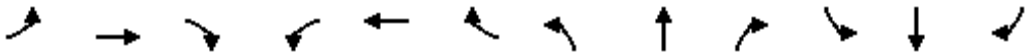
Site: 8 [Future (2031) Without-Project PM Peak Hour (Site Folder: General)]

SR 9/SR 531 (172nd St NE)
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: SR 9														
3u	U	5	5.0	5	5.0	0.401	14.6	LOS B	2.8	72.5	0.70	0.78	0.70	33.6
3	L2	330	5.0	359	5.0	0.401	12.3	LOS B	2.8	72.5	0.70	0.78	0.70	33.0
8	T1	500	5.0	543	5.0	0.488	6.3	LOS A	3.9	102.1	0.73	0.63	0.73	35.2
18	R2	10	5.0	11	5.0	0.488	6.5	LOS A	3.9	102.1	0.73	0.63	0.73	34.1
Approach		845	5.0	918	5.0	0.488	8.7	LOS A	3.9	102.1	0.71	0.69	0.71	34.3
East: SR 531 (172nd St NE)														
1	L2	10	2.0	11	2.0	0.215	13.6	LOS B	1.0	25.4	0.72	0.83	0.72	34.9
6	T1	80	2.0	87	2.0	0.215	8.3	LOS A	1.0	25.4	0.72	0.83	0.72	34.9
16	R2	25	2.0	27	2.0	0.215	8.1	LOS A	1.0	25.4	0.72	0.83	0.72	34.0
Approach		115	2.0	125	2.0	0.215	8.7	LOS A	1.0	25.4	0.72	0.83	0.72	34.7
North: SR 9														
7u	U	5	4.0	5	4.0	0.572	15.6	LOS B	4.7	121.4	0.74	0.81	0.83	35.4
7	L2	50	4.0	54	4.0	0.572	13.3	LOS B	4.7	121.4	0.74	0.81	0.83	34.7
4	T1	455	4.0	495	4.0	0.572	7.9	LOS A	4.7	121.4	0.74	0.81	0.83	34.7
14	R2	155	4.0	168	4.0	0.264	7.8	LOS A	1.3	33.7	0.61	0.76	0.61	34.3
Approach		665	4.0	723	4.0	0.572	8.4	LOS A	4.7	121.4	0.71	0.80	0.78	34.6
West: SR 531 (172nd St NE)														
5	L2	200	5.0	217	5.0	0.432	13.7	LOS B	3.2	83.5	0.81	0.85	0.83	33.4
2	T1	115	5.0	125	5.0	0.432	8.1	LOS A	3.2	83.5	0.81	0.85	0.83	33.4
12	R2	325	5.0	353	5.0	0.358	7.3	LOS A	2.7	71.1	0.78	0.76	0.78	34.4
Approach		640	5.0	696	5.0	0.432	9.4	LOS A	3.2	83.5	0.80	0.81	0.80	33.9
All Vehicles		2265	4.6	2462	4.6	0.572	8.8	LOS A	4.7	121.4	0.74	0.76	0.76	34.3

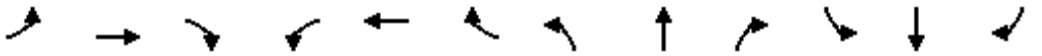
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	5	305	20	10	45	235	870	5	15	810	55
Future Volume (veh/h)	40	5	305	20	10	45	235	870	5	15	810	55
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		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	1900	1900	1900	1900	1900	1900	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	42	5	318	21	10	47	245	906	5	16	844	57
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, %	0	0	0	0	0	0	1	1	1	2	2	2
Cap, veh/h	678	760	644	588	116	546	285	1461	8	261	1351	91
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Sat Flow, veh/h	1368	1900	1610	1074	290	1364	623	3652	20	613	3378	228
Grp Volume(v), veh/h	42	5	318	21	0	57	245	444	467	16	444	457
Grp Sat Flow(s),veh/h/ln	1368	1900	1610	1074	0	1654	623	1791	1882	613	1777	1829
Q Serve(g_s), s	0.9	0.1	6.6	0.5	0.0	1.0	9.0	10.6	10.6	1.0	9.0	9.0
Cycle Q Clear(g_c), s	1.8	0.1	6.6	0.6	0.0	1.0	18.0	10.6	10.6	11.6	9.0	9.0
Prop In Lane	1.00		1.00	1.00		0.82	1.00		0.01	1.00		0.12
Lane Grp Cap(c), veh/h	678	760	644	588	0	662	285	716	753	261	711	732
V/C Ratio(X)	0.06	0.01	0.49	0.04	0.00	0.09	0.86	0.62	0.62	0.06	0.62	0.62
Avail Cap(c_a), veh/h	678	760	644	588	0	662	285	716	753	261	711	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.0	8.1	10.1	8.3	0.0	8.4	26.2	16.3	16.3	16.1	10.8	10.8
Incr Delay (d2), s/veh	0.2	0.0	2.7	0.1	0.0	0.3	27.2	4.0	3.8	0.4	4.1	4.0
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	0.2	0.0	2.3	0.1	0.0	0.3	5.0	5.4	5.6	0.2	3.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.1	8.1	12.8	8.4	0.0	8.6	53.4	20.3	20.1	16.5	14.9	14.8
LnGrp LOS	A	A	B	A	A	A	D	C	C	B	B	B
Approach Vol, veh/h		365			78			1156			917	
Approach Delay, s/veh		12.3			8.6			27.3			14.9	
Approach LOS		B			A			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		20.0		8.6		13.6		3.0				
Green Ext Time (p_c), s		0.0		0.9		2.3		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			20.0									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	240	145	35	130	15	115	250	65	20	275	50
Future Volume (veh/h)	55	240	145	35	130	15	115	250	65	20	275	50
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		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	1856	1856	1856	1885	1885	1885	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	57	250	151	36	135	16	120	260	68	21	286	52
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, %	3	3	3	1	1	1	2	2	2	3	3	3
Cap, veh/h	105	650	438	75	597	308	168	569	548	46	438	465
Arrive On Green	0.06	0.18	0.18	0.04	0.17	0.17	0.09	0.30	0.30	0.03	0.24	0.24
Sat Flow, veh/h	1767	3526	1572	1795	3582	1598	1781	1870	1585	1767	1856	1572
Grp Volume(v), veh/h	57	250	151	36	135	16	120	260	68	21	286	52
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1795	1791	1598	1781	1870	1585	1767	1856	1572
Q Serve(g_s), s	1.2	2.4	2.9	0.8	1.3	0.3	2.5	4.3	1.1	0.4	5.3	0.9
Cycle Q Clear(g_c), s	1.2	2.4	2.9	0.8	1.3	0.3	2.5	4.3	1.1	0.4	5.3	0.9
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	105	650	438	75	597	308	168	569	548	46	438	465
V/C Ratio(X)	0.54	0.38	0.34	0.48	0.23	0.05	0.72	0.46	0.12	0.45	0.65	0.11
Avail Cap(c_a), veh/h	318	2761	1380	642	3441	1577	628	1733	1535	637	1250	1152
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	13.7	11.0	18.0	13.8	12.6	16.9	10.8	8.6	18.4	13.2	9.8
Incr Delay (d2), s/veh	4.3	0.4	0.5	4.8	0.2	0.1	5.6	0.6	0.1	6.8	1.7	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	0.5	0.8	0.9	0.4	0.4	0.1	1.1	1.5	0.3	0.2	2.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	14.1	11.5	22.7	14.0	12.7	22.4	11.3	8.7	25.2	14.9	9.9
LnGrp LOS	C	B	B	C	B	B	C	B	A	C	B	A
Approach Vol, veh/h		458			187			448			359	
Approach Delay, s/veh		14.2			15.6			13.9			14.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	15.6	6.1	11.1	8.1	13.0	6.8	10.4
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	13.8	35.5	13.7	30.0	13.5	25.8	6.9	36.8
Max Q Clear Time (g_c+I1), s	2.4	6.3	2.8	4.9	4.5	7.3	3.2	3.3
Green Ext Time (p_c), s	0.0	1.8	0.0	2.1	0.2	1.7	0.0	0.9

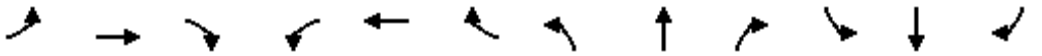
Intersection Summary	
HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	135	160	110	240	270	85
Future Vol, veh/h	135	160	110	240	270	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	1	1	2	2
Mvmt Flow	147	174	120	261	293	92
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	14.4	16.1	15.4
HCM LOS	B	C	C

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	31%	46%	0%
Vol Thru, %	69%	0%	76%
Vol Right, %	0%	54%	24%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	350	295	355
LT Vol	110	135	0
Through Vol	240	0	270
RT Vol	0	160	85
Lane Flow Rate	380	321	386
Geometry Grp	1	1	1
Degree of Util (X)	0.584	0.505	0.573
Departure Headway (Hd)	5.527	5.674	5.346
Convergence, Y/N	Yes	Yes	Yes
Cap	651	635	671
Service Time	3.578	3.727	3.397
HCM Lane V/C Ratio	0.584	0.506	0.575
HCM Control Delay	16.1	14.4	15.4
HCM Lane LOS	C	B	C
HCM 95th-tile Q	3.8	2.9	3.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	0	335	5	0	5	255	295	0	5	305	100
Future Volume (vph)	225	0	335	5	0	5	255	295	0	5	305	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5		4.5	4.5	4.5	4.5			4.5	4.5
Lane Util. Factor	1.00		1.00		1.00	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00		0.98		1.00	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		0.85		1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00		0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1770		1550		1803	1615	1671	1759			1826	1553
Flt Permitted	0.75		1.00		0.95	1.00	0.50	1.00			0.99	1.00
Satd. Flow (perm)	1405		1550		1803	1615	881	1759			1817	1553
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	247	0	368	5	0	5	280	324	0	5	335	110
RTOR Reduction (vph)	0	0	221	0	0	3	0	0	0	0	0	66
Lane Group Flow (vph)	247	0	147	0	5	2	280	324	0	0	340	44
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	8%	8%	8%	4%	4%	4%
Turn Type	Perm		Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases					8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	18.0		18.0		18.0	18.0	18.0	18.0			18.0	18.0
Effective Green, g (s)	18.0		18.0		18.0	18.0	18.0	18.0			18.0	18.0
Actuated g/C Ratio	0.40		0.40		0.40	0.40	0.40	0.40			0.40	0.40
Clearance Time (s)	4.5		4.5		4.5	4.5	4.5	4.5			4.5	4.5
Lane Grp Cap (vph)	562		620		721	646	352	703			726	621
v/s Ratio Prot								0.18				
v/s Ratio Perm	c0.18		0.09		0.00	0.00	c0.32				0.19	0.03
v/c Ratio	0.44		0.24		0.01	0.00	0.80	0.46			0.47	0.07
Uniform Delay, d1	9.8		8.9		8.1	8.1	11.9	9.9			10.0	8.3
Progression Factor	1.00		1.00		1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	2.5		0.9		0.0	0.0	16.8	2.2			2.2	0.2
Delay (s)	12.3		9.9		8.1	8.1	28.7	12.1			12.1	8.6
Level of Service	B		A		A	A	C	B			B	A
Approach Delay (s)		10.8			8.1			19.8			11.3	
Approach LOS		B			A			B			B	

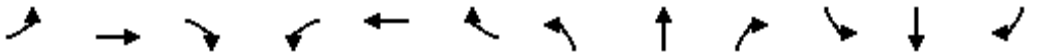
Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	37.8
Intersection LOS	E

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	180	465	90	240	475
Future Vol, veh/h	60	180	465	90	240	475
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	196	505	98	261	516
Number of Lanes	1	0	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	15.5	53.6	33.1
HCM LOS	C	F	D

Lane	NBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	25%	100%	0%
Vol Thru, %	84%	0%	0%	100%
Vol Right, %	16%	75%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	555	240	240	475
LT Vol	0	60	240	0
Through Vol	465	0	0	475
RT Vol	90	180	0	0
Lane Flow Rate	603	261	261	516
Geometry Grp	5	2	7	7
Degree of Util (X)	0.972	0.476	0.491	0.898
Departure Headway (Hd)	5.799	6.569	6.772	6.263
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	621	545	530	573
Service Time	3.861	4.643	4.549	4.039
HCM Lane V/C Ratio	0.971	0.479	0.492	0.901
HCM Control Delay	53.6	15.5	16	41.7
HCM Lane LOS	F	C	C	E
HCM 95th-tile Q	13.9	2.5	2.7	10.7



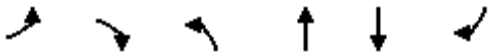
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1485	90	0	1510	20	125	10	35	15	10	10
Future Volume (veh/h)	10	1485	90	0	1510	20	125	10	35	15	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		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	1796	1796	1796	1870	1870	1870	1900	1900	1900
Adj Flow Rate, veh/h	10	1485	90	0	1510	20	125	10	35	15	10	10
Peak Hour 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
Percent Heavy Veh, %	8	8	8	7	7	7	2	2	2	0	0	0
Cap, veh/h	138	1895	114	137	1836	24	503	539	457	419	205	205
Arrive On Green	0.01	0.58	0.58	0.00	0.53	0.53	0.07	0.29	0.29	0.02	0.24	0.24
Sat Flow, veh/h	1697	3243	196	1711	3449	46	1781	1870	1585	1810	872	872
Grp Volume(v), veh/h	10	772	803	0	747	783	125	10	35	15	0	20
Grp Sat Flow(s),veh/h/ln	1697	1692	1746	1711	1706	1788	1781	1870	1585	1810	0	1743
Q Serve(g_s), s	0.3	39.3	39.9	0.0	41.0	41.1	5.8	0.4	1.8	0.7	0.0	1.0
Cycle Q Clear(g_c), s	0.3	39.3	39.9	0.0	41.0	41.1	5.8	0.4	1.8	0.7	0.0	1.0
Prop In Lane	1.00		0.11	1.00		0.03	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	138	989	1020	137	909	952	503	539	457	419	0	410
V/C Ratio(X)	0.07	0.78	0.79	0.00	0.82	0.82	0.25	0.02	0.08	0.04	0.00	0.05
Avail Cap(c_a), veh/h	193	1313	1355	235	1347	1411	703	539	457	494	0	410
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.4	17.9	18.0	0.0	21.9	21.9	27.9	28.7	29.2	31.8	0.0	33.3
Incr Delay (d2), s/veh	0.2	2.2	2.3	0.0	2.7	2.6	0.3	0.1	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	0.1	15.0	15.7	0.0	16.3	17.1	2.5	0.2	0.7	0.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.6	20.2	20.3	0.0	24.6	24.5	28.1	28.8	29.5	31.8	0.0	33.4
LnGrp LOS	B	C	C	A	C	C	C	C	C	C	A	C
Approach Vol, veh/h		1585			1530			170			35	
Approach Delay, s/veh		20.2			24.5			28.4			32.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	36.5	0.0	69.9	12.3	30.5	5.8	64.0
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	6.5	32.5	6.5	87.5	20.5	18.5	5.0	89.0
Max Q Clear Time (g_c+I1), s	2.7	3.8	0.0	41.9	7.8	3.0	2.3	43.1
Green Ext Time (p_c), s	0.0	0.1	0.0	18.0	0.2	0.0	0.0	16.9

Intersection Summary	
HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	350	0	70	225	0	90
Future Volume (vph)	350	0	70	225	0	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0		4.5
Lane Util. Factor	0.95		1.00	0.95		1.00
Frt	1.00		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	3438		1719	3438		1538
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	3438		1719	3438		1538
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	368	0	74	237	0	95
RTOR Reduction (vph)	0	0	0	0	0	68
Lane Group Flow (vph)	368	0	74	237	0	27
Turn Type	NA		Split	NA	Prot	Perm
Protected Phases			8	8	2	
Permitted Phases	4					2
Actuated Green, G (s)	16.0		16.0	16.0		18.0
Effective Green, g (s)	16.0		16.0	16.0		18.0
Actuated g/C Ratio	0.26		0.26	0.26		0.29
Clearance Time (s)	4.0		4.0	4.0		4.5
Lane Grp Cap (vph)	880		440	880		442
v/s Ratio Prot			0.04	c0.07		
v/s Ratio Perm	c0.11					c0.02
v/c Ratio	0.42		0.17	0.27		0.06
Uniform Delay, d1	19.4		18.1	18.6		16.1
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	1.5		0.8	0.8		0.3
Delay (s)	20.8		18.9	19.3		16.4
Level of Service	C		B	B		B
Approach Delay (s)	20.8			19.2	16.4	
Approach LOS	C			B	B	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	62.5	Sum of lost time (s)	12.5
Intersection Capacity Utilization	22.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	115	90	480	425	25
Future Volume (veh/h)	25	115	90	480	425	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	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	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	125	98	522	462	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	35	161	517	1126	654	38
Arrive On Green	0.12	0.12	0.09	0.60	0.37	0.37
Sat Flow, veh/h	286	1322	1781	1870	1750	102
Grp Volume(v), veh/h	153	0	98	522	0	489
Grp Sat Flow(s),veh/h/ln	1618	0	1781	1870	0	1852
Q Serve(g_s), s	3.0	0.0	1.0	5.0	0.0	7.3
Cycle Q Clear(g_c), s	3.0	0.0	1.0	5.0	0.0	7.3
Prop In Lane	0.18	0.82	1.00			0.06
Lane Grp Cap(c), veh/h	197	0	517	1126	0	692
V/C Ratio(X)	0.77	0.00	0.19	0.46	0.00	0.71
Avail Cap(c_a), veh/h	1266	0	930	1463	0	1449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.9	0.0	5.9	3.6	0.0	8.7
Incr Delay (d2), s/veh	4.8	0.0	0.1	0.3	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.2	0.6	0.0	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.7	0.0	5.9	3.9	0.0	10.0
LnGrp LOS	B	A	A	A	A	B
Approach Vol, veh/h	153			620	489	
Approach Delay, s/veh	18.7			4.2	10.0	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		24.1		8.5	7.4	16.7
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		25.5		25.5	10.5	25.5
Max Q Clear Time (g_c+I1), s		7.0		5.0	3.0	9.3
Green Ext Time (p_c), s		3.2		0.3	0.1	2.9

Intersection Summary	
HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations											
Traffic Volume (veh/h)	0	1236	570	0	1809	715	471	5	375	0	0
Future Volume (veh/h)	0	1236	570	0	1809	715	471	5	375	0	0
Initial Q (Qb), veh	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		
Parking Bus, Adj	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			
Adj Sat Flow, veh/h/ln	0	1673	1673	0	1550	1550	1826	1826	1826		
Adj Flow Rate, veh/h	0	1288	0	0	1884	0	495	495	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	0	2	2	0	4	4	5	5	5		
Cap, veh/h	0	2337		0	2120		603	603			
Arrive On Green	0.00	0.74	0.00	0.00	1.00	0.00	0.17	0.17	0.00		
Sat Flow, veh/h	0	3263	1418	0	3023	1314	3478	3478	1547		
Grp Volume(v), veh/h	0	1288	0	0	1884	0	495	495	0		
Grp Sat Flow(s),veh/h/ln	0	1590	1418	0	1473	1314	1739	1739	1547		
Q Serve(g_s), s	0.0	23.5	0.0	0.0	0.0	0.0	17.8	17.8	0.0		
Cycle Q Clear(g_c), s	0.0	23.5	0.0	0.0	0.0	0.0	17.8	17.8	0.0		
Prop In Lane	0.00		1.00	0.00		1.00	1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	0	2337		0	2120		603	603			
V/C Ratio(X)	0.00	0.55		0.00	0.89		0.82	0.82			
Avail Cap(c_a), veh/h	0	2337		0	2120		888	888			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00		
Upstream Filter(I)	0.00	0.53	0.00	0.00	0.09	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	0.0	7.7	0.0	0.0	0.0	0.0	51.8	51.8	0.0		
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.6	0.0	5.7	5.7	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		
%ile BackOfQ(50%),veh/ln	0.0	7.2	0.0	0.0	0.2	0.0	8.1	8.1	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	0.0	8.2	0.0	0.0	0.6	0.0	57.4	57.4	0.0		
LnGrp LOS	A	A		A	A		E	E			
Approach Vol, veh/h		1288			1884		495	495			
Approach Delay, s/veh		8.2			0.6		57.4	57.4			
Approach LOS		A			A		E	E			

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	101.7	28.3	101.7
Change Period (Y+Rc), s	* 6.1	* 5.8	6.1
Max Green Setting (Gmax), s	* 85	* 33	84.9
Max Q Clear Time (g_c+I1), s	25.5	19.8	2.0
Green Ext Time (p_c), s	20.7	2.7	46.9

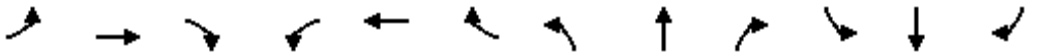
Intersection Summary	
HCM 6th Ctrl Delay	10.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	420	1342	0	0	1884	830	845	0	1310	0	0	0
Future Volume (veh/h)	420	1342	0	0	1884	830	845	0	1310	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	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				
Adj Sat Flow, veh/h/ln	1660	1660	0	0	1550	1550	1826	1826	1826			
Adj Flow Rate, veh/h	438	1398	0	0	1962	0	880	0	0			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	3	3	0	0	4	4	5	5	5			
Cap, veh/h	321	2023	0	0	1608		929	0				
Arrive On Green	0.41	1.00	0.00	0.00	0.38	0.00	0.27	0.00	0.00			
Sat Flow, veh/h	1581	3237	0	0	4371	1314	3478	0	1547			
Grp Volume(v), veh/h	438	1398	0	0	1962	0	880	0	0			
Grp Sat Flow(s),veh/h/ln	1581	1577	0	0	1411	1314	1739	0	1547			
Q Serve(g_s), s	26.4	0.0	0.0	0.0	49.4	0.0	32.3	0.0	0.0			
Cycle Q Clear(g_c), s	26.4	0.0	0.0	0.0	49.4	0.0	32.3	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	321	2023	0	0	1608		929	0				
V/C Ratio(X)	1.36	0.69	0.00	0.00	1.22		0.95	0.00				
Avail Cap(c_a), veh/h	321	2023	0	0	1608		936	0				
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.75	0.75	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	38.6	0.0	0.0	0.0	40.3	0.0	46.7	0.0	0.0			
Incr Delay (d2), s/veh	178.3	1.5	0.0	0.0	105.1	0.0	18.2	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	24.1	0.4	0.0	0.0	32.3	0.0	15.7	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	216.9	1.5	0.0	0.0	145.4	0.0	64.9	0.0	0.0			
LnGrp LOS	F	A	A	A	F		E	A				
Approach Vol, veh/h		1836			1962			880				
Approach Delay, s/veh		52.9			145.4			64.9				
Approach LOS		D			F			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		90.5			33.0	57.5		40.5				
Change Period (Y+Rc), s		6.1			5.6	* 6.1		5.8				
Max Green Setting (Gmax), s		83.1			27.4	* 50		35.0				
Max Q Clear Time (g_c+I1), s		2.0			28.4	51.4		34.3				
Green Ext Time (p_c), s		26.0			0.0	0.0		0.4				

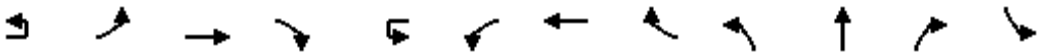
Intersection Summary	
HCM 6th Ctrl Delay	93.9
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	70	480	1145	392	5	235	1205	155	739	544	325	230
Future Volume (vph)	70	480	1145	392	5	235	1205	155	739	544	325	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	6.5	6.5		8.5	9.5	9.5	5.5	5.9	5.9	5.5
Lane Util. Factor		1.00	0.95	1.00		1.00	0.91	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes		1.00	1.00	0.94		1.00	1.00	0.96	1.00	1.00	0.91	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	1.00	0.85	1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)		1703	3406	1431		1687	4848	1449	3303	3406	1389	1736
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (perm)		1703	3406	1431		1687	4848	1449	3303	3406	1389	1736
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)	73	500	1193	408	5	245	1255	161	770	567	339	240
RTOR Reduction (vph)	0	0	0	148	0	0	0	122	0	0	184	0
Lane Group Flow (vph)	0	573	1193	260	0	250	1255	39	770	567	155	240
Confl. Peds. (#/hr)		4		7		7		4	9		11	11
Heavy Vehicles (%)	6%	6%	6%	6%	7%	7%	7%	7%	6%	6%	6%	4%
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA	Perm	Prot
Protected Phases	5 15	5 15	2		1	1	6		3	8		7
Permitted Phases				2				6			8	
Actuated Green, G (s)		50.5	69.2	69.2		28.8	43.0	43.0	26.5	28.9	28.9	14.7
Effective Green, g (s)		50.5	69.2	69.2		25.8	40.0	40.0	26.5	28.9	28.9	14.7
Actuated g/C Ratio		0.31	0.42	0.42		0.16	0.24	0.24	0.16	0.18	0.18	0.09
Clearance Time (s)			6.5	6.5		5.5	6.5	6.5	5.5	5.9	5.9	5.5
Vehicle Extension (s)			3.0	3.0		2.5	3.0	3.0	2.5	3.0	3.0	2.5
Lane Grp Cap (vph)		521	1428	600		263	1175	351	530	596	243	154
v/s Ratio Prot		c0.34	0.35			0.15	c0.26		c0.23	c0.17		0.14
v/s Ratio Perm				0.18				0.03			0.11	
v/c Ratio		1.10	0.84	0.43		0.95	1.07	0.11	1.45	0.95	0.64	1.56
Uniform Delay, d1		57.2	42.8	34.0		69.0	62.5	48.7	69.2	67.4	63.2	75.2
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		69.5	4.4	0.5		42.0	46.5	0.1	214.1	25.2	5.4	280.5
Delay (s)		126.8	47.2	34.5		110.9	109.0	48.8	283.4	92.6	68.6	355.7
Level of Service		F	D	C		F	F	D	F	F	E	F
Approach Delay (s)			65.8				103.5			175.4		
Approach LOS			E				F			F		

Intersection Summary			
HCM 2000 Control Delay	115.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	165.0	Sum of lost time (s)	30.9
Intersection Capacity Utilization	122.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	296	400
Future Volume (vph)	296	400
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.9	5.9
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.93
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3471	1437
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3471	1437
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	308	417
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	308	417
Confl. Peds. (#/hr)		9
Heavy Vehicles (%)	4%	4%
Turn Type	NA	custom
Protected Phases	4	
Permitted Phases		4 6
Actuated Green, G (s)	17.1	60.1
Effective Green, g (s)	17.1	60.1
Actuated g/C Ratio	0.10	0.36
Clearance Time (s)	5.9	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	359	523
v/s Ratio Prot	0.09	
v/s Ratio Perm		0.29
v/c Ratio	0.86	0.80
Uniform Delay, d1	72.8	47.0
Progression Factor	1.00	1.00
Incremental Delay, d2	18.0	8.3
Delay (s)	90.7	55.3
Level of Service	F	E
Approach Delay (s)	141.3	
Approach LOS	F	

Intersection Summary

MOVEMENT SUMMARY

Site: 4 [4. 172nd Street NE/43rd Avenue NE (Site Folder: General)]

With-Project 2031
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 43rd Ave NE														
3	L2	415	2.0	437	2.0	0.623	15.1	LOS B	4.4	110.8	0.86	1.04	1.11	32.0
8	T1	10	2.0	11	2.0	0.623	9.7	LOS A	4.4	110.8	0.86	1.04	1.11	32.0
18	R2	245	2.0	258	2.0	0.475	9.7	LOS A	2.6	65.5	0.80	0.94	0.94	33.5
Approach		670	2.0	705	2.0	0.623	13.1	LOS B	4.4	110.8	0.84	1.00	1.05	32.5
East: 172nd St NE														
1	L2	215	6.0	226	6.0	0.909	25.0	LOS D	16.6	434.3	1.00	1.31	1.80	29.0
6	T1	1180	6.0	1242	6.0	0.909	19.3	LOS D	17.0	446.5	1.00	1.30	1.79	29.7
16	R2	29	6.0	31	6.0	0.909	19.7	LOS D	17.0	446.5	1.00	1.29	1.78	29.0
Approach		1424	6.0	1499	6.0	0.909	20.2	LOS C	17.0	446.5	1.00	1.30	1.79	29.5
North: 43rd Ave NE														
7	L2	11	0.0	12	0.0	0.123	18.0	LOS B	0.6	15.8	0.87	0.94	0.87	32.3
4	T1	5	0.0	5	0.0	0.123	12.5	LOS B	0.6	15.8	0.87	0.94	0.87	32.2
14	R2	20	0.0	21	0.0	0.123	12.3	LOS B	0.6	15.8	0.87	0.94	0.87	31.6
Approach		36	0.0	38	0.0	0.123	14.1	LOS B	0.6	15.8	0.87	0.94	0.87	31.9
West: 172nd St NE														
5u	U	25	6.0	27	6.0	0.666	14.3	LOS B	6.4	166.5	0.71	0.71	0.76	35.4
5	L2	25	6.0	26	6.0	0.666	12.0	LOS B	6.4	166.5	0.71	0.71	0.76	34.6
2	T1	1075	6.0	1132	6.0	0.666	6.7	LOS A	6.4	166.9	0.71	0.71	0.76	35.0
12	R2	165	6.0	174	6.0	0.666	7.3	LOS A	6.4	166.9	0.71	0.70	0.76	33.8
Approach		1290	6.0	1359	6.0	0.666	7.0	LOS A	6.4	166.9	0.71	0.71	0.76	34.9
All Vehicles		3420	5.2	3601	5.2	0.909	13.8	LOS B	17.0	446.5	0.86	1.02	1.25	32.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 5 [5. 172nd Street NE/51st Avenue NE - WSDOT (Site Folder: General)]

With-Project 2031
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 51st Ave NE														
3	L2	234	6.0	246	6.0	0.533	14.5	LOS B	3.2	83.5	0.81	0.99	0.99	32.0
8	T1	86	6.0	91	6.0	0.533	10.0	LOS A	3.2	83.5	0.81	0.99	0.99	32.2
18	R2	114	6.0	120	6.0	0.285	10.3	LOS B	1.2	31.4	0.73	0.88	0.74	32.6
Approach		434	6.0	457	6.0	0.533	12.5	LOS B	3.2	83.5	0.79	0.96	0.93	32.2
East: 172nd St NE														
1	L2	131	6.0	138	6.0	0.681	14.9	LOS B	7.5	197.1	0.86	0.92	1.05	32.9
6	T1	1100	6.0	1158	6.0	0.681	9.7	LOS A	7.8	204.0	0.86	0.88	1.02	33.6
16	R2	35	6.0	37	6.0	0.681	9.5	LOS A	7.8	204.0	0.85	0.86	1.01	33.2
Approach		1266	6.0	1333	6.0	0.681	10.2	LOS B	7.8	204.0	0.86	0.89	1.03	33.6
North: 51st Ave NE														
7	L2	60	5.0	63	5.0	0.675	21.3	LOS C	4.1	107.5	0.90	1.07	1.28	30.0
4	T1	79	5.0	82	5.0	0.675	16.7	LOS B	4.1	107.5	0.90	1.07	1.28	30.2
14	R2	105	5.0	109	5.0	0.675	16.6	LOS B	4.1	107.5	0.90	1.07	1.28	29.6
Approach		244	5.0	254	5.0	0.675	17.8	LOS B	4.1	107.5	0.90	1.07	1.28	29.9
West: 172nd St NE														
5	L2	55	5.0	58	5.0	0.589	11.8	LOS B	5.0	131.0	0.69	0.71	0.72	34.3
2	T1	985	5.0	1037	5.0	0.589	7.0	LOS A	5.0	131.0	0.68	0.69	0.70	34.7
12	R2	211	5.0	222	5.0	0.589	6.8	LOS A	5.0	130.0	0.67	0.67	0.68	33.9
Approach		1251	5.0	1317	5.0	0.589	7.2	LOS A	5.0	131.0	0.68	0.69	0.70	34.5
All Vehicles		3195	5.5	3360	5.5	0.681	9.9	LOS A	7.8	204.0	0.78	0.83	0.90	33.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [6. 172nd Street NE/59th Avenue NE - WSDOT_NBR Improvement (Site Folder: General)]

With-Project 2031 - NBR Improvement
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 59th Ave NE														
3	L2	40	12.0	43	12.0	0.084	12.9	LOS B	0.3	9.3	0.67	0.89	0.67	32.3
8	T1	5	12.0	5	12.0	0.084	8.4	LOS A	0.3	9.3	0.67	0.89	0.67	32.5
18	R2	20	12.0	22	12.0	0.053	10.2	LOS B	0.2	5.3	0.68	0.86	0.68	32.5
Approach		65	12.0	71	12.0	0.084	11.8	LOS B	0.3	9.3	0.67	0.88	0.67	32.3
East: 172nd St NE														
1	L2	10	4.0	11	4.0	0.363	10.9	LOS B	2.3	59.3	0.56	0.63	0.56	34.8
6	T1	725	4.0	763	4.0	0.363	6.2	LOS A	2.4	61.3	0.56	0.62	0.56	35.1
16	R2	35	4.0	37	4.0	0.363	6.3	LOS A	2.4	61.3	0.55	0.61	0.55	34.2
Approach		770	4.0	811	4.0	0.363	6.3	LOS A	2.4	61.3	0.55	0.62	0.55	35.0
North: 59th Ave NE														
7	L2	110	10.0	116	10.0	0.288	14.8	LOS B	1.1	29.6	0.65	0.89	0.67	31.4
4	T1	5	10.0	5	10.0	0.288	10.2	LOS B	1.1	29.6	0.65	0.89	0.67	31.6
14	R2	551	10.0	580	10.0	0.761	11.8	LOS B	6.2	167.7	0.84	1.06	1.23	31.8
Approach		666	10.0	701	10.0	0.761	12.3	LOS B	6.2	167.7	0.80	1.03	1.13	31.7
West: 172nd St NE														
5	L2	229	10.0	241	10.0	0.508	10.3	LOS B	4.1	110.0	0.50	0.60	0.50	34.1
2	T1	905	10.0	953	10.0	0.508	5.6	LOS A	4.2	112.2	0.49	0.55	0.49	34.9
12	R2	20	10.0	21	10.0	0.508	5.8	LOS A	4.2	112.2	0.48	0.53	0.48	34.2
Approach		1154	10.0	1215	10.0	0.508	6.5	LOS A	4.2	112.2	0.49	0.56	0.49	34.7
All Vehicles		2655	8.3	2797	8.3	0.761	8.0	LOS A	6.2	167.7	0.59	0.71	0.67	33.9

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7 [7 172nd Street NE/67th Avenue NE - WSDOT (Site Folder: General)]

With-Project 2031
PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: 67th Ave NE														
3	L2	85	3.0	89	3.0	0.621	18.5	LOS B	5.0	128.6	0.93	1.08	1.24	31.2
8	T1	241	3.0	254	3.0	0.621	13.9	LOS B	5.0	128.6	0.93	1.08	1.24	31.4
18	R2	123	3.0	129	3.0	0.338	14.1	LOS B	1.8	45.5	0.82	0.94	0.87	31.8
Approach		449	3.0	473	3.0	0.621	14.8	LOS B	5.0	128.6	0.90	1.04	1.14	31.5
East: 172nd St NE														
1	L2	67	4.0	71	4.0	0.369	13.5	LOS B	2.4	62.6	0.78	0.84	0.78	33.5
6	T1	450	4.0	474	4.0	0.369	8.5	LOS A	2.6	67.7	0.78	0.81	0.78	34.1
16	R2	60	4.0	63	4.0	0.369	8.4	LOS A	2.6	67.7	0.78	0.79	0.78	33.6
Approach		577	4.0	607	4.0	0.369	9.1	LOS A	2.6	67.7	0.78	0.81	0.78	34.0
North: 67th Ave NE														
7	L2	125	5.0	128	5.0	0.868	20.1	LOS D	9.8	254.6	0.93	1.20	1.57	30.6
4	T1	272	5.0	278	5.0	0.868	15.5	LOS D	9.8	254.6	0.93	1.20	1.57	30.7
14	R2	205	5.0	209	5.0	0.868	15.4	LOS D	9.8	254.6	0.93	1.20	1.57	30.1
Approach		602	5.0	614	5.0	0.868	16.4	LOS B	9.8	254.6	0.93	1.20	1.57	30.5
West: 172nd St NE														
5	L2	280	4.0	295	4.0	0.843	19.7	LOS B	14.9	384.5	1.00	1.12	1.51	30.5
2	T1	635	4.0	668	4.0	0.843	14.2	LOS B	14.9	384.5	0.95	1.07	1.37	31.3
12	R2	150	4.0	158	4.0	0.407	8.7	LOS A	2.7	69.3	0.75	0.82	0.76	33.5
Approach		1065	4.0	1121	4.0	0.843	14.9	LOS B	14.9	384.5	0.94	1.05	1.32	31.4
All Vehicles		2693	4.1	2815	4.1	0.868	14.0	LOS B	14.9	384.5	0.90	1.03	1.23	31.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 8 [2031 With-Project PM Peak Hour (Site Folder: General)]

SR 9/SR 531 (172nd St NE)
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: SR 9														
3u	U	5	5.0	5	5.0	0.410	14.8	LOS B	2.9	74.9	0.71	0.79	0.71	33.6
3	L2	332	5.0	361	5.0	0.410	12.5	LOS B	2.9	74.9	0.71	0.79	0.71	32.9
8	T1	500	5.0	543	5.0	0.496	6.5	LOS A	4.0	104.6	0.74	0.65	0.74	35.2
18	R2	10	5.0	11	5.0	0.496	6.7	LOS A	4.0	104.6	0.74	0.65	0.74	34.1
Approach		847	5.0	921	5.0	0.496	8.9	LOS A	4.0	104.6	0.73	0.71	0.73	34.2
East: SR 531 (172nd St NE)														
1	L2	10	2.0	11	2.0	0.221	13.7	LOS B	1.0	26.3	0.73	0.84	0.73	34.9
6	T1	82	2.0	89	2.0	0.221	8.3	LOS A	1.0	26.3	0.73	0.84	0.73	34.9
16	R2	25	2.0	27	2.0	0.221	8.2	LOS A	1.0	26.3	0.73	0.84	0.73	34.0
Approach		117	2.0	127	2.0	0.221	8.8	LOS A	1.0	26.3	0.73	0.84	0.73	34.7
North: SR 9														
7u	U	5	4.0	5	4.0	0.574	15.7	LOS B	4.8	123.1	0.75	0.82	0.84	35.4
7	L2	50	4.0	54	4.0	0.574	13.3	LOS B	4.8	123.1	0.75	0.82	0.84	34.7
4	T1	455	4.0	495	4.0	0.574	8.0	LOS A	4.8	123.1	0.75	0.82	0.84	34.7
14	R2	158	4.0	172	4.0	0.268	7.8	LOS A	1.3	34.5	0.62	0.76	0.62	34.3
Approach		668	4.0	726	4.0	0.574	8.4	LOS A	4.8	123.1	0.72	0.81	0.79	34.6
West: SR 531 (172nd St NE)														
5	L2	208	5.0	226	5.0	0.453	13.9	LOS B	3.5	90.6	0.82	0.87	0.86	33.3
2	T1	122	5.0	133	5.0	0.453	8.4	LOS A	3.5	90.6	0.82	0.87	0.86	33.4
12	R2	333	5.0	362	5.0	0.367	7.3	LOS A	2.8	73.4	0.78	0.77	0.78	34.4
Approach		663	5.0	721	5.0	0.453	9.6	LOS A	3.5	90.6	0.80	0.82	0.82	33.9
All Vehicles		2295	4.6	2495	4.6	0.574	8.9	LOS A	4.8	123.1	0.75	0.77	0.77	34.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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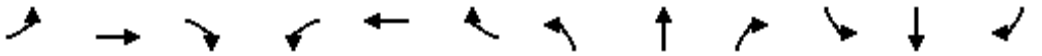
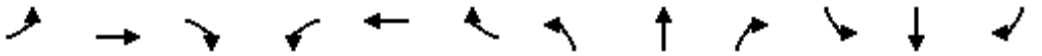
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	18	305	25	50	71	235	870	7	23	810	55
Future Volume (veh/h)	40	18	305	25	50	71	235	870	7	23	810	55
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	42	19	321	26	53	75	247	916	7	24	853	58
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, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	591	730	619	560	274	387	274	1411	11	251	1318	90
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.13	0.13	0.13	0.40	0.40	0.40
Sat Flow, veh/h	1232	1826	1547	1016	684	968	598	3529	27	591	3296	224
Grp Volume(v), veh/h	42	19	321	26	0	128	247	450	473	24	449	462
Grp Sat Flow(s),veh/h/ln	1232	1826	1547	1016	0	1652	598	1735	1821	591	1735	1786
Q Serve(g_s), s	1.0	0.3	7.1	0.7	0.0	2.3	8.6	11.1	11.1	1.6	9.4	9.4
Cycle Q Clear(g_c), s	3.3	0.3	7.1	1.0	0.0	2.3	18.0	11.1	11.1	12.7	9.4	9.4
Prop In Lane	1.00		1.00	1.00		0.59	1.00		0.01	1.00		0.13
Lane Grp Cap(c), veh/h	591	730	619	560	0	661	274	694	728	251	694	714
V/C Ratio(X)	0.07	0.03	0.52	0.05	0.00	0.19	0.90	0.65	0.65	0.10	0.65	0.65
Avail Cap(c_a), veh/h	591	730	619	560	0	661	274	694	728	251	694	714
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.9	8.2	10.2	8.5	0.0	8.8	26.6	16.5	16.5	16.8	10.9	10.9
Incr Delay (d2), s/veh	0.2	0.1	3.1	0.2	0.0	0.7	34.1	4.7	4.4	0.8	4.6	4.5
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	0.3	0.1	2.4	0.1	0.0	0.8	5.4	5.7	5.9	0.2	3.7	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.1	8.3	13.3	8.6	0.0	9.4	60.6	21.2	21.0	17.6	15.5	15.4
LnGrp LOS	B	A	B	A	A	A	E	C	C	B	B	B
Approach Vol, veh/h		382			154			1170			935	
Approach Delay, s/veh		12.7			9.3			29.4			15.5	
Approach LOS		B			A			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		20.0		9.1		14.7		4.3				
Green Ext Time (p_c), s		0.0		1.0		1.8		0.6				

Intersection Summary												
HCM 6th Ctrl Delay			20.9									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	290	183	35	144	15	125	250	65	20	275	59
Future Volume (veh/h)	84	290	183	35	144	15	125	250	65	20	275	59
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	88	305	193	37	152	16	132	263	68	21	289	62
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, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	134	734	481	73	612	313	172	563	542	45	429	483
Arrive On Green	0.08	0.21	0.21	0.04	0.18	0.18	0.10	0.31	0.31	0.03	0.23	0.23
Sat Flow, veh/h	1739	3469	1547	1739	3469	1547	1739	1826	1547	1739	1826	1547
Grp Volume(v), veh/h	88	305	193	37	152	16	132	263	68	21	289	62
Grp Sat Flow(s),veh/h/ln	1739	1735	1547	1739	1735	1547	1739	1826	1547	1739	1826	1547
Q Serve(g_s), s	2.0	3.1	4.0	0.9	1.6	0.3	3.1	4.8	1.2	0.5	5.9	1.2
Cycle Q Clear(g_c), s	2.0	3.1	4.0	0.9	1.6	0.3	3.1	4.8	1.2	0.5	5.9	1.2
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	134	734	481	73	612	313	172	563	542	45	429	483
V/C Ratio(X)	0.66	0.42	0.40	0.51	0.25	0.05	0.77	0.47	0.13	0.47	0.67	0.13
Avail Cap(c_a), veh/h	291	2525	1279	578	3097	1421	569	1572	1397	582	1143	1088
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.5	14.0	11.2	19.3	14.6	13.2	18.1	11.5	9.1	19.8	14.3	10.2
Incr Delay (d2), s/veh	5.4	0.4	0.5	5.4	0.2	0.1	6.9	0.6	0.1	7.3	1.8	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	0.9	1.1	1.2	0.4	0.5	0.1	1.4	1.6	0.3	0.3	2.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	14.4	11.7	24.7	14.8	13.3	25.0	12.1	9.2	27.1	16.2	10.3
LnGrp LOS	C	B	B	C	B	B	C	B	A	C	B	B
Approach Vol, veh/h		586			205			463			372	
Approach Delay, s/veh		15.0			16.5			15.4			15.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	16.7	6.2	12.7	8.6	13.7	7.7	11.3
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	13.8	35.5	13.7	30.0	13.5	25.8	6.9	36.8
Max Q Clear Time (g_c+I1), s	2.5	6.8	2.9	6.0	5.1	7.9	4.0	3.6
Green Ext Time (p_c), s	0.0	1.8	0.0	2.7	0.2	1.8	0.0	1.0

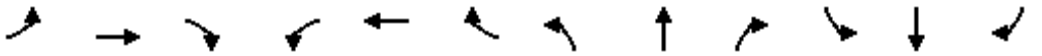
Intersection Summary	
HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	16.8
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	164	181	115	240	270	94
Future Vol, veh/h	164	181	115	240	270	94
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	173	191	121	253	284	99
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	16.7	17.2	16.5
HCM LOS	C	C	C

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	32%	48%	0%
Vol Thru, %	68%	0%	74%
Vol Right, %	0%	52%	26%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	355	345	364
LT Vol	115	164	0
Through Vol	240	0	270
RT Vol	0	181	94
Lane Flow Rate	374	363	383
Geometry Grp	1	1	1
Degree of Util (X)	0.6	0.583	0.592
Departure Headway (Hd)	5.778	5.783	5.563
Convergence, Y/N	Yes	Yes	Yes
Cap	620	621	644
Service Time	3.842	3.848	3.627
HCM Lane V/C Ratio	0.603	0.585	0.595
HCM Control Delay	17.2	16.7	16.5
HCM Lane LOS	C	C	C
HCM 95th-tile Q	4	3.8	3.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	0	335	5	0	5	255	302	0	5	329	102
Future Volume (vph)	225	0	335	5	0	5	255	302	0	5	329	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5		4.5	4.5	4.5	4.5			4.5	4.5
Lane Util. Factor	1.00		1.00		1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00		0.85		1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00		0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1719		1538		1719	1538	1719	1810			1808	1538
Flt Permitted	0.75		1.00		0.95	1.00	0.49	1.00			0.99	1.00
Satd. Flow (perm)	1365		1538		1719	1538	884	1810			1800	1538
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)	237	0	353	5	0	5	268	318	0	5	346	107
RTOR Reduction (vph)	0	0	212	0	0	3	0	0	0	0	0	64
Lane Group Flow (vph)	237	0	141	0	5	2	268	318	0	0	351	43
Turn Type	Perm		Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases					8			2			6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	18.0		18.0		18.0	18.0	18.0	18.0			18.0	18.0
Effective Green, g (s)	18.0		18.0		18.0	18.0	18.0	18.0			18.0	18.0
Actuated g/C Ratio	0.40		0.40		0.40	0.40	0.40	0.40			0.40	0.40
Clearance Time (s)	4.5		4.5		4.5	4.5	4.5	4.5			4.5	4.5
Lane Grp Cap (vph)	546		615		687	615	353	724			720	615
v/s Ratio Prot								0.18				
v/s Ratio Perm	c0.17		0.09		0.00	0.00	c0.30				0.19	0.03
v/c Ratio	0.43		0.23		0.01	0.00	0.76	0.44			0.49	0.07
Uniform Delay, d1	9.8		8.9		8.1	8.1	11.6	9.8			10.1	8.3
Progression Factor	1.00		1.00		1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	2.5		0.9		0.0	0.0	14.2	1.9			2.4	0.2
Delay (s)	12.3		9.8		8.1	8.1	25.8	11.8			12.4	8.6
Level of Service	B		A		A	A	C	B			B	A
Approach Delay (s)		10.8			8.1			18.2			11.5	
Approach LOS		B			A			B			B	

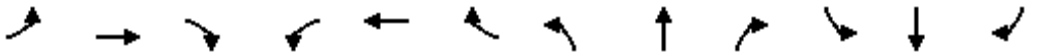
Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	37.3
Intersection LOS	E

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	181	471	90	244	495
Future Vol, veh/h	60	181	471	90	244	495
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	63	191	496	95	257	521
Number of Lanes	1	0	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	1	0
HCM Control Delay	15.4	50.5	34.4
HCM LOS	C	F	D

Lane	NBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	25%	100%	0%
Vol Thru, %	84%	0%	0%	100%
Vol Right, %	16%	75%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	561	241	244	495
LT Vol	0	60	244	0
Through Vol	471	0	0	495
RT Vol	90	181	0	0
Lane Flow Rate	591	254	257	521
Geometry Grp	5	2	7	7
Degree of Util (X)	0.957	0.466	0.484	0.909
Departure Headway (Hd)	5.835	6.61	6.789	6.279
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	620	543	529	573
Service Time	3.895	4.682	4.561	4.051
HCM Lane V/C Ratio	0.953	0.468	0.486	0.909
HCM Control Delay	50.5	15.4	15.8	43.5
HCM Lane LOS	F	C	C	E
HCM 95th-tile Q	13.3	2.5	2.6	11



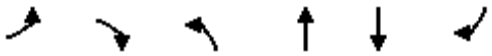
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1485	90	0	1510	20	125	10	35	15	10	10
Future Volume (veh/h)	10	1485	90	0	1510	20	125	10	35	15	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	11	1563	95	0	1589	21	132	11	37	16	11	11
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, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	136	1989	120	133	1919	25	476	506	429	383	184	184
Arrive On Green	0.01	0.60	0.60	0.00	0.55	0.55	0.07	0.28	0.28	0.02	0.22	0.22
Sat Flow, veh/h	1739	3323	201	1739	3506	46	1739	1826	1547	1739	838	838
Grp Volume(v), veh/h	11	812	846	0	785	825	132	11	37	16	0	22
Grp Sat Flow(s),veh/h/ln	1739	1735	1790	1739	1735	1818	1739	1826	1547	1739	0	1675
Q Serve(g_s), s	0.3	41.4	42.2	0.0	43.9	44.0	6.6	0.5	2.1	0.8	0.0	1.2
Cycle Q Clear(g_c), s	0.3	41.4	42.2	0.0	43.9	44.0	6.6	0.5	2.1	0.8	0.0	1.2
Prop In Lane	1.00		0.11	1.00		0.03	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	136	1038	1071	133	949	995	476	506	429	383	0	369
V/C Ratio(X)	0.08	0.78	0.79	0.00	0.83	0.83	0.28	0.02	0.09	0.04	0.00	0.06
Avail Cap(c_a), veh/h	188	1295	1337	228	1318	1381	650	506	429	450	0	369
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.9	17.7	17.9	0.0	21.9	22.0	30.1	30.8	31.3	34.4	0.0	36.1
Incr Delay (d2), s/veh	0.2	2.5	2.6	0.0	3.2	3.1	0.3	0.1	0.4	0.0	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	16.3	17.1	0.0	17.9	18.7	2.8	0.2	0.8	0.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	20.3	20.5	0.0	25.1	25.1	30.4	30.9	31.7	34.4	0.0	36.2
LnGrp LOS	C	C	C	A	C	C	C	C	C	C	A	D
Approach Vol, veh/h		1669			1610			180			38	
Approach Delay, s/veh		20.4			25.1			30.7			35.4	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	36.5	0.0	74.1	13.2	29.8	6.0	68.1
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0
Max Green Setting (Gmax), s	6.5	32.5	6.5	87.5	20.5	18.5	5.0	89.0
Max Q Clear Time (g_c+I1), s	2.8	4.1	0.0	44.2	8.6	3.2	2.3	46.0
Green Ext Time (p_c), s	0.0	0.1	0.0	19.3	0.2	0.0	0.0	18.1

Intersection Summary	
HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	467	0	70	258	0	90
Future Volume (vph)	467	0	70	258	0	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0		4.5
Lane Util. Factor	0.95		1.00	0.95		1.00
Frt	1.00		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	3438		1719	3438		1538
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	3438		1719	3438		1538
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	492	0	74	272	0	95
RTOR Reduction (vph)	0	0	0	0	0	68
Lane Group Flow (vph)	492	0	74	272	0	27
Turn Type	NA		Split	NA	Prot	Perm
Protected Phases			8	8	2	
Permitted Phases	4					2
Actuated Green, G (s)	16.0		16.0	16.0		18.0
Effective Green, g (s)	16.0		16.0	16.0		18.0
Actuated g/C Ratio	0.26		0.26	0.26		0.29
Clearance Time (s)	4.0		4.0	4.0		4.5
Lane Grp Cap (vph)	880		440	880		442
v/s Ratio Prot			0.04	c0.08		
v/s Ratio Perm	c0.14					c0.02
v/c Ratio	0.56		0.17	0.31		0.06
Uniform Delay, d1	20.2		18.1	18.8		16.1
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	2.6		0.8	0.9		0.3
Delay (s)	22.7		18.9	19.7		16.4
Level of Service	C		B	B		B
Approach Delay (s)	22.7			19.5	16.4	
Approach LOS	C			B	B	

Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	62.5	Sum of lost time (s)	12.5
Intersection Capacity Utilization	25.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	26	115	90	485	443	27
Future Volume (veh/h)	26	115	90	485	443	27
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	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	1900	1900	1781	1781	1841	1841
Adj Flow Rate, veh/h	28	122	96	516	471	29
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	8	8	4	4
Cap, veh/h	36	158	497	1083	657	40
Arrive On Green	0.12	0.12	0.09	0.61	0.38	0.38
Sat Flow, veh/h	305	1329	1697	1781	1716	106
Grp Volume(v), veh/h	151	0	96	516	0	500
Grp Sat Flow(s),veh/h/ln	1645	0	1697	1781	0	1822
Q Serve(g_s), s	2.9	0.0	1.0	5.3	0.0	7.7
Cycle Q Clear(g_c), s	2.9	0.0	1.0	5.3	0.0	7.7
Prop In Lane	0.19	0.81	1.00			0.06
Lane Grp Cap(c), veh/h	196	0	497	1083	0	698
V/C Ratio(X)	0.77	0.00	0.19	0.48	0.00	0.72
Avail Cap(c_a), veh/h	1272	0	886	1377	0	1408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.1	0.0	5.9	3.6	0.0	8.7
Incr Delay (d2), s/veh	4.7	0.0	0.1	0.3	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.2	0.6	0.0	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.8	0.0	6.0	3.9	0.0	10.0
LnGrp LOS	B	A	A	A	A	B
Approach Vol, veh/h	151			612	500	
Approach Delay, s/veh	18.8			4.2	10.0	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		24.6		8.4	7.4	17.1
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		25.5		25.5	10.5	25.5
Max Q Clear Time (g_c+I1), s		7.3		4.9	3.0	9.7
Green Ext Time (p_c), s		3.2		0.3	0.1	2.9

Intersection Summary	
HCM 6th Ctrl Delay	8.3
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	350	7	9	225	8	26	0	28	32	0	18
Future Vol, veh/h	5	350	7	9	225	8	26	0	28	32	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	380	8	10	245	9	28	0	30	35	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	254	0	0	388	0	0	537	668	194	470	668	127
Stage 1	-	-	-	-	-	-	394	394	-	270	270	-
Stage 2	-	-	-	-	-	-	143	274	-	200	398	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1308	-	-	1167	-	-	427	378	815	477	378	900
Stage 1	-	-	-	-	-	-	602	604	-	713	685	-
Stage 2	-	-	-	-	-	-	845	682	-	783	601	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1308	-	-	1167	-	-	414	373	815	455	373	900
Mov Cap-2 Maneuver	-	-	-	-	-	-	414	373	-	538	456	-
Stage 1	-	-	-	-	-	-	600	602	-	710	679	-
Stage 2	-	-	-	-	-	-	820	676	-	751	599	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	12.2	11.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	556	1308	-	-	1167	-	-	629
HCM Lane V/C Ratio	0.106	0.004	-	-	0.008	-	-	0.086
HCM Control Delay (s)	12.2	7.8	-	-	8.1	-	-	11.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	350	225	8	28	18
Future Vol, veh/h	6	350	225	8	28	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	380	245	9	30	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	254	0	-	0	454	127
Stage 1	-	-	-	-	250	-
Stage 2	-	-	-	-	204	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1308	-	-	-	535	900
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	810	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1308	-	-	-	532	900
Mov Cap-2 Maneuver	-	-	-	-	601	-
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	810	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1308	-	-	-	691
HCM Lane V/C Ratio	0.005	-	-	-	0.072
HCM Control Delay (s)	7.8	-	-	-	10.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	350	5	8	225	18	29
Future Vol, veh/h	350	5	8	225	18	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	380	5	9	245	20	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	385	0	524	193
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1170	-	483	816
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1170	-	479	816
Mov Cap-2 Maneuver	-	-	-	-	549	-
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	864	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	688	-	-	1170	-
HCM Lane V/C Ratio	0.074	-	-	0.007	-
HCM Control Delay (s)	10.7	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Appendix D: Trip Generation Worksheets

Trip Generation - Total														
			Weekday Daily		Weekday AM Peak Hour					Weekday PM Peak Hour				
Land Use	Intensity	Units	Rate[1]	Total	Rate	% Inbound	Inbound	Outbound	Total	Rate	% Inbound	Inbound	Outbound	Total
Proposed														
Industrial Park (LU 130)	745250	SF	3.37	2511	0.34	81%	205	48	253	0.34	22%	56	197	253

1. Trip generation rate from ITE Tip Generation Manual 11th Edition

Appendix E: Snohomish County Key Intersections

AM 2025

Intersection #	Intersecting Roads	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
81	51st Ave NE/132nd St NE	0	0	0	0	0	4	0	15	0	1	5	0
82	67th Ave NE/108th St NE	0	0	0	0	0	0	0	11	0	0	3	0
83	67th Ave NE/152nd St NE	10	0	4	0	0	0	11	0	0	0	0	3
84	67th Ave NE/132nd St NE	0	0	0	0	0	0	0	11	0	0	3	0
85	67th Ave NE/172nd St NE	0	0	0	40	0	0	0	3	8	0	11	0
95	SR 9/132nd St NE	0	0	0	0	0	0	0	22	0	0	4	0
98	SR 9/84th St NE	0	0	0	0	0	0	0	22	0	0	4	0
296	SR 9/108th St NE	0	0	0	0	0	0	0	22	0	0	4	0
476	19th Dr NE/172nd St NE	0	7	0	0	1	0	0	0	0	0	0	0
489	SR 9/60th St NE	0	0	0	0	0	0	0	22	0	0	4	0

PM 2025

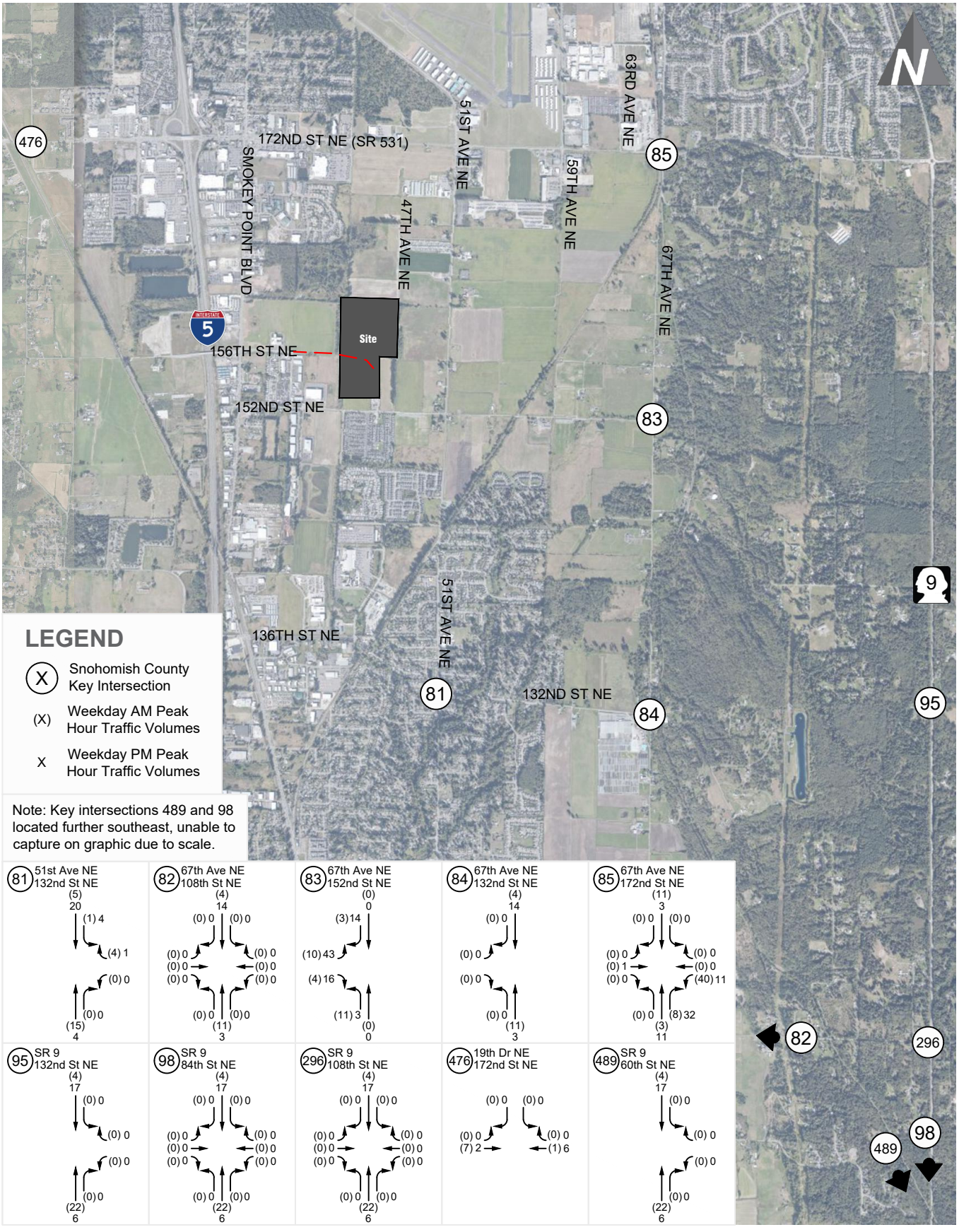
Intersection #	Intersecting Roads	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
81	51st Ave NE/132nd St NE	0	0	0	0	0	1	0	4	0	4	20	0
82	67th Ave NE/108th St NE	0	0	0	0	0	0	0	3	0	0	14	0
83	67th Ave NE/152nd St NE	43	0	16	0	0	0	3	0	0	0	0	14
84	67th Ave NE/132nd St NE	0	0	0	0	0	0	0	3	0	0	14	0
85	67th Ave NE/172nd St NE	0	1	0	11	0	0	0	11	32	0	3	0
95	SR 9/132nd St NE	0	0	0	0	0	0	0	6	0	0	17	0
98	SR 9/84th St NE	0	0	0	0	0	0	0	6	0	0	17	0
296	SR 9/108th St NE	0	0	0	0	0	0	0	6	0	0	17	0
476	19th Dr NE/172nd St NE	0	2	0	0	6	0	0	0	0	0	0	0
489	SR 9/60th St NE	0	0	0	0	0	0	0	6	0	0	17	0

AM 2031

Intersection #	Intersecting Roads	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
81	51st Ave NE/132nd St NE	0	0	0	0	0	4	0	22	0	1	5	0
82	67th Ave NE/108th St NE	0	0	0	0	0	0	0	18	0	0	5	0
83	67th Ave NE/152nd St NE	7	0	5	0	0	0	18	0	0	0	0	33
84	67th Ave NE/132nd St NE	0	0	0	0	0	0	0	19	0	0	5	0
85	67th Ave NE/172nd St NE	0	0	0	26	0	0	0	1	6	0	0	0
95	SR 9/132nd St NE	0	0	0	0	0	0	0	7	0	0	29	0
98	SR 9/84th St NE	0	0	0	0	0	0	0	15	0	0	4	0
296	SR 9/108th St NE	0	0	0	0	0	0	0	7	0	0	2	0
476	19th Dr NE/172nd St NE	0	4	0	0	1	0	0	0	0	0	0	0
489	SR 9/60th St NE	0	0	0	0	0	0	0	7	0	0	2	0

PM 2031

Intersection #	Intersecting Roads	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
81	51st Ave NE/132nd St NE	0	0	0	0	0	1	0	6	0	4	20	0
82	67th Ave NE/108th St NE	0	0	0	0	0	0	0	5	0	0	19	0
83	67th Ave NE/152nd St NE	29	0	21	0	0	0	5	0	0	0	0	9
84	67th Ave NE/132nd St NE	0	0	0	0	0	0	0	5	0	0	19	0
85	67th Ave NE/172nd St NE	0	0	0	7	0	0	0	6	23	0	2	0
95	SR 9/132nd St NE	0	0	0	0	0	0	0	2	0	0	8	0
98	SR 9/84th St NE	0	0	0	0	0	0	0	4	0	0	16	0
296	SR 9/108th St NE	0	0	0	0	0	0	0	2	0	0	8	0
476	19th Dr NE/172nd St NE	0	1	0	0	4	0	0	0	0	0	0	0
489	SR 9/60th St NE	0	0	0	0	0	0	0	2	0	0	8	0

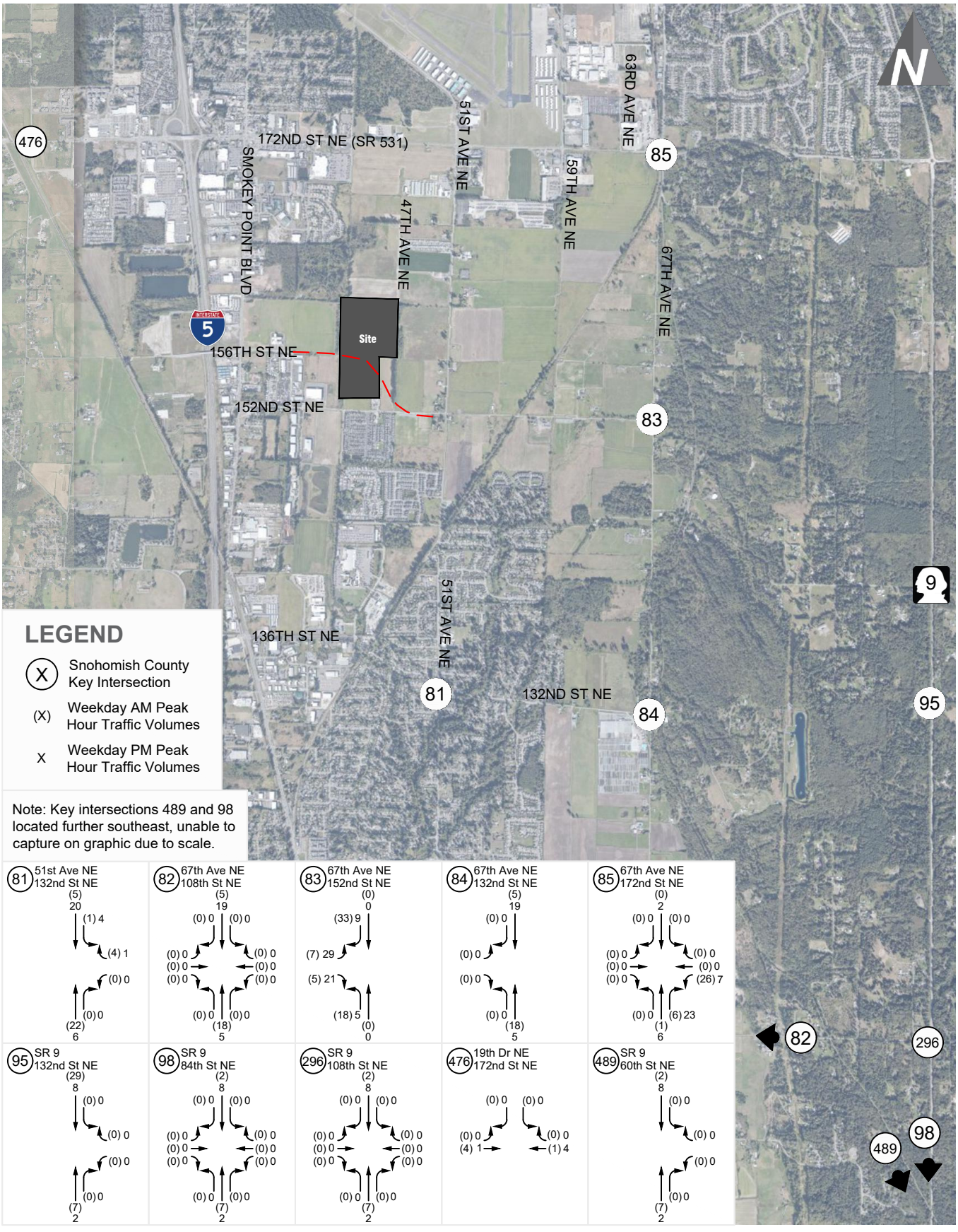


Future (2025) Peak Hour Project Trips at Snohomish County Key Intersections

APPENDIX E

Marysville Light Industrial

transpogroup



Future (2031) Peak Hour Project Trips at Snohomish County Key Intersections

Marysville Light Industrial

APPENDIX **E**

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Appendix F: Sight Distance Figures Sight Distance Figures

MARYSVILLE CORPORATE CENTER BINDING SITE PLAN FILE NO._____

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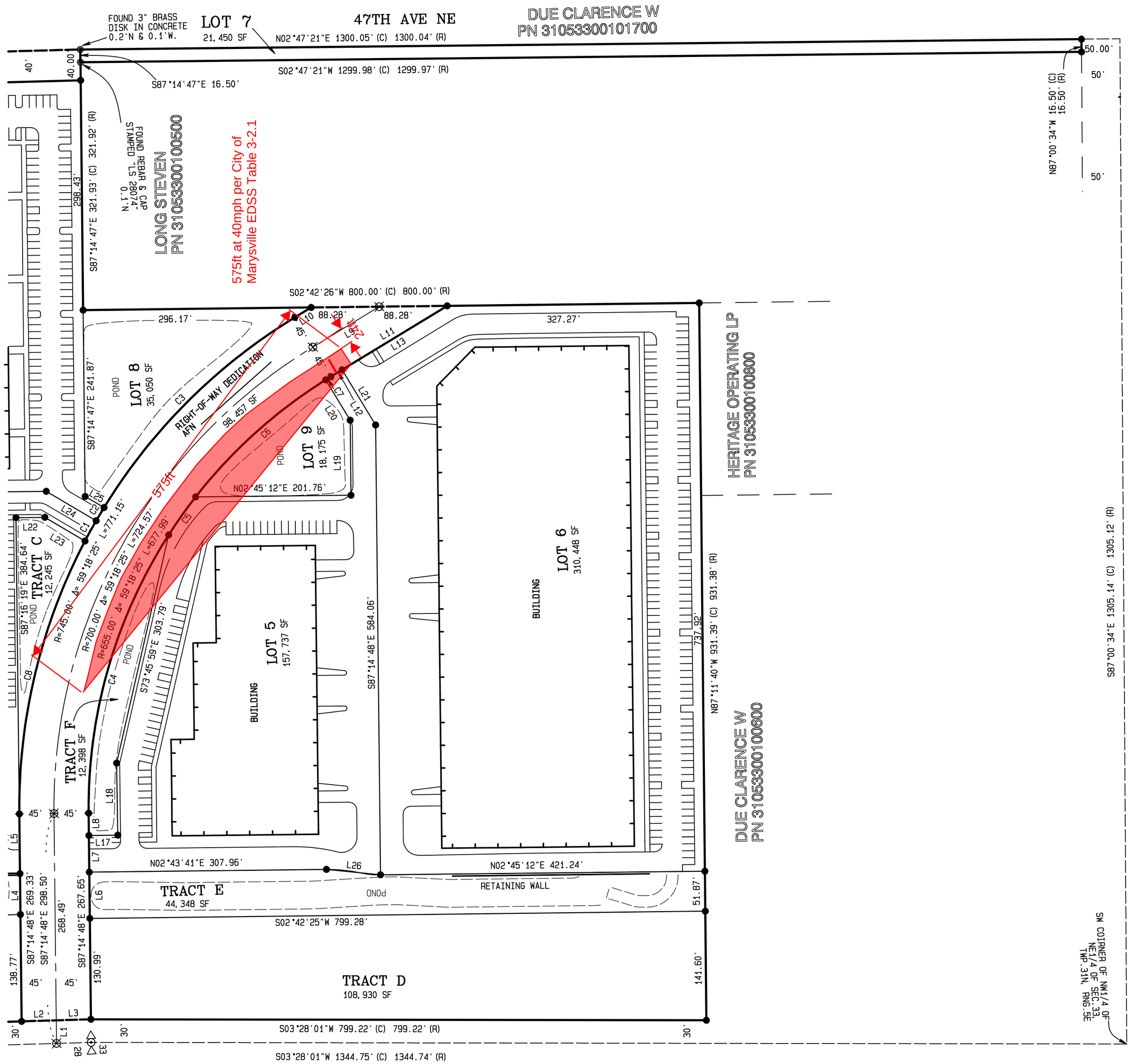
SEE SHEET 4 OF 4



LINE TABLE

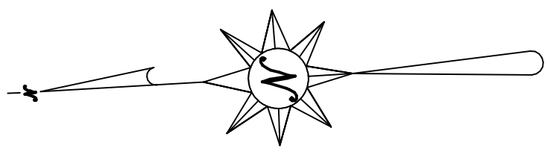
LINE	BEARING	DISTANCE
L1	S87°14'48"E	30.00'
L2	N01°41'03"E	45.01'
L3	N01°41'03"E	45.01'
L4	S87°14'48"E	52.98'
L5	S87°14'48"E	77.59'
L6	S87°14'47"E	60.11'
L7	S87°14'52"E	47.58'
L8	S87°14'48"E	28.97'
L9	S27°56'23"E	100.90'
L10	S27°56'23"E	24.95'
L11	S27°56'23"E	176.85'
L12	S27°56'23"E	17.06'
L13	S27°56'23"E	159.79'
L14	S42°42'39"E	17.30'
L15	S87°16'19"E	30.00'
L16	N01°41'03"E	40.01'
L17	S02°45'12"W	37.53'
L18	S87°34'14"E	93.57'
L19	S87°14'48"E	97.40'
L20	N62°03'37"E	61.33'
L21	N62°03'37"E	83.77'
L22	S02°45'11"W	37.57'
L23	S33°54'23"W	60.46'
L24	S33°54'23"W	75.27'
L25	S33°54'23"W	28.41'
L26	N09°02'50"E	70.55'

CURVE TABLE

CURVE	ARC	DELTA	RADIUS
C1	30.01'	2°18'30"	745.00'
C2	20.00'	1°32'18"	745.00'
C3	352.97'	27°08'45"	745.00'
C4	381.18'	33°20'37"	655.00'
C5	60.57'	5°17'53"	655.00'
C6	228.30'	19°58'13"	655.00'
C7	7.95'	0°41'42"	655.00'
C8	368.17'	28°18'53"	745.00'

LEGEND:

- ⊙ = CALCULATED PER ROS 201907085001
- ◒ = FOUND MONUMENT AS NOTED
- (M) = MEASURED
- (C) = CALCULATED
- (R) = ROS 201907085001
- ⊠ = SET STANDARD SNOHOMISH COUNTY MONUMENT
- ● = SET #4 REBAR WITH RED PLASTIC CAP STAMPED "CONTOUR LS 38965".



0 100 200

Scale:
1" = 100'

STEPHEN H. WOODS
STATE OF WASHINGTON
38965
REGISTERED
PROFESSIONAL LAND SURVEYOR

FOR REVIEW ONLY

A.F. NO._____

CONTOUR ENGINEERING, LLC
CIVIL ENGINEERS~SURVEYORS~LAND PLANNERS
4706 97th Street NW, Suite 100, Gig Harbor, WA 98335
Phone: 253-857-5454 Fax: 253-509-0044 info@contourpllc.com

DRAWN BY:	L Nguyen	CHECKED BY:	S Woods
DATE:	FEB 15, 2022	JOB NAME:	20-195
SCALE:	1" = 100'	JOB NO.:	20-195B

INDEX DATA:
SEC 28-33 T 31N R 5E WM

SURVEY FOR:
PACIFIC REALTY ASSOCIATES, L.P.
15908 47TH AVE NE
MARYSVILLE, WA 98271

SNOHOMISH COUNTY, WASHINGTON

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VOLUME/PAGE

Appendix G: Potential Future Alignment

Roadway Alignment Alternative - Proposed Alternative

1.20320.00 - Marysville Light Industrial

March 15, 2022

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WHAT TRANSPORTATION CAN BE.

Mar 15, 2022 - 8:01am brycek M:\20\1.20320.00 - Marysville Light Industrial\Engineering\CAD\Conceptual\20318-TG-CONCEPT-ROADWAY ALIGNMENT ALTERNATIVES.dwg Layout: 2